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smart start

Smart Start Evidence-Based and Evidence-Informed Programs and Practices: A Summary of Research Evidence, Revised Edition

July 2018

Developed by:

Compass Evaluation and Research, Inc. and The North Carolina Partnership for Children

Based on work previously developed by Smoky Mountain Research Institute and The North Carolina Partnership for Children

All nonprofits are motivated to meet their missions. Yet funding for our work can be quite limited. As stewards of public and private funds, we want to ensure that we are targeting our resources in ways that are most likely to address our community needs and achieve the outcomes that help us meet our missions. For this reason, Smart Start and The North Carolina Partnership for Children, Inc. (NCPC) target funds to evidence-based and evidence-informed (EB/EI) programs and practices.

Definitions of Evidence-Based and Evidence-Informed Programs/Practices

The use of evidence-based or evidence-informed practices was mandated by the North Carolina legislation in 2011 for programs that operate using Smart Start funds. The North Carolina General Assembly passed legislation that provides guidance for employing evidence-based and evidence-informed practices. Using this guidance and input from a variety of organizations, The North Carolina Partnership for Children Inc.'s Board of Directors adopted definitions of evidence-based and evidence-informed practices to guide the work of local partnerships. The following are the definitions that were passed by the Board:

- Evidence-based programs or practices are those that have repeatedly and consistently demonstrated desirable outcomes through application of scientific research methods (replicated experimental, experimental, and quasi experimental).
- An evidence-informed practice is one that is guided by child development theory, and practitioner wisdom, and qualitative studies, and findings from basic research and has written guidelines, and a strong logic model, and a history of demonstrating positive results. They may be rated "Promising" or "Emerging" by at least one source that rates evidence-based programs.

Changes Since the Original Smart Start EB/EI Resource Guide

We have made several content and editorial changes to the EB/EI information including:

- ***Revised rating categories*** - Smart Start had previously developed four rating categories based on the definitions above:

  Evidence-based: Well-established
  Evidence-based: Established
  Evidence-informed: Promising
  Evidence-informed: Emerging

  Criteria for each of these categories have been reviewed and tightened for this edition. See *Smart Start Categories for Evidence Based and Evidence Informed Activities* for updated criteria and definitions. The main difference is related to the use of meta-analyses for the well-established rating. In some cases, the interventions included in a meta-analysis in the original EB/EI Resource Guide had substantial differences in implementation. The new criteria ensure that studies are assessing the same intervention. As a result of these changes, some activities have had their ratings adjusted downward.

- ***New research evidence*** - We have also searched for and reviewed new research evidence for all rated activities. Some ratings have been adjusted based on new research evidence.

- ***Updated list of activities reviewed*** – New activities have been reviewed and rated. A small number that were in the original Resource Guide are no longer included. Those removed typically are due to the purveyor having significantly changed the intervention and the new approach not having been adequately evaluated yet.

- ***Umbrella activities split-out*** – Some umbrella programs such as Incredible Years, Nurturing Parenting Program, Triple P, Motheread, etc. actually include a range of separate programs. The original EB/EI Resource Guide combined these under the umbrella program. In reality, some under the same umbrella have more research than others. This affects the research ratings. Now individual programs under the same umbrella activity have been split out, receiving their own EB/EI rating. Sometimes they have their own stand-alone write-up, in other cases they are included in the same comprehensive summary but have separately assigned evidence ratings.

- ***Layout*** – We have added a snapshot that shows suggested indicators for the Community Early Childhood Profile, suggested Smart Start outcomes for the activity, whether training is required and so on. The research table also includes the study design which is needed for determining the EB/EI ratings. A summary of each research study is now included for those who want to better understand the details.

- ***Web-based*** – The original EB/EI Resource Guide was one large document. This made it difficult to update items and insert new activities over time. The new approach is web-based. Click on the topic area of interest including early care and education, family support, health, or early literacy. Then, click on an activity to see the snapshot before going to the full write up. Note that several early childhood activities may fall into more than one category. Child care health consultants, for instance, could be considered both health and early care and education. Activities spanning more than one area have been included under all relevant topic areas.

How to Use the Smart Start EB/EI Ratings

The Smart Start EB/EI ratings and research write-ups provide a summary of research evidence for programs and practices most commonly funded by Smart Start partnerships. The Smart Start EB/EI ratings and research summaries provide a source of information for local partnerships on potential activities to address EC Profile indicators, which activities may help achieve desired outcomes, and activity requirements which should help local partnerships determine feasibility for your community, and so on. The EB/EI Ratings do not replace thoughtful, inclusive planning, implementation, and local evaluation, but should instead be used to inform those processes.

What to Expect Going Forward

More improvements are planned for the Smart Start EB/EI Ratings including:

- Establishment of a process for identifying new activities to review as well as when and how to update research and ratings for items currently reviewed.
- Development of a public website that will feature comprehensive search functions to better help users drill down to activities that will best meet their needs.

Smart Start EB/EI Ratings Citation

Much effort went into this revised edition. A special thank you to the following contributors:

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NC Partnership for Children – Kim McCombs-Thornton, PhD, Lakeisha Johnson, MPH, Ebonyse Mead, MA, MS, Jenna Nelson, MA, Bill O'Donnell, JD, MA, and Ann Spence, MA.

Please use the following citation to recognize these efforts:

Heinemeier, S., D'Agostino, A., Johnson, L., Mead, E., Nelson, J., O'Donnell, W., Spence, A. (2018) Smart Start Evidence-Based and Evidence-Informed Programs and Practices: A Summary of Research Evidence, Revised Edition. Ed. K. McCombs-Thornton. Raleigh, NC: The North Carolina Partnership for Children.

Smart Start Categories for Evidence Based and Evidence Informed Activities

July 2018

EB/EI Category	Icon	Definition	Key Features
Evidence-Based: Well-established		Programs and practices that have strong evidence of their effectiveness across five or more studies with experimental or quasi-experimental designs. At least one study must be conducted by an independent researcher not affiliated with the program designer or original research group May have a systematic review or meta-analysis with experimental or quasi-experimental designs.	At least 5 studies with experimental or quasi-experimental designs assessing the same program or approach to the practice. At least one study conducted by an independent researcher not affiliated with the program designer or original research group.
Evidence-Based: Established		Programs and practices that had at least three studies using an experimental or quasi-experimental design that found evidence of their effectiveness.	At least 3 studies with experimental or quasi-experimental designs studying the same program or approach to the practice.
Evidence-Informed: Promising		Evidence-informed programs and practices that had at least one study that compared the effectiveness of the intervention for people who participated in the program and those who did not participate. The level of evidence suggests the intervention would qualify as evidence-informed as long as a strong logic model and written guidelines exist.	At least one study with comparison group.
Evidence-Informed: Emerging		Evidence-informed programs and practices that had only preliminary data with no comparison group. The level of evidence suggests the intervention would qualify as evidence-informed as long as a strong logic model and written guidelines exist.	Preliminary results with no comparison group.

Definitions

The following definitions have guided the review of evidence and establishment of the evidence ratings in the *Smart Start Clearinghouse for Evidence-Based Programs and Practices for Early Childhood.*

Experimental studies randomly assign study participants to either receive the intervention or to not receive the intervention. The group receiving the intervention or service in called the treatment group. The group not receiving the service in the control group. Some experimental studies may have more than two groups that vary by type or the amount of the intervention received.

Quasi-experimental is defined as a study with a treatment and a comparison group where group assignment was not decided by randomization and that uses advanced statistical procedures to control for between group differences.

Advanced statistical procedures primarily include multivariate regression analyses designed to control for differences in characteristics between the treatment and comparison groups. These may include logistic regression with substantial control variables, propensity score analysis, difference in difference modeling, fixed effects, etc. These approaches are often used with statistical methods or designs that address unique characteristics of the data such as nested or time lapsed records. Such methods might include hierarchical linear modeling, time-series, analysis, regression discontinuity, etc.

Treatment group includes those study participants who receive the intervention or service being studied.

Control group includes study participants who were randomly assigned to not receive the intervention. They serve as a comparison to the treatment group.

Comparison group includes participants who do not receive the intervention. A comparison group may be determined by convenience or another means other than random assignment.

Random assignment or **randomization** means that study participants have an equal chance of being selected to participate in either the treatment or control group. Assignment is often done through a "chance procedure" which might include flipping a coin, drawing a name out of a hat, or a random number generator.

Systematic reviews of a program or practice look at the findings of as many studies as can be located that investigated a program or practice to determine if results taken together show that it had the outcomes intended.

Meta-analysis is a common type of systematic review. It consists of coding different characteristics of studies of the same or similar program or practice and summarizing the results across studies with similar outcomes using a statistic called an effect size.

Effect size tells us how large the difference in outcome is between the intervention groups and control or comparison group.

Activities in Revised Smart Start EB/EI Ratings

Updated 9/19/18

The list of programs and practices available in the revised Smart Start EB/EI Ratings is a work in progress. This document shows the activities currently available and their EB/EI ratings, those still in progress, and those reviewed but not included due to insufficient evidence or other circumstances.

Activities Currently Rated with Research Write-Up Available on fabrik as of July 2018

Activity	EB: Well Established	EB: Established	EI: Promising	EI: Emerging
Early Care and Education				
Be Active Kids			[redacted]	
Child Care Health Consultant			[redacted]	
Color Me Healthy			[redacted]	
Communities of Practice*				[redacted]
Consultation/Coaching**		[redacted]		
Go NAP SACC		[redacted]		
Kindergarten Transitions*				[redacted]
Mentoring			[redacted]	
Motheread Story Exploring*			[redacted]	
Outdoor Learning Environment				[redacted]
Part Day/Part Week Child Care*			[redacted]	
Professional Development Advising			[redacted]	
Program Quality Incentives			[redacted]	
Provider Education Supports				[redacted]
Providing Training			[redacted]	
Pyramid Model			[redacted]	
Raising a Reader			[redacted]	
Staff Quality Incentives/WAGE$			[redacted]	
Subsidy and Scholarships			[redacted]	

*New addition or split out umbrella program

**A supplement on inclusive child care is also available.

A special note about CCRR: Local partnerships fund CCRR work in different ways. Some fund the full CCRR model while others may fund certain components (e.g. training, technical assistance, etc.). As a result, CCRR is not a stand-alone activity in the EB/EI review but rather each individual component has its own evidence and rating, giving partnerships flexibility in how they fund CCRR.

Activity	EB: Well Established	EB: Established	EI: Promising	EI: Emerging
Early Literacy				
Dolly Parton's Imagination Library			[redacted]	
Motheread Story Exploring*			[redacted]	
Raising a Reader			[redacted]	
Reach Out and Read	[redacted]			

*New addition or split out umbrella program

Activity	EB: Well Established	EB: Established	EI: Promising	EI: Emerging
Family Support				
Adolescent Parenting Program*			[redacted]	
Attachment and Biobehavioral Catch-Up*		[redacted]		
Circle of Parents				[redacted]
Family Connects*			[redacted]	
Healthy Families America		[redacted]		
Nurse Family Partnership	[redacted]			
Nurturing Parenting Program				
- NPP - Parents and Their Infants, Toddlers, and Preschoolers*			[redacted]	
- NPP-Young Parents and Their Families*				[redacted]
- NPP-Nurturing Skills for Families*				[redacted]
- NPP-Nurturing Fathers*				[redacted]
Parent to Parent Peer Support				
- Peer Support for Parents of Children with Disabilities and Chronic Illness*		[redacted]		
- Peer Support for Parents of Young Children with Mental Health Issues*			[redacted]	
Parents as Teachers		[redacted]		
Safe Care*			[redacted]	
Safe Care Augmented*			[redacted]	
Targeted Short-term Home Visiting			[redacted]	
Triple P				
- Level 1*		[redacted]		
- Level 2*	[redacted]			
- Level 3*	[redacted]			
- Level 4*	[redacted]			
- Level 5*	[redacted]			

*New addition or split out umbrella program

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Activity	EB: Well Established	EB: Established	EI: Promising	EI: Emerging
Health				
ABCD			[redacted]	
Adolescent Parenting Program*			[redacted]	
Be Active Kids			[redacted]	
Breastfeeding Support (Lactation Consultation)*		[redacted]		
Child Care Health Consultant			[redacted]	
Color Me Healthy			[redacted]	
Family Connects*			[redacted]	
Healthy Families America		[redacted]		
Go NAP SACC		[redacted]		
Nurse Family Partnership	[redacted]			
Outdoor Learning Environment				[redacted]
Parent to Parent Peer Support				
- Peer Support for Parents of Children with Disabilities and Chronic Illness*		[redacted]		
- Peer Support for Parents of Young Children with Mental Health Issues*			[redacted]	
Pyramid Model			[redacted]	
Reach Out and Read	[redacted]			
Triple P				
- Level 1*		[redacted]		
- Level 2*	[redacted]			
- Level 3*	[redacted]			
- Level 4*	[redacted]			
- Level 5*	[redacted]			

*New addition or split out umbrella program

Activities in Progress

The following activities are in the process of being reviewed and will be included in the research write-ups as they are ready. Please check fabrik regularly to see what has been added.

Activity	Tentative EB/EI Rating July 2018
Awareness, Engagement, Outreach	EI - Emerging
Child Advocacy Centers	TBD
Consumer Education and Referral (for child care)	EI - Promising
Facilitated Playgroups	EI - Promising
Incredible Years Preschool Basic Program	EB- Well Established
Incredible Years Toddler Basic Program	EI - Promising
Incredible Years Teacher Classroom Management and Dinosaur School	EI - Promising
Incredible Years Autism	EI - Emerging
Kaleidoscope	EI - Promising
Lending Library	EI - Emerging
Mother Goose	EI - Promising
Motheread	EI - Emerging
Motheread Story Exploring	EI - Promising
Shared Reading	EB- Established

Activities Reviewed and Found to Have Limited Evidence

Other activities were reviewed and found to have evidence only for certain groups or when used in specific circumstances. Partnerships may use the evidence that NCPC has for these activities only when they are implementing the activity under similar circumstances and with similar target groups. Local partnerships must contact their program officer to learn more. As more evidence becomes available, NCPC will consider adding these to the Smart Start EB/EI Ratings. These include:

Baby FAST
Circle of Security
Family Resource Centers
LENA
Parenting Now
Peer to Peer Support for Breastfeeding
Triple P Online
Triple P Stepping Stones
Very Important Parents Program (VIP)

Activities Reviewed and Found to Have Insufficient Evidence

Some activities were reviewed and found to have insufficient evidence at this time. NCPC will review these activities as additional evidence and interest emerge. These include:

Every Child Ready to Read, Revised
Incredible Years – Parents and Babies Program
Motheread BABY
Pre-K FAST
Ready Rosie

LITERACY

Dolly Parton's Imagination Library

Goals

The goals of Dolly Parton's Imagination Library are the following: 1) to increase young children's access to books, 2) to increase parent-child reading frequency, and ultimately 3) to contribute to kindergarten readiness.[i]

Dolly Parton's Imagination Library Snapshot

- **EC Profile Indicator:** FS 20 Percent of Parents/Guardians Who Report Reading to Their Children Daily
- **Clearinghouse Rating:** None
- **Research supports** use with children birth to 5 years of age
- **Related Smart Start outcomes:**
  - Increase in frequency of parent and child shared reading
  - Increase in the adult's use of recommended reading strategies
- **Purveyor training required:** No
- **Smart Start information or guidance:** Yes, see LP Central
- **Frequency:** Monthly
- **Dosage:** One book per month
- **Minimal service threshold:** at least 4 months of books
- **Suggested Assessments:** Smart Start Dolly Parton's Imagination Library Survey
- **Implementation Guidance:** http://www.imaginationlibrary.com/ and see LP Central for Smart Start guidance

Program Features

Dolly Parton's Imagination Library is an early literacy program that mails age-appropriate books to registered children on a monthly basis. The books are mailed in the child's name in an effort to create a sense of excitement about getting new books. Children can receive the books from birth to their fifth birthday, regardless of family income. The sponsoring organization selects a geographic area to target for book distribution and raises the funds to cover the cost of the books. Parents can also register children online.

Organizations that provide Imagination Library need to make staff available for several tasks which include (a) recruiting families; (b) coordinating with partner organizations to help spread the word and encourage families to enroll; (c) utilizing outreach and media (including social media) to recruit families and, possibly, help families enroll; (d) picking up of undelivered books from local post offices; (e) securely entering and managing family information in a program web-based database; (f) facilitating parent surveys or other evaluation measures; and (f) managing monthly invoices.

In addition, it may be helpful to check with your local postmaster to determine what, if any, local guidelines or paperwork need to be completed. Organizations considering DPIL should also consider the need for bilingual or Spanish versions of recruitment, enrollment, and survey documents. And, while DPIL is designed for any child ages birth through five, it may be helpful to determine whether or not your organization will target specific populations, such as highly vulnerable populations within your community. For more

information regarding Dolly Parton Imagination Library use this link: http://www.imaginationlibrary.com/.

Target Audience:

Children birth to 5 years of age

Documented Outcomes

	Type of Study	Child-outcomes determined through standardized assessments or research studies	Parent-reported child outcomes		Parent-reported family outcomes		
		Improved child academic skills	Increased child enjoyment/ interest in shared reading	Increased oral language/ vocabulary development	Increased sharing reading*	Increased access to books	Increased use of library
Shelby County Books from Birth program (2013)[iii]	Quasi-experimental	✓					
Seidz & Capuozzo (2011)[iii]	Non-experimental; gains within treatment group		✓		✓		
Ridzi et.al. (2011)[iv]	Non-experimental with comparison groups				✓		
Thomason (2008)[v]	Non-experimental with comparison groups				✓	✓	✓
Fong (2007)[vi]	Non-experimental				✓		
Gordon (2010)[vii]	Non-experimental		✓		✓	✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.
*Aligned with Smart Start outcome *Increase in frequency of parent and child shared reading*

Research Evidence for Dolly Parton's Imagination Library

- The program is most often linked to an increased number of books in the home and increased or improved shared reading practices between adults and children.
- The program may be aligned with higher language and mathematics scores when children were assessed at kindergarten entry.
- Program effects may be amplified for low income or highly vulnerable families or children.

Review of Experimental and Quasi-Experimental Studies

Citation	**Shelby County Books from Birth program. (2013). Evaluating the relationship between the Imagination Library early childhood literacy program and kindergarten readiness.**
Population and Sample	Secondary data were collected on 263 new kindergarten students who had entered kindergarten in fall 2011. All children were enrolled in public elementary schools in Memphis Tennessee (Shelby County).
Methodology	Quasi-experimental; comparison of participants to a matched cohort of non-participants
Purpose	The study used a comparison of DPIL children with matched, non-DPIL, children to determine whether or not children who participated in DPIL had better scores on measures of kindergarten readiness (Kindergarten Readiness Indicators, or KRI). In particular, pre-literacy and pre-numeracy skills were assessed and confounding factors (such as child age, poverty indicators, participation in prekindergarten, race, and family reading practices) were controlled.
Measures & Assessments	• Kindergarten Readiness Indicator • Family Reading Habits Survey
Study Implementation	• The study asked about DPIL participation during kindergarten registration activities. • There were no significant group differences on age, gender, race, or economic status. There were significant group differences on prekindergarten participation and family reading habits.
Staff Qualifications	N/A
Key Findings	• On measures of language, children who participated in DPIL scored, on average, 9.64 points higher (out of 86 total) than children who did not participate in DPIL. • On measures of mathematics, children who participated in DPIL scored, on average, 2.01 points higher (out of 27 total) than children who did not participate in DPIL. • Age, poverty, participation in prekindergarten, and family reading habits were significantly associated with language scores, as was participation in DPIL. Further, the complete model explained 26% of variance in language scores. After controlling for confounding factors, DPIL was associated with an average languages score that was 8 points higher for program participants. • Age, poverty, participation in prekindergarten and family reading habits also were significantly associated with mathematics scores, as was participation in DPIL; the model explained 19% of variance. After controlling for confounding factors, DPIL was associated with an average mathematics score that was 1.8 points higher for program participants.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Seitz & Capuozzo. (2011). One-year evaluation on Alaska's Imagination Library Program. Anchorage Alaska: University of Alaska at Anchorage.**
Population and Sample	The study contained two surveys. The first survey was administered to families who were newly enrolled in DPIL in Anchorage, Brevig Mission, Dillingham, Emmonak, Homer, and Point Hope. A total of 2,435 participants received the survey and 1,435 participants completed it. The second survey was administered to families who had been in the program for more than one year, from Anchorage, Seward/Moose Pass, and Angoon. A total of 1,858 participants received the survey and 348 participants completed it.
Methodology	Gains within treatment group (but no external comparison group)/ Single-case design
Purpose	The study was designed to answer questions about the effect of DPIL on children and families, with a focus on improvements in: • Number of books in the home; • Child's enthusiasm toward books and reading;

	• Frequency of parent reading to child in a week; and • Perceived parental importance of reading and books. Survey 2 also was used to examine these questions, in addition to the extent to which DPIL has helped prepare the child for kindergarten. In addition the survey contained questions that asked if: • The parent encouraged others in the community to join the program; • The parent felt their child looks forward to the arrival of the book each month; • The parent felt he or she reads more since joining the IL; and • The parent attended any events in their community that involved books for young children.
Measures & Assessments	Two surveys were created for the study
Study Implementation	• Telephone surveys were used in an attempt to boost response rate in Anchorage survey #1 • Enrollment volunteers helped gather survey data; data were entered into Survey Monkey
Staff Qualifications	The study used enrollment volunteers to collect participant data.
Key Findings	Survey 1 • Number of books at home: of the 1423 respondents, 36% reporting having either 1-10 children's books or 20 or more children's books. • Enthusiasm towards books and reading: of the 1395 respondents, 51.8% reported that their child was very enthusiastic about books and reading • 1421 respondents were awaiting their first book from DPIL. Of these, 89.4% reported that reading and books are of some importance to child development. Survey 2 • Number of times read to child: of the 348 respondents, 77% reported reading to their child every day of the week • Importance of reading and books: of the 345 respondents, 94.7% believed reading is very important for child development • DPIL helps prepare children for kindergarten: of the 343 respondents, 93.2% reported their child was more prepared because of participation in DPIL • Read more to child: of the 343 respondents, 53.9% reported reading more since starting DPIL; 39.9% reported that they did not read more since starting the program

Citation	**Ridzi, F., Sylvia, M.R., and Singh, S. (2014) The Imagination Library Program: Increasing parental reading through book distribution. Reading Psychology, 35:548–576.**
Population and Sample	170 DPIL participants responded to a program survey. Of those who responded, 73% were English-primary language speakers, 69% were born in the United States, 47% were Caucasian, 17% were African-American, and 54% were female. The program was based in Syracuse, New York.
Methodology	Non-experimental with comparison groups
Purpose	The study addressed whether or not book distribution programs, such as DPIL, were associated with sharing reading practices within the home. The study also sought to determine if there were important confounding factors such as socioeconomic status, race, home language, or parent education.
Measures & Assessments	The program used a 12-question survey.
Study Implementation	The authors matched survey responses to book distribution logs to calculate variables for program participation (i.e., total months of enrollment).
Staff Qualifications	N/A
Key Findings	• Length of time in the program was significant associated with reading frequency. Specifically, as regards the percent of participants who reported reading to their child or children "three times or more per week" or "every day", 59.7% of participants who were enrolled in the program for four months or less responded in the affirmative, compared to 85.2% of participants enrolled for more than four months. • As regards the percent of participants who reported reading to their child or children "not at all" or "1 or 2 times", compared to those reading "three or more times per week" or "every day", there was not

	a significant difference in reading behaviors among participants enrolled for four months or less (40.3% reported the lesser frequency while 59.7% reported the higher frequency). Among participants enrolled more than four months, 85.2% reported reading at the higher frequency, compared to 14.8% who reported reading at the lesser frequency. • Among participants who were enrolled for four months or less, 29% reported reading "every day" (compared to 71% reporting all lesser frequencies). Among participants who were enrolled for more than four months, 59.3% reported reading "every day" (compared to 40.7% for all lesser frequencies). These differences were statistically significant, with a moderately strong effect size. • The authors also found that total months of enrollment was a significant predictor of daily reading, after controlling for child age at the time of the survey. Total months of enrollment remained a significant predictor after accounting for parent education, family income, race/ethnicity, parental birthplace (United States or not), English-primary language, and child sex. Further analyses revealed that respondents who were African-American or not born in the United States were less likely than others to conduct daily reading (findings were statistically significant). • Additional findings addressed the question "How often do you talk about the story and ask your child questions about the story?" In brief, 36% of respondents with four months or less enrollment reported "usually", compared to 55% of respondents with more than four months enrollment (statistically significant finding). Further, longer enrollment was statistically and positively associated with the percent of respondents reporting "usually."

Citation	**Thomason, G.B. (2008). The impact of the Ferst Foundation for Childhood Literacy on the home literacy environment. Dissertation Abstracts International: Section A: Humanities and Social Sciences, 69(8), pp. 3026.**
Population and Sample	A total of 2100 participants from five age groups were surveyed (Group 1 was 0 to 11 months enrolled; Group 2 was 12 to 23 months enrolled; Group 3 was 24 to 35 months enrolled; Group 4 was 36 to 47 months enrolled; and Group 5 was 48 to 59 months enrolled).
Methodology	Non-experimental with comparison among enrollment groups.
Purpose	The study responded to the question "Among families whose children are enrolled in the FFCL, is there a relationship between the home literacy environment, measured by a scale survey, and the length of time enrolled in the program?"
Measures & Assessments	• Home literacy survey, which was a survey reviewed by a panel of four reading specialists and nine early childhood teachers • The home literacy environment scale used for the survey was adapted from the Get Ready to Read Home Literacy Environment Checklist
Study Implementation	• The expert panel reviewed the survey for content. A pilot study was conducted to assess internal reliability. • Once families were sorted into enrollment groups, a random sample of 420 families was selected from each. Each sampled family received a survey.
Staff Qualifications	N/A
Key Findings	• Scores on the home literacy environment scale had a positive but small correlation program enrollment. There also was a positive (but low) correlation between enrollment and home literacy survey score. • There were statistically significant differences among the five enrollment groups. Of note, each enrollment group experienced increases in home literacy environment scores associated with length of enrollment, with the largest mean increase identified between Groups 1 and 2 (4.63 mean increase). A comparison of Groups 1 and 5 reveals a mean score difference of 7.09 on the home literacy environment scale. • While most parents, on average, reported reading with children almost daily, they also reported a lack of adult-oriented reading materials (such as books, newspapers, and magazines). • Some of the parent respondents reported an increase in use of the library, with their child. Further, increases in library use were positively associated with length of enrollment. • There was a positive association between length of enrollment and number of children's books in the home, as well as with adult-child frequency of book sharing (but not total minutes per day of read-aloud time, after Group 2).

Citation	**Embree, L. (2009). A study of the impact of Imagination Library participation on kindergarten reading achievement. Dissertation Abstracts International: Section A: Humanities and Social Sciences , 71(3).**
Population and Sample	The study targeted kindergarten students in Sullivan County TN, using DPIL participation as an independent variable. A total of 90 students were randomly selected from a pool of 187 children; 97 kindergarteners participated in DPIL in their prekindergarten years. Of the 90 sampled students, 45 were randomly selected from the pool of students who participated in DPIL and 45 were randomly selected from the pool of students who did not participate in DPIL. Stratification variables included free- and reduced-price lunch eligibility, and sex.
Methodology	Quasi-experimental
Purpose	The study assessed whether or not DPIL and the reported frequency of read-aloud sessions impacted reading achievement in kindergarten students.
Measures & Assessments	• Scott Foresman Reading Street Baseline Test • Kindergarten registration questionnaire
Study Implementation	Kindergarten teachers administered the baseline assessment. Data collected at kindergarten registration were used to identify the (reported) frequency of read-aloud sessions and length of participation. The authors noted that missing data on some questionnaire items may have affected findings.
Staff Qualifications	N/A
Key Findings	• The study failed to find significant differences between DPIL (mean score of 72.8) and non-DPIL (mean score of 66.11) students on measures of reading achievement. • The study found a statistically significant difference between students who did (mean score of 64.47) and did not (mean score of 74.02) qualify for free- and reduced-price lunch (FRL) but the interaction of group and FRL status was not statistically significant. More specifically, among students who did not quality for FRL, DPIL participants had higher average scores (DPIL mean: 74.23; no DPIL mean: 73.63; differences not statistically significant). Among students who did quality for FLR, DPIL participants had higher average scores (DPIL mean: 69.64; no DPIL mean: 61.97; differences not statistically significant). • There was no statistically significant correlation of reading frequency or length of DPIL participation (among DPIL students) on reading achievement. • There appears to be a program effect that is stronger for female students. • The author noted the trend for DPIL students to have higher mean reading achievement scores, although findings failed to have statistical significance. Further, the author noted that program effects may be stronger for children in poverty, and that program enrichments such as supplemental information or materials or parent education may be helpful.

Citation	**Fong, G. F. (2007). A report on Hawaii's Imagination Library Program. University of Hawai'i Center on the Family: Honolulu, HI.**
Population and Sample	Surveys were provided to 1765 program participants; 747 were received. Of those who responded, 56.5% had children aged 36 months or older; the remainder had children aged birth to 35 months. Sixty-three percent respondents were from Maui County (Maui, Molokai, or Lanai); 19% were from the Big Island (Keaau, Kau, or Pahoa) and 18% were from Oahu (Kalihi).
Methodology	Non-experimental
Purpose	The study was conducted to determine the program's impact on adult-child reading frequency.
Measures & Assessments	The author distributed a survey to all registered families.
Study Implementation	N/A
Staff Qualifications	N/A
Key Findings	• Participants reported on reading behaviors before and after participating in DPIL. More specifically, when participants reported on behaviors prior to DPIL, 51.7% reported reading to or with their child once a day or more than once a day (26.5% more than once a day, 25.2% once a day). When the participants reported on behaviors after enrolling in DPIL, 81.3% reported reading to or with their child once a day or more than once a day (49.4% more than once a day, 31.9% once a day). In addition 77% of families who reported reading to their child(ren) several times a week before DPIL reported reading to their child(ren) once a day or more than once a day after enrolling in DPIL. • Reading frequencies increased across all age groupings for children.

Citation	**Gordon, T. D. (2010). Celebrating little dreamers: An analysis of the first 18 months of Dolly Parton's Imagination Library in Middleton, Ohio. Retrieved from: http://usa.imaginationlibrary.com/medias/file/Middletown_Imagination_Library_Report(1).pdf**
Population and Sample	There were 89 parent respondents to the survey, representing 116 children (out of a total of 390 children served for between 12 and 18 months). Of the children represented, the average age was 2.6 years. More respondents were from dual parent households and had one participating child. In addition, 45% of respondents met federal guidelines for low income and seven percent had not completed high school (while 16% completed high school diploma or equivalent, 33% completed some college but no degree, 11% completed an Associate's, 20% complete a Bachelor's, and 13% completed a Master's degree).
Methodology	Non-experimental; a study survey was made available to 350 parents (representing 390 participating children) in Middletown Ohio. Only families who were enrolled between 12 and 18 months were surveyed.
Purpose	The study examined program impact on child literacy skills and parent behaviors.
Measures & Assessments	A survey was created and contained questions from other DPIL program surveys or studies.
Study Implementation	The authors noted a relatively high "non-delivery" rate for participants; at one point in time, as many as 50% of books were returned. The authors noted that "once a year" communications may have contributed to the high return rate.
Staff Qualifications	Volunteers
Key Findings	• As regards scores on Ohio's Kindergarten Readiness Assessment-Literacy (KRA-L), there were data for 69 students, whose parents also reported enrollment in DPIL. Among these students, the average score was 17.88 (compared to an average of 17.16 for non-DPIL students, n=535, and an overall average of 17.24, n=604). Further, kindergarten teachers reported anecdotally that they were aware of when students were DPIL participants. • As regards parent behaviors, 41.6% of respondents reported reading with their child multiple times a day; 33.7% reported reading once a day and 24.7% reported reading multiple times a week. Of note, no parents reported reading once a week or less than once a week. • Of the parent respondents, 81.8% reported increasing the frequency of adult-child reading after enrolling in DPIL (20.4% reported that frequency increased "significantly", 50% reported increasing "some", and 11.4 reported increasing "a little"; 18.2% reported no change but no parent reported a decrease in reading frequency). • Forty percent of parent respondents indicated that the program changed the way they spent time with their child. • Of the responding parents, the program effects appear to be stronger in lower income families with 98% of low-income families reporting an increased frequency of adult-child reading after enrolling in DPIL (compared to 69% of middle- or upper-income families). Further, 69% of lower income families reported having a better understanding of child reading abilities after enrolling in DPIL (compared to 61% of higher income families). Finally, 63%of lower income families reported changing how they spent time with their child (compared to 39% of higher income families). • Ninety-two percent of respondents reported an increase in child excitement and enthusiasm about books (48.9 percent reported that it increased "significantly," 35.1 percent reported that it increased "some," and 8.0 percent reported that it increased "a little." Only 8.0 percent reported no change, and no parents reported a decrease in the child's level of excitement and enthusiasm about books.) • Other important outcomes include: (a) almost 90% of children increased how often they asked to be read to; (b) almost 90% of children increased the amount of time spent alone with books; (c) 96.5% of parents reported that their child was more interested in books; and (d) 91.6% of parents reported that their child looked forward to the book every month. • Parents indicated an average of 100 books in the home; on average, 19 were from DPIL. The authors noted that DPIL was responsible, on average, for more than a quarter of books in about 50% of respondents and more than half of books in 20% of respondents. Among low-income families, DPIL accounted for majority of books in the home.

End Notes

[i] Dolly Parton's Imagination Library. (2012). Dolly Parton's Imagination Library, [Website]; Available from: http://www.imaginationlibrary.com/

[ii]Shelby County Books from Birth program. (2013). Evaluating the relationship between the Imagination Library early childhood literacy program and kindergarten readiness.

[iii] Seitz, H., & Capuozzo, R. (2011). One-year evaluation on Alaska's Imagination Library Program.

[iv] Ridzi, F., Sylvia, M. R., & Singh, S. (2014). Imagination Library Program: Increasing parental reading through book distribution. Reading Psychology, 35:548–576.

[v] Thomason, G.B. (2008). The impact of the Ferst Foundation for Childhood Literacy on the home literacy environment. Dissertation Abstracts International: Section A: Humanities and Social Sciences, 69(8), pp. 3026.

[vi] Fong, G. F. (2007). A report on Hawai'i's Imagination Library Program. University of Hawai'i Center on the Family: Honolulu, HI.

[vii] Gordon, T. D. (2010). Celebrating little dreamers: An analysis of the first 18 months of Dolly Parton's Imagination Library in Middleton, Ohio. Retrieved from: http://usa.imaginationlibrary.com/ medias/file/Middletown_Imagination_Library_Report(1).pdf

Additional Resources

Governor's Books from Birth Foundation. (2015). An impact analysis: Dolly Parton's Imagination Library in Tennessee, 2004–2014.

Ridzi, F., Sylvia, M. R., & Singh, S. (2011). Imagination Library: Do more books in hand mean more shared book reading? A Curar Working Paper, pp. 1-17.

Ridzi, R., Sylvia, M. Qiao, X., and Craig, J. (2015). Executive Summary - Examining the Impact of the Imagination Library Program on Kindergarten Readiness. Center for Urban and Regional Applied Research.

Tabors, P.O., Snow, C. E., & Dickinson, D. K. (2001). Homes and schools together:

Supporting language and literacy development, in Beginning literacy with language: Young children learning at home and school, D.K. Dickinson and P.O. Tabors, Editors. Brookes: Baltimore, MC. pp. 313-334.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Motheread Story Exploring

Goals

Motheread Story Exploring hopes to "foster problem solving, increase comprehension, and nurture a love of books" through its program of targeted reading, writing, listening, and speaking activities (*Source: http://www.motheread.org/ curriculum/story-exploring/)*

Motheread Story Exploring Snapshot

- **EC Profile Indicator:** PLA 40 Average Star Rating for Children in 1-5 Star Care, and Percent of Children in 4 and 5 star care; KEA10 Kindergarten Entrance Assessment
- **Clearinghouse Rating:** None
- **Research supports** use with parents and caregivers working with children ages birth through five
- **Related Smart Start outcomes:**
  - Improved teacher knowledge
  - Increase in the adult's use of recommended reading strategies
  - More children on track for typical or enhanced development
- **Purveyor training required:** Yes,
- **Smart Start information or guidance:** Yes, see LP Central
- **Dosage:** Weekly
- **Implementation Guidance:** http://www.motheread.org/training/story-exploring-training/

Program Features

Story Exploring is a Motheread program designed for use by caregivers such as teachers or early educators. The program was developed to give caregivers strategies that help improve or increase "children's reading comprehension, vocabulary, and translation from spoken language to the written word."

The program provides handbooks, which are available in four reading levels: infants and toddlers, older preschoolers, children in kindergarten through grade 2, and children in grades 3 through 5. There are lessons for adults to use, which include open-ended questions and prompts for child responses, in addition to other activities and props. The curriculum also includes take-home materials to help parents extend the Story Exploring experience into the home; Story Extenders are available in English and Spanish.

For more information regarding Motheread Story Exploring use this link: http://www.motheread.org/curriculum/story-exploring/

Target Audience

Caregivers, early educators, parents

Documented Outcomes

	Type of Study	Child Outcomes		Teacher Outcomes
		Expressive vocabulary*	Story retelling*	Teacher literacy behaviors**
Cleven (2005)[i]	Non-experimental with comparison groups	✓	✓	✓
Gorham & Wright (2013)[ii]	Non-experimental			✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.
*Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*
**Aligned with Smart Start outcome *Improved ECE program environment*

Research Evidence for Motheread Story Exploring

- Motheread Story Exploring has been linked to positive child outcomes in expressive vocabulary and story retelling skills. The program also has been linked to improvements in teacher literacy behaviors.
- There may be a need for ongoing support and assistance to classrooms that are implementing Motheread Story Exploring.

Review of Experimental or Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive Studies

Citation	**Cleven, J. (2005) Training and mentoring childcare providers in story sharing: Effects on vocabulary and story retelling for four-year olds, and story sharing behaviors of childcare providers. Dissertation.**
Population and Sample	The study incorporated 139 participants. Of the 139 participants, 18 were childcare providers, and 121 were children. Of the 18 childcare providers, three had college degrees. Of those, one held a bachelor's degree. The majority of the childcare provider participants in the study had "some college" listed as their educational level. The treatment and comparison groups of children were similar in the demographics considered, with the exception of race. The treatment group had 45% non-white, whereas the comparison group had 10% minority.
Methodology	Non-experimental; pretest-posttest comparison group design.

Purpose	This study was designed to investigate the effects of the Motheread model of training and mentoring on the receptive and expressive vocabulary and story recall of four-year olds, and story reading behaviors of childcare providers as compared to no training and no mentoring. Four questions were addressed: 1) What are the effects of the Motheread story sharing training and mentoring model on receptive vocabulary of four-year olds in a childcare setting? 2) What are the effects of the Motheread story sharing training and mentoring model on expressive vocabulary of four-year olds in a childcare setting? 3) What are the effects of the Motheread story sharing training and mentoring model on story retelling of four-year olds in a childcare setting? 4) What are the effects of the Motheread story sharing training and mentoring model on story sharing behaviors of child care providers as measured by the Teacher Literacy Behavior Observational Checklist?
Measures & Assessments	• Teacher Literacy Behaviors Observation Checklist (TLBOC) • Peabody Picture Vocabulary Test-Revised (PPVT-R) • Expressive One-Word Picture Vocabulary Test (EOWPVT) • Story retelling scores of children, as measured by a retelling rubric
Implementation Fidelity	• The groups consisted of classes of four-year olds in which their childcare providers received (a) training and mentoring (TM), or (b) no training and no mentoring (NTM). • The childcare providers in the training and mentoring group received a six-week training and mentoring intervention. Childcare providers received onsite training in story sharing. The training consisted of an initial two-hour session offered at the childcare center during non-child hours, or during childcare provider release-time. During the training session, childcare providers were introduced to the Motheread story sharing process. The five major parts of the story sharing process presented during training are: (a) introduce the story, (b) read the book, (c) review the book, (d) story sharing activity, and (e) close. • Modeling of the story sharing process followed the detailed introduction of the story sharing model. Childcare providers were encouraged to read daily with their children, and apply the strategies presented in training. Books and curriculum guides were reviewed, and distributed for use in the classrooms. • Follow-up visits during child-hours were made to the childcare centers on a weekly basis. During subsequent site visits, and as part of the mentoring process, childcare providers received feedback on their story sharing behaviors, and were given suggestions for effective ways to deliver story sharing. Modeling was used during the mentoring process to guide childcare providers in using the Motheread story sharing process with their children. Activities that were modeled included using drama or discussion to introduce a book, reading with expression, responding appropriately to student responses, and reinforcing the main idea of the story. Childcare providers were given opportunities for practice and collaboration following modeling presented in training.
Staff Qualifications	• Not addressed
Key Findings	Teacher Literacy Behaviors Observation Checklist • The final research question posed in this study asked whether the Motheread story sharing training and mentoring model had an effect on story sharing behaviors of childcare providers as measured by the TLBOC. • There were no significant differences between treatment and comparison group child care providers, at baseline, with regard to story sharing behaviors. • Using Analysis of Variance, the author found highly significant differences between treatment and comparison group child care providers, following the intervention ($p<.01$). More specifically, the pre-test treatment mean score was 46.2. The pre-test comparison group mean score was 56.3. The post-test treatment mean score was 75.4. The post-test comparison group mean score was 50.1. Peabody Picture Vocabulary Test-Revised • The first research question addressed by this study was whether the Motheread story sharing training and mentoring model had an effect on receptive vocabulary of four year olds in a child care setting. Analysis of Variance revealed no significant difference between pretest and posttest scores for children in the treatment and comparison groups on the PPVT-R. More

	specifically, the pre-test treatment mean score was 99.7 and the pre-test comparison group mean score was 106.3. The post-test treatment mean score was 99 and the post-test comparison group mean score was 105.1. Expressive One-Word Picture Vocabulary Test • The second research questioned posed in this study was whether the Motheread story sharing training and mentoring model had an effect on the expressive vocabulary of four-year olds in a childcare setting. Results showed a significant gain in expressive vocabulary for the treatment group. More specifically, the pre-test treatment mean score was 92.9 and the pre-test comparison group mean score was 99.8. The post-test treatment mean score was 97.9 and the post-test comparison group mean score was 99.8. The author used Analysis of Covariance to control for pre-test scores and found that post-test scores were significantly different (p=.0029). Story Re-Telling • Examining the effects of the Motheread story sharing training and mentoring model on story retelling of four-year olds in a childcare setting was the third research question posed in this study. Results indicated that a highly significant difference existed among gain scores for children in the treatment and comparison groups on the retelling rubric (as assessed with t-tests, p<.001). More specifically, the mean gain score for the treatment group was 12.92. The mean gain score for the comparison group was 2.43, which generated a negative t-score, as it reflects a negative gain score for this group.

Citation	**Gorham, B. M., & Wright, S. (2013). Literacy Invites and Nurtures Kids' Success (L.I.N.K.S.) project assessment.**
Population and Sample	The study incorporated seven child care centers; 16 teachers interviewed. The participating sites were in Wake County North Carolina.
Methodology	Non-experimental
Purpose	The study was conducted to assess teacher's application of Motheread. The study addressed the consistency with which teachers used the approach, as well as the degree to which teacher implementation was consistent with program expectations. The study also addressed whether or not the program was associated with and supportive of "increased student learning and literacy engagement."
Measures & Assessments	• Teacher Interviews • Observations
Implementation Fidelity	• Teachers received a specialized LINKS training using the Motheread approach. • The training was designed to focus on the "effective use of pedagogical practices known to enhance students' literacy development and increased engagement with books."
Staff Qualifications	• Not addressed
Key Findings	Consistency of Application • The study authors reported that "the preponderance of teachers interviewed responded that they were either "somewhat likely" or "very likely" to employ the ... practices learned through their LINKS training program," wherein the practices included: (1) using an introductory activity to begin reading a book selection; (2) analyzing pictures and asking questions for greater understanding; and (3) using read---aloud techniques such as props, puppets, music, drama, and voice to increase students' story engagement; (4) connecting the story with students' personal experiences to increase comprehension; (5) connecting new activities to the story theme to reinforce learning of key concepts and generalizations; (6) introducing and defining new words and concepts; (7) helping children understand and use new vocabulary; (8) using tactics to engage "non---talkers" in conversation; and (9) using turn---taking in conversations to encourage language development and extend dialogue about the story. • There was more variation in teacher use of "practices that focused on extending learning from the classroom to home (e.g., sending home a story summary, activity, or craft for parent interaction in the learning process); leading activities that made connections between spoken and printed words (e.g., demonstrate symmetry between oral and written language); and leading activities that reinforced the sounds of language." • The study authors reported that teachers were consistently using practices "known to enhance student literacy development and print engagement."

Effectiveness

- The study authors reported that participating teachers improved their effectiveness in application of practices that were considered supportive of "student learning and literacy development." The authors also reported that participating teachers "were knowledgeable about the approach and comfortable using the methods learned."
- There were improvements in the learning environment, supportive of student reading and engagement with books.
- The authors found the need for additional assistance in "teachers' *design* of learning spaces for reading engagement and *system support* from center directors for their efforts."
- The authors found that participants' responses may indicate a "hesitancy" to "admit that they are either reluctant to or unfamiliar with knowing how to pursue" activities related to "print and spoken language, sounds, and home (child/parent) interactions."
- Teachers reported greater fluency in storytelling. Teachers also reported that they "understood the logic of stories" and "valued the necessity for reading books in their entirety."
- The authors reported that participating teachers were (a) more dramatic in their reading of books, (b) incorporated more books in their classes, and (c) related the books to themes, not just in circle time.
- The authors suggested that additional assistance may be necessary to "reinforce more complex practices, such as children's literacy engagement in home environments" and "the design of classroom space to accommodate literacy practices. " Additional assistance also may be helpful for center directors on "monitoring, modeling, and reinforcing concepts."

End Notes

[i] Cleven, J. L. (2005). Training and mentoring childcare providers in story sharing: Effects onvocabulary and story retelling for four-year olds, and storysharing behaviors of childcare providers, in Department of Philosophy. North Carolina State University: Raleigh, NC.

[ii] Gorham, B. M., & Wright, S. (2013). Literacy Invites and Nurtures Kids' Success (L.I.N.K.S.) Project Assessment. LINKS is funded by Wake County Smart Start.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Raising a Reader

Goals

The goals of Raising A Reader (RAR) are the following: 1) to improve the reading readiness of children birth to third grade, 2) to promote parents' use of effective book sharing practices, and 3) to promote family literacy habits (*source: Raising A Reader website*).

Raising a Reader Snapshot

- **EC Profile Indicator:** FS 20 Percent of Parents/Guardians Who Report Reading to Their Children Daily
- **Clearinghouse Rating:** None
- **Research supports** use with families with children ages birth through third grade
- **Related Smart Start outcomes:**
  - Increase in frequency of parent and child shared reading
  - Increase in the adult's use of recommended reading strategies
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Frequency:** RAR book bags (4 books per bag) rotate to children's homes every week during the book distribution cycle; site implementers will facilitate weekly shared reading sessions; two Parent Workshops/Trainings will offered per RAR cycle
- **Suggested Assessments:** Raising a Reader Parent Survey
- **Implementation Guidance:** http://www.raisingareader.org

Program Features

Raising A Reader (RAR) is a family engagement and early literacy program that is designed to improve the reading readiness skills of children birth through third grade (*source: RAR website*). RAR promotes the literacy of children from birth through kindergarten by means of a weekly rotation of bags filled with books sent to children's homes, providing children and families access to over 100 books per rotation cycle. Book rotation is supplemented with parent training and materials promoting effective book sharing, family literacy habits, and family language skills. Families are linked with their local public library, and children receive a blue bag at the end of the program to encourage library visits.

Raising A Reader is a program that can be started in child care centers, libraries, or other community centers or agencies. Child care centers can also partner with a library. Centers have flexibility in how they implement RAR. Each affiliate must have a trained coordinator in order to access RAR materials.

For more information regarding Raising A Reader use this link: http://www.raisingareader.org.

Target Audience

Families with children ages birth to 5

Documented Outcomes

	Type of Study	Increase in frequency of parent and child shared reading*	Increased use of library	Increased access to books	Gains in children's literacy outcomes**
Anthony et.al. (2014)[i]	Experimental, with random assignment				✓ (only with addition of Family Nights)
Calhoun Intermediate School District (2013)[ii]	Pre/post with comparison group	✓	✓	✓	✓
Chao et.al. (2015)[iii]	Quasi-experimental with matched control group at the classroom level	✓	✓	✓	✓
Raising A Reader Aspen to Parachute (2013)	Pre/post	✓	✓		✓
Southwest Human Development (2013)	Pre/post	✓	✓		

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcomes *Increase in frequency of parent and child shared reading, Increase in the adult's use of recommended reading strategies*

**Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for Raising a Reader

- Evidence indicates that RAR participation increases children's access to books, family literacy engagement, and parent-reported outcomes including children's increased enjoyment of shared reading, increased language skills (vocabulary), increased emergent literacy skills (print awareness, letter naming, etc.), increased parent awareness of the importance of shared reading for literacy development, increased shared reading with the child, increased access to books or number of books in the home, and increased use of libraries.[iv, v]
- These outcomes are especially enhanced when combined with parent training sessions in dialogic and interactive reading techniques.[vi]

Review of Experimental and Quasi-Experimental Studies

Citation	**Anthony, J. L., Williams, J. M., Zhang, Z., Landry, S. H., & Dunkelberger, M. J. (2014). Experimental evaluation of the value added by raising a reader and supplemental parent training in shared reading. Early Education and Development, 25(4), pp. 493-514.**
Population and Sample	• 617 English-speaking children in 91 preschool classrooms within 37 schools; classrooms were randomly assigned in year 1 to groups: o Texas Early Education Model (TEEM)/Control = 22 o TEEM plus Raising a Reader (RAR) = 37 o TEEM plus RAR with Family Nights = 32 • New classrooms/teachers were recruited each year but not enough classrooms were available in Houston for all new classrooms each year to participate. Therefore teachers were allowed to continue in the treatment groups each year following the first year of participation while returning control teachers and new classrooms/teachers were randomly assigned to groups each year. No children participated in multiple years. • Children ranged in age from 37 to 69 months and included 49% boys, 51% girls; 54% African American, 27% Hispanic/Latino American, 14% white, 4% multiracial, 1% other
Methodology	Experimental, with random assignment
Purpose	The study examined the value added of parent workshops conducted in collaboration with the Raising a Reader program.

Measures & Assessments	• Expressive One-Word Picture Vocabulary Test (EOWPVT) • Receptive One-Word Picture Vocabulary Test (ROWPVT) • Word Structure from the Clinical Evaluation of Language Fundamentals: Preschool-2nd edition (CELFP-2) • Sentence Structure from the CELFP-2 • Memory for sentences from the Woodcock-Johnson Psycho-Educational Battery-Revised • Print knowledge from the Preschool Comprehensive Test of Phonological and Print Processing • RAR Parent Survey • Evaluation Site Rubric
Study Implementation	• The study took place over 4 years. • Classroom teachers were provided with RAR book bags and trained in the RAR book rotation system, tracking of materials, and contents of the "Teacher Attache," which includes shared reading strategies, classroom instructional strategies, and take-home activities. • Research staff conducted the first of two parent meetings at schools during which parents were presented with information about child development, the benefits of reading with children, and the logistics of the RAR program. A demonstration of how to read a wordless picture book was also provided at this time. • University-based RAR coordinators introduced the children to the book bags, which were filled with children's books during a regularly scheduled circle time. • Librarians from nearby branches began visiting classrooms in the middle of the school year to read aloud to the children, describe the library, and role-play visiting the library. They also presented at the second parent meeting and at the time issued library cards, shared reading strategies, and distributed library bags. Certain classrooms also took a field trip to their local library. • Children were assessed on measures of oral language and print knowledge at the beginning and end of the school year. • Analyses controlled or classroom nesting and individual differences in age, ethnicity, and pretest scores. • University-based TEEM coordinators were trained in RAR and implementation followed published RAR guidelines. Coordinators also were trained in conducting family nights. • RAR coordinators visited each classroom weekly to start to ensure fidelity of book rotation and tracking, to answer questions from teachers are parents, and encourage/support teachers' efforts to motivate children and parents. Visits tapered off to every other week after 1 to 2 months and continued until teachers scored satisfactorily on the site fidelity measure. • Assessment administrators included experienced research staff, were trained by the first author, and required to demonstrate competence in administration and scoring during one-on-one test sessions with the principal investigator or another experienced examiner. All assessors were blind to experimental condition.
Staff Qualifications	• Not addressed
Key Findings	• There was no added value associated with Raising a Reader alone. • The TEEM plus RAR with Family Nights was associated with significant gains on oral language and print knowledge ($p<.01$), particularly for children who started preschool behind on school readiness (<.05).

Citation	**Chao, S. L., Mattocks, G., Birden, A., Manarino-Leggett, P. (2015). The Impact of the Raising A Reader Program on Family Literacy Practices and Receptive Vocabulary of Children in Pre-Kindergarten. Early Childhood Education Journal, 43, 427–434.**
Population and Sample	• The study included 148 children 4 to 5 years of age in 12 prekindergarten classrooms with 24 teachers o Treatment group = 100 children in nine classrooms o Comparison group = 48 children in three classrooms • Children: o 43% boys and 57 % girls, 97% spoke English and 3% spoke Spanish as their first language o 30 % Caucasian/White, 37% African- American, 14% Hispanic, 2% Multi-ethnic, 4% Asian, 4% Native American • Teachers: o 23 females, one male o 3 to 24 years teaching experience
Methodology	Quasi-experimental, matched control group at the classroom level
Purpose	The purpose of the study was to examine the relationship between participating in a Raising a Reader program with children's receptive vocabulary and family reading behavior and visits to the library.
Measures & Assessments	• Parent surveys • Peabody Picture Vocabulary Test-4

Study Implementation	• Due to scheduling and logistical issues with the school system, the program was implemented over a 12-week period rather than the 24-week period recommended by RAR national headquarters. • Treatment group children took home a red bag, each containing four different children's books and a DVD for parents describing the most effective techniques for reading aloud to children. Families kept the bags for 3-4 days. • Bags were rotated in the classroom so that each child received a new set of books every week. Teachers were encouraged to extend the readings with classroom activities using drama, art, and puppetry. • Control group children did not receive any information about the RAR program. • Treatment group parents completed a survey before being made aware of the RAR program and were then invited to attend a kick-off for the program. Following the 12-weeks program, they were asked to complete a post-test survey. Control parents did not complete any surveys. • Treatment and control group children were tested for receptive vocabulary before the RAR program began and 12 weeks after the program ended.
Staff Qualifications	• Not addressed
Key Findings	• There were significant increases in at-home reading routines for the treatment group. • There were significant increases in the quality of shared reading activities, parent shared reading behaviors, and child attention span during shared reading for the treatment group. • The treatment group demonstrated significant decreases in the number of visits to the library but significant increases in the number of children's books in the home, participation in library events, interactions with library staff, and checking out of library resources. • Sixty-eight percent of treatment group children made significant gains in receptive vocabulary skills compared to 39% of control group children.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Calhoun Intermediate School District (2013)**

Key Findings	• Families who participated in RAR showed a statistically significant increase in creating literacy-rich home environments:
	  ○ The percentage of parents/guardians who checked out children's materials to take home increased from 47% to 54.5%.
	  ○ The percentage of families having more than 30 books at home increased from 50.2% to 60.2%.
	  ○ Parents/guardians who read to children for 10-15 minutes daily increased from 26.7% to 32.3%.
	  ○ Parents who asked children questions about books increased from 54.8% to 64% and children who asked questions about books increased from 55.1% to 62.7%.
	• In comparison to non-RAR children, RAR children scored 4.6 points higher on letter identification (based on a 54-point Likert scale), 4.6 points higher on sound identification (based on a 54-point Likert scale), 5.1 points higher on concepts of print (based on a 22-point Likert scale), and 1.4 points higher on Clay Read (based on a 22-point Likert scale).
	• RAR children, particularly those from immigrant families where English is not the primary language, showed an increase in vocabulary, language development, and literacy skills.

Citation	**Raising A Reader Aspen to Parachute (2013). [Website]. Available from: http://rar4kids.org/**
Key Findings	1. Reading time among low-income families increased by 22% from October – May. Families on average read aloud together about 6.5 days/week. 2. While reading stories with their young children, parents reported a 23% increase in the number of times the child "read" the story to the parent by memorization or through pictures. This is an

	indication of key early literacy fundamentals including comprehension and understanding story sequence and picture/story relationships. 3. Parents reported a 19% increase in the frequency of story discussions during reading times (probing story details and asking questions.) 4. At the end of the school year, 80% of families reported they were now checking out library books with their child, an increase from 43% in September. **Garfield Re-2 Schools (based in Rifle):** Based on the Garfield County School District Re02 assessment that measures a child's preparation for reading success, Raising A Reader (RAR) children in kindergarten scored 10 percentage points higher than non-RAR children. **Garfield 16 School District (based in Aspen):** By grade 3, children with a RAR background and support from the Colorado Preschool Program (CPP) significantly outscored non-RAR/CPP children on literacy proficiency. Only 27% of RAR/CCP third graders tested in the low literacy category

Citation	**Southwest Human Development. (2013). [Website]. Available from: https://www.swhd.org/programs/head-start-early-literacy/raising-a-reader/**
Key Findings	1. At the start of the program, less than half of the participants (47%) indicated they had a reading routine with their child. By the end of the program, 86% of participants reported they had a reading routine established. 2. The number of minutes spent per time reading increased from 35% to 53% of parents reporting that they spent between 11-30 minutes reading with their child. 3. Families increased their number of visits to the library with more than half (54%) visiting the library one or more times in the past month (an increase from 30%). 4. After participating in the program, 90% of parents reported that their child asked to be read to. 5. Non-mothers were as successful as mothers in supporting and developing reading routines with the children. 6. RAR has statistically greater impact on Burmese, Nepalese, and French speaking families than Spanish and English speaking families.

End Notes

[i] Anthony, J. L., Williams, J. M., Zhang, Z., Landry, S. H., & Dunkelberger, M. J. (2014). Experimental evaluation of the value added by raising a reader and supplemental parent training in shared reading. Early Education and Development, 25(4), pp. 493-514.

[ii] Raising A Reader Aspen to Parachute (2013). [Website]. Available from: http://rar4kids.org/

[iii] Chao, S. L., Mattocks, G., Birden, A., Manarino-Leggett, P. (2015). The Impact of the Raising A Reader Program on Family Literacy Practices and Receptive Vocabulary of Children in Pre-Kindergarten. Early Childhood Education Journal, 43, 427–434.

[iv] Ibid

[v] Chao, S. L., Mattocks, G., Birden, A., Manarino-Leggett, P. (2015). The Impact of the Raising A Reader Program on Family Literacy Practices and Receptive Vocabulary of Children in Pre-Kindergarten. Early Childhood Education Journal, 43, 427–434.

[vi] Anthony, J. L., Williams, J. M., Zhang, Z., Landry, S. H., & Dunkelberger, M. J. (2014). Experimental evaluation of the value added by raising a reader and supplemental parent training in shared reading. Early Education and Development, 25(4), pp. 493-514.

Additional References

Raising A Reader. (n. d.). Raising A Reader. [Website]. Available from: http://www.raisingareader.org.

Southwest Human Development. (2013). [Website]. Available from: https://www.swhd.org/programs/head-start-early-literacy/raising-a-reader/

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Reach Out and Read

Goals

The goals of Reach Out and Read (ROR) are to: 1) promote early literacy to young children and their parents and 2) improve school readiness (*source: ROR website*).

Program Features

Reach Out and Read works through medical provider offices to promote early literacy and school readiness with the distribution of new books to children starting at the six-month checkup, and by talking with parents about the importance of reading aloud to their children (*source: ROR website*). Reach Out and Read utilizes the relationship between parents and medical providers to encourage the development of critical early reading skills in young children.

A Reach Out and Read site is a healthcare facility that provides primary pediatric care. An interested medical practice applies to participate through the Reach Out and Read organization. Medical providers must then participate in the ROR training about the importance of reading aloud and age-appropriate tips about reading strategies. Members of the medical staff provide every child a new book to take home. The medical provider then talks to the parent and child about the importance of reading and reading strategies. The waiting room has displays, books, and information about Reach Out and Read. When possible, sites are encouraged to have volunteers in the waiting room to read to children and to model the appropriate reading techniques. The pediatric care sites report regularly on their progress to the ROR National Center and their ROR Region/Coalition.

For more information regarding Reach Out and Read use this link: http://www.reachoutandread.org.

Reach Out and Read Snapshot

- **EC Profile Indicator:** FS 20 Percent of Parents/Guardians Who Report Reading to Their Children Daily
- **Clearinghouse Rating:** None
- **Research supports** use with children 6 months to 5 years of age and their parents, with special emphasis on children growing up in low-income communities
- **Related Smart Start outcomes:**
  - Increase in frequency of parent and child shared reading
  - Increase in the adult's use of recommended reading strategies
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Smart Start information or guidance:** Yes, see LP Central
- **Frequency:** During well-child visits from 6 months through 5 years of age, trained medical providers speak with parents about the importance of reading aloud and provide a new, developmentally appropriate book to the child to take home
- **Suggested Assessments:** ROR Parent Survey
- **Implementation Guidance:** http://www.reachoutandread.org; LP Central

Target Audience

Children 6 months to 5 years of age and their parents, with special emphasis on children growing up in low-income communities

Documented Outcomes

	Type of Study	Increase in frequency of parent and child shared reading*	Increase in the adult's use of recommended reading strategies**	Improved language development for children***
Kumar et al. (2016)[i]	Experimental, with random assignment	✓		
Needlman, R. & Silverstein, M. (2004)[ii]	Literature review and synthesis (including 3 controlled trials)	✓		✓
Rikin et al. (2015)[iii]	Non-experimental, with a cross-sectional design	✓		
Needleman et.al. (2005)[iv]	Non-experimental, with a cross-sectional design	✓	✓	
Mendelsohn et.al. (2001)[v]	Non-experimental with comparison groups	✓	✓	✓
Sharif et.al. (2002)[vi]	Non-experimental, with a comparison group	✓	✓	✓
High et.al. (1998)[vii]	Non-experimental, with a cross-sectional design	✓	✓	
Silverstein et.al. (2002)[viii]	Non-experimental, with a comparison group	✓	✓	
Weitzman et.al. (2004)[ix]	Quasi-experimental, with a cross-sectional design	✓	✓	
Theriot et.al. (2003)[x]	Pre-post	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.
*Aligned with Smart Start outcome *Increase in frequency of parent and child shared reading*
**Aligned with Smart Start outcome *Increase in the adult's use of recommended reading strategies*
***Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for Reach Out and Read

- Several research reviews show that Reach Out and Read (ROR) has a positive impact on child language outcomes, including receptive and expressive vocabulary, as measured by standardized assessment tools.[xi, xii, xiii, xiv, xv]
- The majority of studies showed that positive effects were most significant for high-risk children and low- income families, [iv] but there were also significant effects for families in general, including multilingual families.[ii]
- Evidence suggests that programs like ROR greatly improve positive effects for family and child literacy outcomes by providing parent training in appropriate shared-reading techniques.[xvi]

Review of Experimental and Quasi-Experimental Studies

Citation	**Kumar, M. M., Cowan, H. R., Erdman, L., Kaufman, M., & Hick, K. M. (2016). Reach Out and Read is feasible and effective for adolescent mothers: A pilot study. Maternal Child Health Journal, 20(3), pp. 630-638.**
Population and Sample	• 30 adolescent mothers (average age of 17.4) with children ages 6 to 20 months (average age of 9.9 months) o Intervention = 20 o Control = 20

Methodology	Experimental, with random assignment
Purpose	This was a pilot to study the feasibility and effectiveness of Reach Out and Read for teen parents and their children. Participating families were clients at a teen-tot clinic in downtown Toronto.
Measures & Assessments	• Parent survey • Beck Depression Inventory-Revised (BDI-IA)
Study Implementation	• At well-child visits to the teen-tot clinic, eligible mothers were approached in the waiting room for recruitment. Upon written consent, a research assistant verbally administered a baseline questionnaire, a 3-question study questionnaire, and the BDI-IA. Participants were then randomized into intervention and control groups. • At each of three consecutive well child visits, the intervention group received three components of ROR: (1) child was given a developmentally appropriate book by a staff clinician; (2) the clinician briefly provided guidance for the mother on shared book reading techniques and the benefits of reading aloud to children; and (3) volunteer student librarians from the University of Toronto modeled shared book reading with families in the examination rooms, provided counseling and troubleshooting with mothers about reading techniques, informed mothers about local library services and literacy support programs, and signed up the child for a public library card. • Following the third visit, families in both groups again completed the study questionnaire and the BDI-IA. After final data collection, control families received three free children's books, reading guidance from a clinician, a public library card in the child's name, and a visit from a volunteer student librarian.
Staff Qualifications	• Not addressed
Key Findings	• By the end of the study, intervention mothers were significantly more likely to report reading as one of the child's favorite activities and had significantly lower depression scores. Intervention mothers also were more likely, though not significantly so, to report a) reading at least 3 days per week, b) more average days of reading per week, c) that reading was one of the mother's favorite activities with her child. Mothers also were less likely to have a clinically significant maternal depression score. • Although control group mothers reported reading more per week, on average, than intervention mothers at the start of the study, their average frequency of reading decreased while increasing for the intervention group. • Intervention group mothers improved and control group mothers worsened on the BDI-IA measure.

Citation	**Weitzman, C.C., Roy, L., Walls, T., and Tomlin, R. (2004). More Evidence for Reach Out and Read: A Home-Based Study. Pediatrics Vol. 113 No. 5, 1248-1253.**
Population and Sample	The study incorporated 137 families, 100 of whom completed home visits. Participating families had a child that was between 18 and 30 months at the time of the enrollment interview. The other eligibility criterion was *"the adult who accompanied the child to the clinic was the primary caregiver and could speak English well enough to participate in the initial interview and consent to a subsequent home visit."* Families were excluded from the study if 1) the child was born at <34 weeks of gestational; 2) the child had a known handicapping condition that affected development and may have affected a child's or a parent's reading behaviors; 3) the child had been hospitalized >14 days since birth; or 4) family members had a documented history in the medical record of substance abuse, criminal behavior, or significant mental illness.
Methodology	Quasi-experimental cross-sectional design without comparison group
Purpose	The study assessed family home literacy environments and created a child's home literacy profile. The study examined the quality of the home environment and tested the hypothesis *"that a significant relationship exists between the frequency of ROR encounters and a child's home literacy profile, even after accounting for important potential confounders such as the quality of the home environment."*
Measures & Assessments	• Parent interview • Home Observation for Measurement of the Environment (HOME) • Slosson Oral Reading Test Revised (SORT-R) • Counts of number of children's books (ROR and non-ROR) and adult reading materials present in the home • Review of child medical records • Child Home Literacy Index (CHLI)
Study Implementation	• The study team noted discrepancies in data between sources of reporting were relatively common. • Observations of adult reading materials in the home were conducted during the home visit.
Staff Qualifications	Not addressed

Key Findings	Parent Literacy • The study team noted the following, about the observations of adult reading materials in the home: *"In 97% of homes, there were no newspapers visible, in 80% no magazines for adult readers, and in 78% no books designed for adults. Only 10% of parents reported that they ever read for their own personal pleasure."* • The study team noted that the mean SORT-R score was 182.3 (and that a perfect score is 200 and the national mean score for young adults is 183). Quality of the HOME Environment • The study team noted that the mean total HOME score was 33.7 (and that scores of >38 are associated with a good developmental outcome, and scores of <28 are associated with poor developmental outcomes). Compliance with Well-Child Care • The study team reported that 15 of the 100 families were non-compliant with medical care. Child Home Literacy Index (CHLI) • The study team noted that the mean CHLI score was 4.9. The team also reported that "Parents reported reading to their child in 93% of families, but only 22% of families reported having a regular bedtime routine that included books. In addition, only 35% of families identified reading as a favorite activity of their child, but >50% of children own at least 10 books." Relationship Between Number of ROR Encounters and CHLI • The study team found that (a) frequency of ROR encounters (p=.005); (b) modified HOME scores (p<.05); and (c) educational level of the mother (p<.05) all were significantly related to CHLI score. • The study team used hierarchical linear regression analyses and found that a model that included age of the child, educational level of the mother, SORT-R score as a measure of parental literacy, modified HOME score as a measure of the quality of the home nurturing environment, compliance with well-child care, and the number of ROR encounters explained about 19% of variance in the child's home literacy profile. Further, parent education, HOME score, and number of ROR encounters, each predicted a significant amount of variance. More specifically, the number of ROR encounters accounts for about 5% of variance in child home literacy profile, after controlling for other confounding variables.

Review of Meta-Synthesis

Citation	**Needlman, R., & Silverstein, M. (2004). Pediatric interventions to support reading aloud: How good is the evidence? Journal of Developmental and Behavioral Pediatrics, 25, pp. 352-363.**
Population and Sample	12 published studies evaluating Reach Out and Read (ROR) and variations of ROR
Methodology	Literature review and synthesis, including 3 controlled trials
Purpose	This study examined the theoretical assumptions, methodological rigor and findings of published Reach Out and Read studies, and areas for future research.
Measures & Assessments	• Varied across study
Study Implementation	• Studies were identified for review were limited to infants and preschool children and focused on ROR specifically or programs modeled after ROR. • Outcome measures from the studies were grouped into two categories: (a) self-reported parent attitudes and behaviors and (b) reported or observed indices of child language development.
Staff Qualifications	• Not addressed
Key Findings	• The review notes that findings are predominantly, but not uniformly, positive for parent attitudes towards reading aloud and frequency of reading aloud. • The studies in general report significant associations between ROR and improved language development. • The association between Reach Out and Read and increased book ownership is a less-consistent association. • The studies reviewed over-represent foreign-born and Spanish-speaking parents. African-American and white families are under-represented in published studies. • The key findings noted by the study team included:

	○ Four times (odds ratio) increase in having "literacy orientation" among parents given books. ○ Approximately four times (odds ratio) increase in having "child centered literacy orientation" in the intervention group. ○ 10 times (odds ratio) increase in parents reading aloud > or = 3 nights per week; trend for increased receptive vocabulary among intervention children > 18 months old. ○ 40% increase in receptive (parent-reported) vocabulary; 80% increase in expressive, among children > 18 months old. ○ 2 times increase in proportion listing reading as favorite activity and increase doctor "helpfulness" and parent "receptiveness." ○ 3.6 times (odds ratio) increase in likelihood of book sharing at least 3 times per week. ○ Adjusted 8.6 points higher receptive vocabulary, 4.3 points higher expressive on standardized tests. ○ Receptive vocabulary 7.2 points higher on standardized test. ○ 2.4 times increase in proportion listing reading aloud as a favorite activity; 1.7 times increase in proportion practicing regular bedtime reading; similar rises in English and non-English groups. ○ Receptive and expressive language scores correlated with number of books given by clinic multiplied by the number purchased by parents. • The study team noted that there were no significant differences associated with the intervention in one of the studies. • Consistent statistically significant between-group differences in the predicted direction were found for: ○ Child-Centered Literacy Orientation (CCLO); two studies ○ Communicative Development Inventory (modified) receptive; two studies ○ Receptive One-Word Picture Vocabulary Test; three studies • For other outcomes of interest, some studies had statistically significant between-group differences in the predicted direction while others had a lack of statistically significant differences.

Review of Descriptive and Non-Experimental Studies

Citation	**Rikin, S., Glatt, K., Simpson, P., Cao, Y, Anene-Maidoh, O, & Willis, E. (2015). Factors associated with increased reading frequency in children exposed to Reach Out and Read. Academic Pediatrics, 1, pp. 651–657.**
Population and Sample	• Convenience sample visiting 8 Reach Out and Read (ROR) sites in Milwaukee ○ 256 caregivers (over the age of 18 and with healthy children between 6 and 59 months of age) ○ 68% Black, 38% Latino; 96% English, 32% Spanish; 73% graduated from high school
Methodology	Non-experimental, with a cross-sectional design
Purpose	The study investigated whether exposure to Reach Out and Read was associated with the frequency of shared reading.
Measures & Assessments	• Parent questionnaire adapted from the Before-and-After-Books and Reading survey
Study Implementation	• Caregivers visiting the clinic sites for routine health care were approached for participation in the study. Children with birth weights less than 2500 g or severe neurodevelopmental disability were excluded and no incentives were offered. • Study participants were asked to complete a questionnaire asking about 1) demographic characteristics of the caregiver and child; 2) exposure to ROR (i.e., number of books received from pediatricians and age of child when a book was first received from a pediatrician); 3) caregiver literacy factors (caregiver interest in reading, how caregiver prepares child for bed, number of books in the child's household); and 4) frequency of reading (days/week), which was used as the outcome variable.
Staff Qualifications	• Not addressed
Key Findings	• Caregivers who received 4 or more books from the pediatrician reported reading to children significantly more frequently than caregivers who received fewer than 4 books. • Caregivers who reported reading to children daily were more likely to have 40 or more children's books at home.

Citation	**Needleman, R., Toker, K.H., Dreyer, B.P., Klass, P., and Mendelsohn, A.L. (2005). Effectiveness of a primary care intervention to support reading aloud: A multicenter evaluation. Ambulatory Pediatrics, 5, 209-215.**
Population and	The study was conducted at 19 sites located in 10 states. The study incorporated 1647 parents,

Sample	730 of whom were in the treatment group and 917 who were in the comparison group. Treatment and comparison groups were similar with regard to age, gender, birth weight, respondent's relationship to child, ethnicity, language, and parental education. Treatment data were collected, on average, 17.8 months after the Reach Out and Read (ROR) program was implemented at a site. Children were aged 6 to 72 months. Children with several neurodevelopmental disabilities were excluded.
Methodology	Non-experimental with comparison groups; cross-sectional design; convenience samples
Purpose	The study examined ROR pogram influence on parent attitudes and behaviors related to reading aloud. The study addressed two questions: (1) Has program effectiveness been preserved in the process of program expansion?, and (2) Is the program equally effective across divides of geography, ethnicity, and child age?
Measures & Assessments	• Structured questionnaires and interviews
Study Implementation	• The study was implemented at sites that met ROR National Center standards for clinician training and program infrastructure.
Staff Qualifications	• The study was implemented as required by site staff. • Study interviewers were clinicians or assistants. Interviewers were trained in survey administration.
Key Findings	<u>Parent-reported literacy-promoting attitudes and practices</u> • The study team found treatment effects related to: o Identification of books as a favorite activity (Odds Ratio 1.4) o Reading aloud thought of as leading to school success (Odds Ratio 1.5) o Use of books at bedtime (Odds Ratio 1.5) o All three of the above outcomes (Odds Ratio 1.5) o Ever reading to the child (Odds Ratio 1.9) o Reading aloud three or more days per week (Odds Ratio 1.4) • The study team found a significant difference between treatment and comparison group parents on the average number of days per week of reading aloud, wherein the treatment group reported a mean of 4.7 and the comparison group reported a mean of 4.4. • The study team failed to find a significant difference between treatment and comparison groups on the reported ownership of five or more books for the child (Odds Ratio 1.3) and ownership of 10 or more books for the child (Odds Ratio 1.2). <u>Covariates</u> • The study team adjusted analyses for child gender, child age, ethnicity, language spoken in the home, attendance at one or more well-child visits in the past year, and study site. • After adjustments, the association of ROR and book ownership reached significance. • The study team also adjusted for parental education, when available. The team reported that study results remained similar, with the exception of "ever read to child" and "school success." <u>Subgroup analysis</u> • The stud team found that the program was associated with hypothesized, positive, outcomes regardless of child age, sex, or geographic region. • When the study team considered parental education and ethnicity, the team found that the program was associated with higher summary scores for those parents who had less than a 12th-grade education. Further, higher summary scores were identified for African-American and Latino families. The study team noted that the program appeared to be associated with higher summary scores for white families with less than 12 years of education.

Citation	**Mendelson, A.L., Mogilner, L.N., Dreyer, B.P., Forman, J.A., Weinstein, S.C., Broderick, M., Cheng, K.J., Magloire, T., Moore, T., and Napier, C. (2001). The impact of a clinic-based literacy intervention on language development in inner-city preschool children.**
Population and Sample	The study incorporated 138 families: 55 in the treatment group and 83 in the comparison group. Complete data were available for 122 of enrolled families (49 in the treatment group and 73 in the comparison group). These families were very similar on most variables with no statistically significant differences noted. Enrolled families had a child aged 2 to 5.9 years old, who was not yet attending kindergarten. Other selected criteria included *"gestational age 34 weeks or more, normal birth history, no known neurodevelopmental disability (eg, visual or hearing impairment, static encephalopathy), no severe chronic disease (e.g., cardiac disease, human immunodeficiency virus infection), and receipt of well-child care at the institution; family either Latino or black ethnicity with either English, Spanish or bilingual English-Spanish as the primary language(s) spoken in the home; and primary caretaker available for interview on day of presentation."*
Methodology	Non-experimental with comparison groups; convenience samples

Purpose	The study examined the effects of the Reach Out and Read (ROR) program on child language outcomes.
Measures & Assessments	• Parent interview • READ Subscale of StimQ. • Receptive One-Word Picture Vocabulary Test • Expressive One-Word Picture Vocabulary Test
Study Implementation	• The study was conducted at inner-city general pediatric clinics, which serve a poor and under-educated populations. Many of the population served are Latino immigrants. • The ROR program had been in place at the treatment clinic for three years. The comparison clinic had a similar intervention, which started three months prior to the study. • The treatment intervention was based on the ROR program and consisted of: (1) While families waited to see their pediatrician, volunteers and/or staff members sat with children on large playmats and modeled reading activities. (2) While families waited to see their pediatrician, volunteers and/or staff members approached families and discussed the importance of reading. (3) Pediatricians counseled families about the importance and fun of reading. (4) Pediatricians distributed developmentally appropriate books to families at each American Academy of Pediatrics (AAP)-recommended well-child visit. • Study data were collected by six research assistants who were trained and achieved reliability for all measures. Study directors conducted periodic observations of research assistants to *"ensure continued reliability of data collection."*
Staff Qualifications	• The study team reported that *"All pediatric clinic providers, including pediatric house staff, attendings, and nurse practitioners, were trained and participated in the program."* • Training consisted of one-hour seminars that "provided background about parent-child interaction, language and literacy development, selection of developmentally appropriate books for children of different ages and developmental levels, and strategies for the incorporation of anticipatory guidance about literacy into the delivery of well-child care." • Training seminars were repeated for incoming house staff, annually. Further, all clinic providers received annual follow-up sessions.
Key Findings	<u>Direct Outcomes</u> • The study team found that treatment families received a mean of four books. Comparison groups families received a mean of .5 books (p<.001). • The study team found that treatment families reported their doctors discussed reading with them 3.0 times, on average, compared to comparison families, who reported their doctors discussed reading with them 1.7 times, on average (p=.03). • The study team reported a mean of 13.1 total literacy promoting contacts at the treatment site and 2.3 contacts at the comparison site (p<.001). <u>Frequency of reading</u> • The study team reported that frequency of reading in the treatment group was approximately one day per week higher than in the comparison group (p=.04). • The study team reported that treatment group families reported *"they had in their homes 5 more children's books that they read to their children and had higher overall reading activities"* than comparison group families; these differences were not statistically significant. • The study team reported that total literacy-promoting contacts was statistically and significantly related to overall reading activities (p=.03). <u>Receptive Vocabulary</u> • The study team found that receptive vocabulary scores were 9.7 points higher in the treatment group than in the comparison group (p<.001). <u>Expressive Vocabulary</u> • The study team found that expressive vocabulary scores were 2.7 points higher in the treatment group but that the findings were not statistically significant. <u>Latino families</u> • When the study team restricted analyses to examine Latino families (n=86), the team found receptive vocabulary scores were 10.5 points higher in the treatment group than in the comparison group (p<.001) and expressive vocabulary scores were 5.3 points higher in the treatment group than in the comparison group (p=.04). <u>Adjusted analyses</u>

	• The study team conducted adjusted analyses to control for 10 potentially confounding variables (child's age, gestational age, birth rank, attendance in preschool/day care, ethnicity; mother's education, country of origin, reading problem, family's language spoken in the home, and homelessness). The team found "families attending the intervention clinic had statistically significantly higher receptive and expressive language scores." More specifically, the adjusted mean receptive language score in the treatment group was 93.9, compared to 85.2 for the comparison group (p=.002). The adjusted mean expressive language score in the treatment group was 85.2, compared to 80.9 in the comparison group (p=.048). The team noted that "The effect of the intervention was equivalent to a 6-month improvement in receptive language and a three-month improvement in expressive language." • Backward stepwise regression analyses indicated that the treatment group had an adjusted mean receptive language score that was nine points higher than comparison families (p=.001) and an adjusted mean expressive language score that was 4.5 points higher than comparison families (p=.036). • The study team found that each literacy-promoting contact was associated with an adjusted mean .4-point increase in receptive score (p=.02) and an adjusted mean .2-point increase in expressive score, which was not statistically significant.

Citation	**Sharif, I., Reiber, S., and Ozuah, P.O. (2002). Exposure to Reach Out and Read and vocabulary outcomes in inner city preschools. Journal of the National Medical Association. Vol. 94, No. 3, 171-177.**
Population and Sample	The study incorporated 200 participants, 100 in the treatment group and 100 in a comparison group. There were no major differences between the groups at the time of enrollment. Families had a child between the ages of 2 and 5.9 years old, who was not enrolled in kindergarten. Eighty percent of the treatment group reported English as the language usually spoken at home, compared to 67% of the comparison group (p=.05). Other selection criteria included *"no known cognitive impairment; child has lived with the caretaker continuously for more than one year; caretaker identifies the health center as the "usual" site for the child's check-ups for at least one year; and the caretaker is fluent in either English or Spanish."*
Methodology	Non-experimental cross-sectional design with comparison group
Purpose	The study assessed the association of participation in ROR and child vocabulary. The study also measured the effect of ROR on home reading activities, using standardized measures.
Measures & Assessments	• Expressive and Receptive One Word Picture • Vocabulary Tests • Home Literacy Orientation (created for the study) • STIMQ-READ subscale
Study Implementation	• The study incorporated two pediatric clinics. For participants at the treatment clinic, the ROR program had been implemented for three years at the time of the study. Participants at the comparison clinic had no ROR exposure. • The study team also noted that the program's "volunteer reader" component was only sporadically implemented.
Staff Qualifications	• The study team noted that *"The ROR intervention was administered by 7 attending pediatricians and 12 pediatric residents; all had attended a ROR provider training. Providers counseled parents about reading to children and dispensed an age-appropriate book at each health maintenance visit."*
Key Findings	<u>Receptive Vocabulary</u> • The study team reported that treatment children had a higher mean standard score (mean=81.5) than comparison group children (mean=74.3)(p=.005). • When analyzing only English-speakers, the study team reported that treatment group children had higher mean standard scores (mean=83.2) than comparison group children (mean=75.3)(p=.01). <u>Expressive Vocabulary</u> • The study team reported that treatment children had a higher mean standard score (mean=79.5) than comparison group children (mean=77.5). The difference in means was not statistically significant. <u>Home Literacy Orientation Scale</u> • The study team reported that treatment participants had higher scores (mean=4.3) than comparison group participants (mean=3.3)(p=.002). • The study team reported that treatment participants were more likely to report: o Reading/books were one of the child's three favorite activities (21% in the treatment group versus 11% in the comparison group; p = 0.05) o Someone else in the home reads to the child (80% in the treatment group versus 63% in the comparison group; p = 0.01)

	○ The caretaker reads for herself (73% in the treatment group versus 53% in the comparison group; p = 0.003) STIMQ-READ • The study team reported that 5% of treatment participants reported that they never read to their child, compared to 15% of the comparison group participants (p=.03). • The study team reported that treatment participants scored higher on the composite score of the STIMQ-READ subscale (mean=12.6) than comparison group participants (mean=11.0), but these findings were not statistically significant. • The study team reported that treatment participants reported having more children's books in the home (mean subset score=2.63) than comparison group participants (mean=2.14)(p=.01).

Citation	**High, P., Hopmann, M., LaGasse, L., and Linn, H. (1998). Evaluation of a clinic-based program to promote book sharing and bedtime routines among low-income urban families with young children. Arch Pediatr Adolesc Med, 152, 459-465.**
Population and Sample	The study incorporated 100 families in the treatment group and 51 families in the comparison group. The study team noted that treatment group families *"were known to have received at least 2 books at well-child visits as part of the program, and their last visit was at least 1 month before the interview."* Participants had a child who was aged 12 to 38 months old and had attended their previous two well-child visits in the clinic. Additional eligibility criteria included *"birth weight of at least 2.27 kg, hospitalization for fewer than 14 days since birth, and the absence of major congenital anomalies, sensory deficits, or developmental delays."* The study team noted that the two groups were similar with regard to demographic characteristics, with two exceptions: children were significantly younger and parental education was significantly higher in the treatment group.
Methodology	Non-experimental cross-sectional design with comparison group
Purpose	The study assessed the relation of an anticipatory guidance program for low-income families to child- and family- literacy outcomes. The study tested the hypotheses: • The provision of children's books and educational materials by primary care providers at well-child visits would increase parental reports of enjoying books with their young children, and, specifically, that the amount of book sharing at bedtime would increase. • Regular bedtime routines with book sharing would lead to more children falling asleep independently and would decrease the occurrence of frequent night waking, prolonged bedtime struggles, and, possibly, parent-child co-sleeping. The study also assessed the influences of family cultural background, language, education, and reading habits and the child's age on emergent literacy activities.
Measures & Assessments	• Parent interview
Study Implementation	• The study noted that, between October 15, 1994, and September 15, 1995, the program *"distributed more than 1200 children's books to patients at all scheduled 6-, 9-, 12-, 15-, 18-, 24-, 30-, and 36-month well-child visits."* • Primary care providers also *"gave parents educational materials specific to the age of the child at each well-child visit that detailed why, how, and when to share books with their children."* • Program staff were asked to mention 1 or 2 points from the education materials, when they provided the materials and books to parents.
Staff Qualifications	• The program was implemented by 68 pediatric residents and 3 nurse practitioners. • The study team noted that residents received training on a number of topics including: literacy promotion in young children, the use of children's books as developmental assessment tools, the prevention of sleep disturbances in infants and toddlers, and language promotion in infancy. • The study team reported that residents received a mean of 2.2 hours of training (out of a possible 4 hours of training).
Key Findings	Child-Centered Literacy Orientation (CCLO) • The study team found that treatment participants had significantly more positive literacy-related responses than comparison group participants, for all three CCLO component questions as well as the composite CCLO variable. More specifically: ○ Four parents (8%) in the comparison group and 21 (21%) of treatment parents reported that one of their child's three favorite things to do was share books ○ Eleven (22%) comparison group and 42 (42%) treatment parents reported that one of their three favorite things to do with their child was share books ○ Ten (20%) comparison group and 35 (35%) treatment parents reported sharing books at bedtime six or seven nights per week.

- The composite variable, CCLO, was present in significantly more treatment families than comparison group families.

- The study team conducted analyses to control for parental education, ethnicity, and frequency of reading books, as well as the sex and age of the children. The team found that *"CCLO was more likely to be present in treatment than comparison group families with an OR of 4.7"* (p<.001; R2=0.17). Further, *"the only additional factor found to be independently associated with the presence of CCLO was parents who read books themselves at least a few times a week"* (OR, 2.7; p=.009).

CCLO in child and parent subgroups

- The study team examined potentially mediating factors as well as parental education and child age, and found *"the presence of CCLO was associated with the intervention in the subgroups of older and younger children and in parental subgroups with and without a high school education. We also found CCLO to be significantly associated with the intervention when parents were single or separated, but not when they were married or living with a partner. Significant effects of the intervention were found in the Hispanic and non-Hispanic white subgroups, but not in the smallest ethnic subgroup, African Americans."*
- The study team also found that CCLO was *"associated with the intervention in subgroups composed of families receiving any 1 of the 4 indicators of low-income status: Medicaid, Aid to Families With Dependent Children, food stamps, or support from the Women, Infants, and Children program."*

Book sharing at bedtime

- The study team found that treatment parents reported sharing books at bedtime more (3.9±2.6 nights per week) than comparison group parents (2.5±2.7 nights per week)(p=.002). Through multiple linear regression, the study team found that the treatment was associated with book sharing at bedtime (p=.05; R^2=0.19). The team also reported that parents reporting that they read books themselves at least a few times a week also was associated with book sharing at bedtime (p<.001).

Potential sleep problems

- The study team failed to find significant differences between treatment and comparison groups in *"prolonged bedtime struggles, parent-child co-sleeping, frequent night waking, or how children fell asleep."* The study team noted that *"these behaviors were not found to be associated with the frequency of bedtime book sharing or the presence of bedtime routines."*

Anticipatory guidance

- The study team found that treatment participants reported receiving more anticipatory guidance than comparison group participants on the following topics:
  - Safety (p=.03)
  - Sleep behavior (p=.02),
  - How to share books with their child (p<.001)
- The study team failed to find significant differences between treatment and comparison groups for anticipatory guidance about the child's interests or bedtime routines.

Citation	**Silverstein, M., Iverson, L., and Lozano, P. (2002). An English-language clinic-based literacy program is effective for a multilingual population. Pediatrics Vol. 109 No. 5, 1-6.**
Population and Sample	The study incorporated 95 children in baseline and post-intervention groups. Ten of the 95 baseline participant were disqualified. The baseline and treatment groups were similar in demographic and most linguistic characteristics. There were some differences between groups in the English-speaking sub-group of families (baseline parents completed more grades of school and more treatment children attended day care on a regular basis). Participating families had a child aged 6 months to 5½ years old. The other eligibility criterion for the treatment group was that the child "must have been seen for well-child care at Harborview Children's Clinic at least once previously." Only one child was sampled in each participating family.
Methodology	Non-experimental cross-sectional design with comparison group
Purpose	The study assessed the influence of language and culture on the effects of Reach Out and Read at a clinic in Seattle.
Measures & Assessments	• Standardized questionnaire administered face-to-face with participants
Study Implementation	• The program was modeled after Reach Out and Read and included three components: (1) Children and families were exposed to waiting room volunteers modeling age-appropriate reading in English. (2) During health supervision visits, families were given age-appropriate literacy counseling by their primary provider as part of the anticipatory guidance aspect of the visit.

	(3) At the end of the clinic visit, the child was given an unused, age-appropriate book written in English. • Reach Out and Read was implemented at the clinic as part of a quality improvement effect, rather than as a research study.
Staff Qualifications	• Health providers included four nurse practitioners, three part-time attending primary care physicians, and 14 continuity clinic pediatric residents. • All providers at the clinic participated in a 45-minute training session to learn age-appropriate literacy counseling.
Key Findings	<u>Composite Data</u> • The study team noted the following differences between treatment and baseline groups: o Caregiver's reports of reading as one of the child's favorite activities (11% vs 26%; p= .007) o Reading as one of the caregiver's own favorite activities to do with the child (19% vs 40%; p= .002) o The number of families that read to their child at least once a week was increased in the treatment group (85%) compared to the baseline group, (72%; p=.02.) o Incorporating reading into a bedtime ritual at least once a week was significantly more common in the treatment group (72%) than in the baseline group (42% ; p=.0004). o The proportion of families in the treatment group possessing over 10 children's books at home (63%) was greater than that in the baseline group (49%), but this difference was not statistically significant. • The study team failed to find significant differences between the treatment and baseline groups with regard to possession and usage of a library card, school preparation activities, or types of toys present in the home. <u>English-Speaking Subset</u> • Among primary English-speaking participants, the study team noted: o The number of respondents to report reading as one of the child's favorite activities increased significantly between the baseline and treatment groups (7% vs 30%; p= .02). o The number of caregivers to report reading as one of their own favorite activities to do with the child increased significantly from the baseline to treatment group (33% vs 58%; p= .05). o The number of families that incorporated reading into the child's bedtime routine at least once a week increased significantly in the treatment group (63% vs 93%; p= .003). o The number of families that read to their child at least once a week at times other than bedtime did not show a difference; there was little room for improvement from the high baseline value. o The number of primary English-speaking families to have over 10 children's books in the home was similar in the baseline and postintervention groups. o Adjustments to control for day care attendance and parental education level did not substantially change the results. <u>Non–English-Speaking Subset</u> • Among the primary non-English-speaking participants, the study team noted: o Each outcome measure among the primary non–English-speaking families in both the baseline and treatment cohorts reflected a substantially lower literacy orientation. o The number of non–English speaking caregivers to report reading as one their favorite activities to do with their child increased from 11% in baseline group to 27% in treatment group, p= .03. o The number of non–English-speaking families to report reading as one of the child's favorite activities increased (13% vs. 24%); the difference between baseline and treatment groups was not statistically significant. o The number of families that incorporated reading into the child's bedtime routine at least once a week increased (36% in the baseline group vs. 56% in the treatment group; p= .04) o The number of families that read to their child at least once a week at times other than bedtime increased (60% in the baseline group vs. 76% in the treatment group; p= .07). o The number of non–English-speaking families to have over 10 children's books in the home increased from 31% in the baseline group to 49% in the treatment group (p= .05). o In families in which some English was spoken, the effects of the program were mildly accentuated with regard to reading as the parent's favorite activity, weekly bedtime reading, and weekly general reading. However, reading as the child's favorite activity and number of books in the home lost significance when this sub-group was examined. o Adjustments to control for day care attendance, time spent in the United States, parental education level and location, and presence of English as a second language did not substantially change the results.

Citation	**Theriot, J.A., Franco, S.M., Sisson, B.A., Metcalf, S.C., Kennedy, M.A., and Bada, H.S. (2003). The impact of early literacy guidance on language skills of 3-year-olds. Clin Pediatr. 42:165-172**
Population and Sample	The study enrolled 64 children whose parents agreed to participate (out of 123 children who were eligible). The study incorporated children aged 33 to 39 months with no documented developmental delays or sensory impairments. The study team noted that half of the participants also were enrolled, for various amounts of time, in child care. Of these, 90% were read to while at child care.
Methodology	Non-experimental
Purpose	The study assessed the effects of an early literacy program modeled after Reach Out and Read (ROR). The study tested the hypothesis that *"early and repeated guidance of parents at well-child visits on early literacy and providing them with the tool to practice it will have a positive impact on language development, increasing scores on language testing."*
Measures & Assessments	• Peabody Picture Vocabulary Test III-Revised (PPVT-III), Form B • Expressive One Word Picture Vocabulary Test-Revised (EOWPVT-R)
Study Implementation	• The program was modeled after ROR and included: o Early literacy promotion in the anticipatory guidance given at well-child visits (WCV). o An age-appropriate book was handed out by the physician for the parent to take home, after each visit. The book was wrapped with printed information on age-appropriate literacy development, which was similar to the information shared by the physician during the WCV. o The physician shared suggestions for how, when, and where to share the book with their children. o Volunteers were present in the waiting room and provided additional opportunities for parents to observe interactive reading. • Program staff tracked the distribution of books.
Staff Qualifications	• The program conducted annual training for physicians on early literacy development and on advocacy of early literacy practices such as book sharing and reading aloud to children. • Physicians were asked to document early literacy promotion in *"age-specific structured encounter forms."*
Key Findings	• The study team reported that: o All families reported reading to children at home, at least once a week. o 58% of families identified reading as an activity mother and child most enjoyed doing together. o 85% of families could recall the title of the child's favorite book. o A majority of families reported purchasing books for their children (mean of 30 books per child). o Each child received an average of five books. o Each child attended an average of six WCV, in which early literacy anticipatory guidance was provided. o Potential confounding factors that included maternal age and education level, the number of children and adults in the home, gestational age, and attendance in child care did not significantly affect receptive or expressive language scores. <u>Receptive Language</u> • The study team reported that the mean standard score on the PPVT-III was 82 and that scores were higher with more books purchased for the child (p=.046). Using multivariate analysis, the team found that scores also were higher with more anticipatory guidance visits (AGV) X the number of books purchased by the parent (r^2=0.025, p=.0006). • The study team reported similar findings when only African-American children were analyzed (r^2=0.227, p=.0002). • The study team noted that *"Whether the number of books purchased is 10 or 20, there is no significant impact on the PPVT-III scores when there is no AGV. Scores increase, however, with increasing visits, and the number of books purchased further influenced improvement in the language scores."* <u>Expressive Language</u> • The study team reported that the mean standard EOWPVT score was 88 and that white children sored higher than African-American children (although this was not statistically significant). • Using multivariate analyses, the study team found that *"expressive language scores were predicted by race (p<0.03); and number of WCV with books given x number of books purchased (p<.001)"* (r^2=0.18, p<.001 for the model). • The study team noted that *"the number of WCV with AG and book given significantly predicted the scores of both expressive and receptive language tests."*

End Notes

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[ii] Needlman, R., & Silverstein, M. (2004). Pediatric interventions to support reading aloud: How good is the evidence? Journal of Developmental and Behavioral Pediatrics, 25, pp. 352-363.

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[xi] Goldfeld, S., Napiza, N., Quach, J., Reilly, S., Ukoumunne, O. C., & Wake, M. (2011). Outcomes of a universal shared reading intervention by 2 years of age: The Let's Read trial. Pediatrics, 127, pp. 445-453.

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[xiii] Needlman, R., & Silverstein, M. (2004). Pediatric interventions to support reading aloud: How good is the evidence? Journal of Developmental and Behavioral Pediatrics, 25, pp. 352-363.

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[xvi] Tabors, P. O. (1997). One child, two languages: A guide for preschool educators of children learning English as a second language. Baltimore: Brookes.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

HEALTH

Parent-to-Parent Peer Support

Goals

Parent-to-parent support involves either the provision of support from an experienced and knowledgeable parent to a parent experiencing stress or other psychological distress associated with the birth and rearing of a child with a condition that is considered atypical [i, ii, iii] or parent-to-parent support groups where parents of young children and other family members engage in supportive and mutually beneficial exchanges based on common interests or concerns.[iv] The majority of these types of experiences typically involve support exchanges in response to parents' needs associated with child conditions leading to poor outcomes.[v] These child-related conditions include, but are not limited to, a developmental disability, a special health care need, a health impairment, a mental health issue, or a rare childhood disease.[vi, vii, viii] Parent-to-parent support also includes the provision of support to women experiencing difficult pregnancies, teenage and first-time parents, and parents needing advice or guidance with parenting and child rearing. [iv] Parent-to-parent programs are often called parent support networks, peer support programs, family support networks, or family-to-family support programs. [ii, viii, ix, x, xi]

Program Features

Parent-to-parent programs and practices are based on social support theory which includes the tenet that emotional, informational, instrumentation, and other types of advice and assistance (social supports) provided in response to either stress-related incidents (e.g., birth of a child with a condition placing him or her at-risk for poor health or developmental outcomes) or the need for resources to address family or child-related concerns (e.g., information on child intervention options) lessen the negative psychological effects associated with difficult life events.[xii, xiii] The support(s) provided by parents that are responsive to other parents' individual needs, concerns, priorities, etc., are expected to decrease stress, enhance positive adaptations, and enhance and promote positive child, parent, and family functioning.[vii]

Parent-to-parent programs typically have a parent coordinator who "takes" referrals for a parent or from another family member on behalf of a parent and who uses information obtained during a referral to match the parent with a more-experienced parent knowledgeable about parents' concerns or requests. In larger parent-to-parent programs, other parents, in addition to the program coordinator, obtain information about parents' concerns and match the parent with another more-experienced parent. The parent-to-parent coordinator at the time of referral obtains information about the reason for referral and information about the parents' child, child condition, diagnosis, or special challenges, the types of support needed or requested, the characteristics of the parent with whom the parent will be matched, and any specific preferences or concerns to be taken into consideration as part of a parent-to-parent match. Formal training for parents who will provide support to other parents is considered both essential and necessary for parent-to-parent programs to be effective.[xiv, xv, xvi] The same is the case for parent-to-parent support group facilitators.[xvii]

Parent-to-parent support groups typically involve the exchange of information, advice, guidance, etc., and other types of social supports among parents with similar needs, concerns, or preferences.[iii] These groups are most often conducted at regularly scheduled times and often include supportive exchanges during special events or those offered on special topics at parent meetings or workshops (e.g., parents night out). Parent-to-parent support groups are generally run

by parents with experience in the purpose of the groups or by professionals who have personal experience with the main focus of a support group.[v, xviii]

The program features generally considered the defining characteristics of a well-developed and operated parent-to-parent program and parent-to-parent support groups include mutually beneficial exchanges between parents, parents who are respectful of one another, parents who are good listeners and who offer or provide support in response to other parents' concerns and requests, and parents who are nonjudgmental and accepting of parents' unique family situations.[xix, xx, xxi] The benefits of these features are expected to include, but are not limited to, enhanced coping, psychological health, family adaptations, family functioning, and advocacy.[i, viii, xi, xxi, xxii]

Target Audience

The target audience of parent-to-parent support as part of early childhood intervention includes mothers, fathers, and other family members in households with young children birth to 5 years of age where the children have conditions that cause psychological disturbances, stress, or other problems related to poor or maladaptive coping. Most parent-to-parent programs, however, work with parents with children of any age, although those funded by Smart Start are for children birth to 5 years of age.

Overall Research Evidence for Parent to Parent Peer Support

- Parent-to-parent support and parent support groups have a wide range of positive effects, including changes and improvements in parent psychological health; family functioning, coping, empowerment, and enhanced perception of family well-being; positive parent and family adaptations to each child and family's unique circumstances; improved willingness to engage in appropriate services; improved positive parenting practices; higher rates and duration of breastfeeding; and improved child development.[x, xi, xxii, xxiii, xxiv, xxv,xxvi,xxvii]
- Results are positive for both parents receiving support as well as parents providing support to others. However, due to the lack of differences between parent-to-parent and nonintervention group parents, most investigators have concluded that parent-to-parent is promising but is not yet a practice that has sufficient research to claim that it is evidence-based.[vii, xxviii, xxix, xxx, xxxi]

Peer Support for Parents of Children with Disabilities and Chronic Illness

Target Audience

Parents of young children who have disabilities or chronic illnesses

Documented Outcomes

	Type of Study	Parent Outcomes			
		Increased social support*	Improved family empowerment, functioning, coping, and adaptation to disability	Reduced parental anxiety	Increased parental confidence and self-esteem
Singer et.al. (1999)[xxxi]	Experimental	✓	✓		
Ireys et.al. (2001)[xxxii]	Meta-Synthesis	✓		✓	
Schilling et.al. (2013)[xxxiv]	Meta-Synthesis	✓	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in parent's social support*

Peer Support for Parents of Children with Disabilities and Chronic Illness Snapshot

- **EC Profile Indicator:** FS30 - Rate of investigated reports of child abuse/neglect per 1000 children ages 0-5
- **Clearinghouse Rating:** None
- **Research supports** use with parents of children, birth through five, who have disabilities or chronic illnesses
- **Related Smart Start outcomes:**
  - Increase in parent's social support
- **Training required:** Yes
- **Staff qualifications:** Parent of grown child with disability or chronic illness
- **Frequency:** Approximately bi-weekly
- **Suggested Assessments:** Protective Factors Survey

Research Evidence for Peer Support for Parents of Children with Disabilities and Chronic Illness

- There is evidence that parent-to-parent peer support can contribute to improved social support, improved family functioning, improved parent confidence, and reduced parental anxiety.

Review of Experimental and Quasi-Experimental Studies

Citation	**Singer, G. H. S., Marquis, J., Powers, L. K., Blanchard, L., Divenere, N., Santelli, B., Ainbinder, J. G., Sharp, M. (1999). A multi-site evaluation of parent to parent programs for parents of children with disabilities. Journal of Early Intervention, 22, pp. 217-229.**
Population and Sample	• 128 parents of children with disabilities assigned to treatment (n=56) or control groups (n=72). o 45% of children were 5 years of age and younger and receiving early intervention services • Selection criteria consisted of (a) being parents, foster parents, or grandparents of children with a disability or chronic health condition, (b) having access to a telephone, and (c) willing to wait up to 2 months for support from Parent to Parent if selected for the waiting list comparison group. o The treatment group participated in Parent to Parent for 2 months; control group parents were moved to a support group after 2 months.
Methodology	Experimental, with pre/post assessments and a qualitative component with a subsample
Purpose	This study was an experimental evaluation of Parent to Parent Programs in five states: Kansas, New Hampshire, North Carolina, South Carolina, and Vermont. Expected changes included an increase in parents' estimates of their a) ability to cope with a child's disability, b) sense of empowerment to effect change or obtain services for their children, and c) general acceptance of their family's life circumstances.
Measures & Assessments	• Source of Strength and Family Closeness subscale of the Kansas Inventory of Parental Perceptions (KIPP) • The Family Empowerment Scale • Parent Coping Efficacy Scale • Parent survey • Telephone interview
Study Implementation	• Eight weeks prior to random group assignment, pre-test measures were mailed to parents. • Parent mentors were asked to make four calls over the 2-month program period to the parents in the intervention group. • At the end of the 2 months, post-test measures were mailed to parents in the intervention and the control groups. • Following completion of the intervention by both the waiting list and treatment groups, parents were divided into two groups based on their responses to a survey: those who rated Parent to Parent as helpful and those who did not. From these two groups, 12 participants were randomly assigned to two groups for participation in a telephone interview to collect additional qualitative information about the program.
Staff Qualifications	• Parent mentors received an average of 8 to 10 hours of training.
Key Findings	• There were statistically significant gains for the intervention group on the family and disability measure, which is a measure of attitudes thought to be a primary component of parental cognitive adaptation to disability. • There were significant differences on post-test scores between the groups, in favor of the intervention group, for parents who began the study with lower levels of perceived coping skills. • There were no significant changes on the measure of empowerment. • The intervention group made statistically significantly greater progress in meeting their needs than the control group. • 89% of intervention group parents rated the program as helpful. • Qualitative interviews suggest that parents who rated the program as helpful and reported feeling isolated before participating in the program reported felted supported by discovering that there are "really people out here that understand me." Parents who reported that the program was not helpful reported that the differences between the participating parent and the parent mentor impeded the participating parents' sense of being understood. These findings suggest that the perception of "sameness" is key to the success of the intervention.

Review of Meta-Syntheses

<table>
<tr><td>Citation</td><td>Ireys, H. T., Chernoff, R., Stein, R. E. K., DeVet, K. A., & Silver, E. J. (2001). Outcomes of community-based family-to-family support: Lessons learned from a decade of randomized trials. Children's Services: Social Policy, Research, and Practice, 4(4), pp. 203-216.</td></tr>
<tr><td>Population and Sample</td><td>• 3 randomized controlled trials of community-based support programs for parents of children with chronic illnesses; 78% to 92% of mothers had at least a high school education and mean age ranged from mid to late 30s; racial composition reflected the site of the study and the illnesses/conditions of the children in the groups. Mothers were randomly assigned to experimental and control groups (This article did not provide group sizes but noted that the information was reported elsewhere).
o Study 1: 365 children with a range of conditions; 37% African American, 48% Hispanic mothers; 42% of mothers worked outside of the home
o Study 2: 53 children with arthritis; 92% White mothers; 65% of mothers worked outside of the home
o Study 3: 193 children with diabetes, cystic fibrosis, sickle cell anemia, and moderate to severe asthma; 42% African American, 6% Hispanic mothers; 70% of mothers worked outside of the home</td></tr>
<tr><td>Methodology</td><td>Experimental, with repeated measures</td></tr>
<tr><td>Purpose</td><td>A review of the results and lessons learned from 3 randomized controlled trials of 12- to 15-month community-based support programs for parents of school-aged children with chronic illnesses. Support was provided by trained mothers who were raising or had raised children with similar health conditions.</td></tr>
<tr><td>Measures & Assessments</td><td>• Psychiatric Symptom Index</td></tr>
<tr><td>Study Implementation</td><td>• All three programs were based on the same conceptual framework and implemented through pediatric tertiary care centers.
<table><tr><td>Study 1</td><td>In Study 1, three parents of children with chronic health conditions were hired part time as support partners. Assignments were made on the basis of geographical proximity. Because we employed only three support partners and a large group of participating parents, no attempt was made to link support partners with parents on the basis of diagnosis.</td></tr><tr><td>Study 2
Study 3</td><td>In Studies 2 and 3, the intervention was specifically designed to make this link; thus, all of the support partners had children with the same condition as the participating parents. In addition, we selected support partners with children who were at least young adults to convey the concept that the support partners "had been there, had survived, and are still going."</td></tr><tr><td colspan="2">In all three studies, support partners were asked to make telephone calls every two weeks with assigned parents and to meet with them about six times during the course of the program. In addition, three special events (e.g., picnics or bowling parties) were held for all of the families during each of the intervention periods.</td></tr></table>• Support partners included parents whose children were at least young adults. Three parents of children with chronic health conditions were hired as support partners in Study 1 and were not linked with parents whose children had the same or similar conditions. Studies 2 and 3 were specifically designed to link support partners who had children with the same condition as participating parents.
• Support partners were asked to make telephone calls to their assigned parents every two weeks and meet with them about six times throughout the period of the program. Three special family events (e.g., picnics or bowling parties) also were held during each program period.
• The Psychiatric Symptom Index was completed pre and post intervention by all participants.
• Posttest interviews were conducted 12 months after program enrollment.
• The intervention team met with a health and/or mental health professional every week throughout the programs.</td></tr>
<tr><td>Staff Qualifications</td><td>• After being nominated by specialty and general pediatric clinics, mothers participated in a 30- to 40-hour training program. Graduates thought to be most capable of serving as effective support partners were selected from the group and participated in a 10-hour intensive training program.</td></tr>
<tr><td>Key Findings</td><td>• Mean anxiety scores were lower following intervention for the experimental groups than for the comparison groups in all three studies. This difference was significant for Studies 2 and 3.
• There were no significant effects on any other measure of maternal mental health for any of the studies.
• Although Study 2 found evidence of enhanced perceptions of social support, there was no evidence that this was the pathway for the effect on maternal anxiety.
• There was no evidence of a relationship between dosage of intervention and response.</td></tr>
</table>

Citation	**Shilling, V., Morris, C., Thompson-Coon, J., Ukoumunne, O., Rogers, M., & Logan, S. (2013). Peer support of parents of children with chronic disabling conditions: A systematic review of quantitative and qualitative studies. Developmental Medicine & Child Neurology, 55(7), pp. 602-609.**
Population and Sample	• Seventeen papers were included in the review: o 9 qualitative studies o 7 experimental studies o 1 mixed-methods evaluation
Methodology	Meta-study
Purpose	To review the quantitative and qualitative evidence of the effectiveness of peer support for parents of children with long-term health conditions.
Measures & Assessments	• Sources of Strength and Family Closeness • Impact on Family Scales
Study Implementation	• To be included in the analysis a study must involve: a) parents and caregivers of children with chronic disabling conditions (i.e., disabled, chronically, seriously ill children and young people); 2) informal or formal in-person parent support provided by parents either one-on-one or in group meetings; and 3) outcomes related to parental psychological health, experience of the person providing or receiving peer support, economic implications of peer support programs, family functioning, accessing services or information, relationships with health professionals, and long-term impact of peer support • Two reviewers independently assessed qualitative studies based on five criteria of quality; disagreements were resolved through discussion. • One reviewer assessed quantitative studies using criteria based on the National Health Service Centre for Reviews and Dissemination and the Cochran Collaboration. Scores were checked by a second reviewer.
Staff Qualifications	• Not addressed
Key Findings	• Eight studies contributed quantitative data based on the outcomes they assessed (i.e., psychological health, family function, experience of parents receiving support, accessing services and information). o There were consistent effects on anxiety, anger, cognitive disturbance, concern, confidence, coping, depression, empowerment, illness intrusion, overall mental health. o Evidence was weak regarding increased use of community resources by parents or the number of emergency room or acute care visits or number of calls made to specialists. • Ten papers contributed qualitative data across five themes (i.e., shared social identify, learning from the experience of others, personal growth, supporting others, when peer support does not work). o The most common theme across studies related to benefits of finding a shared social identity with other parents, which fostered a sense of belonging, support, and empowerment. This helped parents to feel better able to cope and reduced feelings of isolation, loneliness, and guilt. o Many parents described learning from the expertise and experience of other parents. o Parents reported a sense of empowerment, confidence, and control, enabling them to develop new skills, motivation, and affirmation of their expertise as parents. o Parents in several studies reported feeling that giving support was as important as receiving it. o Some parents reported no benefit from peer support, which was attributed to the lack of a shared identity. Parents with high levels or stress or who felt pressured by a professional to participate were less satisfied with the support they received.

Review of Descriptive and Non-Experimental Studies

None

Peer Support for Parents of Young Children with Mental Health Issues

Target Audience

Parents of young children who have concerns about the mental health of the parent, child, or family.

Documented Outcomes

	Type of Study	Parent Outcomes			Child Outcomes	
		Improved parenting competencies and practices*	Perceived parenting style	Improved family empowerment, functioning, coping, and adaptation to disability	Reduced child behavior problems**	Child academic performance**
Day et.al. (2012)[xxxv]	Experimental	✓			✓	
Lennon et.al. (1997)[xxxvi]	Non-experimental with comparison groups		✓			
Hoagwood et.al. (2009)[xxxvii]	Meta-synthesis					✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in positive parenting practices*
**Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Parent-to-Parent Peer Support for Mental Health Issues Snapshot

- **EC Profile Indicator:** FS30 - Rate of investigated reports of child abuse/neglect per 1000 children ages 0-5
- **Clearinghouse Rating:** None
- **Research supports** use with parents of children, birth through five, who have concerns about parent, child, or family mental health
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
  - More children on track for typical and/or enhanced development
- **Training required:** Yes
- **Suggested Assessments:**
  - Eyberg Child Behavior Inventory
  - Protective Factors Survey

Research Evidence Peer Support for Parents of Young Children with Mental Health Issues

- The evidence in support of parent-to-parent peer support is varied, with some studies supporting peer support's effectiveness while other studies fail to find statistically significant associations between peer support and parent or child outcomes.

Review of Experimental and Quasi-Experimental Studies

Citation	**Day, C., Michelson, D., Thomson, S., Penney, C., & Draper L. (2012). Evaluation of a peer led parenting intervention for disruptive behaviour problems in children: community based randomised controlled trial. BMJ, 344, pp. 1-10.**
Population and Sample	• 116 children 2-11 years of age randomly assigned to groups; families reported difficulties in managing children's behavior: o Intervention group = 59 o Waitlist group = 57
Methodology	Experimental
Purpose	To evaluate the effectiveness of peer parent group program called, Empowering Parents, Empowering Communities, delivered to socially disadvantaged families at six sites located in schools and children's centers in inner London, UK. The goals of the parenting groups were to improve parent-child relationships and interactions, reduce child behavioral problems, and increase parents' confidence in their parenting abilities.
Measures & Assessments	• Eyberg Child Behavior Inventory • Concerns About My Child Measure • Arnold-O'Leary Parenting Scale • Parenting Stress Index-Short Form • Strengths and Difficulties Questionnaire
Study Implementation	• Trained peer facilitators worked in pairs to deliver the intervention program to groups of 7-14 parents over 8 weekly 2-hour sessions. Intervention sessions involved information sharing, group discussion, demonstration, role play activities, reflection, and planning and review of homework tasks. • Measures were administered to both groups one week before and immediately after the intervention ended. • Peer facilitators received regular supervision to ensure fidelity of the intervention, skill development, and personal support. Supervisors were available by telephone to manage potential safety issues, such as recognizing and reporting abusive parenting practices.
Staff Qualifications	Peer facilitators included 12 parents from the local community who completed an accredited training program. The training consisted of 60 hours of workshops, submission of a written portfolio, and a period of supervised practice.
Key Findings	• 91.5% of the peer-led intervention group had high treatment retention and user satisfaction. • Child behavior problems were significantly reduced for the intervention group. • Parenting competencies and practices significantly improved for the intervention group, with no differences in parental stress between the intervention and waitlist groups.

Review of Meta-Analyses

Citation	**Hoagwood, K. E., Cavaleri, M. A., Olin, S. S., Burns, B. J., Slaton, E., Gruttadaro, D., & Hughes, R. (2009). Family support in children's mental health: A review and synthesis. Clinical Child and Family Psychology Review, 13(1), pp. 1-45.**
Population and Sample	50 distinct programs and their major family support components
Methodology	Meta-study
Purpose	A review of structured family support programs in children's mental health to identify typologies of family support services and identify research gaps.
Measures & Assessments	Varied across study
Study Implementation	• To be included in the review, family services, interventions, or programs were expected to meet the following criteria: a) provide information, skills building, concrete help, or advocacy skill training support specifically for caregivers of children or adolescents with mental health conditions (as opposed to other health or developmental conditions); b) published between 1990 and 2008; c) provide more than a didactic workshop; d) be part of a child's treatment and include a separate caregiver support component that did not focus on improving the child's outcome; e) have a formal curriculum or structure; and f) have some evaluative data or be currently under study. • Two of the authors reviewed the 50 interventions meeting the selection criteria to determine categories, codes and typologies. The coding system was reviewed and approved by all of the authors and the two authors then coded the interventions, discussing any discrepancies until consensus was reached.

	• Of the 50 programs reviewed, 11 (22%) used a peer-to-peer model, with 8 (73%) of these being affiliated with family-run organizations; 33 (66%) were clinician-led programs; and 6 (12%) were team led. Peer-to-peer programs were led by parents with experience navigating services systems for their own children with mental illness. • *Only the peer-to-peer model studies are included in this review.* • The two authors coded all 50 interventions together to ensure inter-rater reliability.
Staff Qualifications	• Not addressed
Key Findings	• There were only three experimental (n=2) or quasi-experimental (n=1) studies of the 11 peer-to-peer programs included in the review. o Overall, the findings suggest that family support may be most beneficial for less empowered families, such as low-income families. o Although families with support were more likely to initiate mental health services for their children, there was no difference between treatment and control groups for treatment attendance or retention. o One study focusing on child academic performance among seriously emotionally disturbed youth found positive changes in child academic performance.

Hoagwood et.al.	NYS PEP Program: 40-hour training for family advisors/advocates working with parents/caregivers of youth with mental health needs (Jensen & Hoagwood, 2008) Followed by 6 month small group telephone consultation (12 hrs) Co-led by experienced parent advocate and MH professional to model collaboration Goals: – Enhance family advisors' knowledge of evidence-based practices in children's mental health – Enhance family advisors' skills and competencies in working with parents (engaging, boundary setting, priority setting, questioning, group management) – Improve parent activation and youth mental health Theory-based targeting principles of behavior change (Jaccard et al., 2002) Manualized
Kutash et.al. 2006	The article cited is a manual on school-based mental health interventions
Koroloff et.al. 1996	The purpose of using paraprofessionals in this study was (a) to increase the number of families who, once referred for children's mental health services, actually initiated those services, and (b) to encourage service continuance. The Family Associate role was created to address the major problems associated with children's mental health service initiation and continuance, particularly those that low-income families might encounter. The Family Associates were employed by their respective county mental health programs and received referrals through the EPSDT process. In order to intervene early in the service initiation process—when dropout was most likely (Baekeland & Lundwall, 1975; Larsen, Attkisson, Hargreaves, & Nguyen, 1979; Sirles, 1990)—the Family Associates contacted the parents or other family members soon after the referral for mental health services was made. The most common Family Associate services were (a) providing families with information, (b) providing caregivers with social and emotional support, and (c) linking families to community resources and services. An innovative feature of this intervention was the availability of a flexible cash fund.

Review of Descriptive and Non-Experimental Studies

Citation	**Lennon, L., Maloney, C., Miller, J., Underwood, M., Walker, J., Wright, C., & Chambilss, C. (1997). An evaluation of informal parent support groups. Retrieved from: http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED408078 .**
Population and Sample	• 75 parent participating without random assignment in intervention (n=38) and comparison (n=37) groups o Intervention group parents met regularly with other parents to discuss parenting concerns and experiences, but no explicit parental support was provided. o Comparison group parents had not previously participated in any formal or informal parent education programs.
Methodology	Non-experimental, pre/post with comparison group
Purpose	The purpose of this study was review the effects of informal parent support networks on perceptions of child behavior, styles of discipline, and satisfaction in parenting.
Measures & Assessments	• Eyberg Child Behavior Inventory • Cleminshaw- Guidubaldi Parent Satisfaction Scale • Parenting Self Appraisal Scale • Daily Behavioral Responses
Study Implementation	• Pre and post-tests were administered anonymously to all participants over a five week period. Post-test response rate was 35% for the intervention group and 54% for the comparison group.
Staff Qualifications	• Not addressed
Key Findings	• There were no significant differences between the groups on most measures of perception of children's problems and parenting or use of disciplinary strategies. • There was a significant difference between the intervention and comparison groups for perceived parenting styles, with intervention groups seeing their parenting as more permissive.

End Notes

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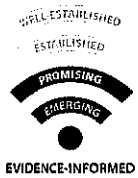
Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Assuring Better Child Health and Development



Goals

The goals of the Assuring Better Child Health and Development (ABCD) program are: 1) to make certain that all children receive appropriate developmental screenings and referrals and 2) to increase the likelihood that medical professionals will conduct developmental screenings and make these referrals.

Assuring Better Child Health and Development (ABCD) Snapshot

- **EC Profile Indicator:** H10 - Percent of children who receive early intervention or special education services
- **Clearinghouse rating:** None
- **Research supports** use with medical professionals serving children ages birth through five
- **Related Smart Start outcomes:**
  - Increase in developmental and/ or autism screenings or assessments performed
  - Increase in referrals of children to services
  - Children increase use of services
- **Training required:** Yes
- **Suggested Assessments:**
  - Chart reviews
- **Implementation Guidance:** http://www.nashp.org/abcd-state/north-carolina

Program Features

ABCD is an intervention in primary-care physician offices. The project's purpose is to assist medical professionals in implementing an efficient and practical process for screening to promote early identification and referral and to facilitate primary care physicians' ability to link to early intervention and other community services.

To achieve this purpose, an ABCD staff person provides technical assistance and/or support to medical providers regarding their use of standardized, validated, developmental and behavioral screening tools. Providers are encourged to conduct a formal screening using the *Ages and Stages Questionnaire* (ASQ) or the *Parents' Evaluation of Developmental Status (PEDS)*. Screenings should be performed at the 6-, 12-, and 18-month or 24-, 36-, 48-, and 60-month visits.

The ABCD staff person also works with medical providers to ensure they are connected with the local Children's Developmental Services Agency (CDSA) office and school system to faciliate making referrals to these locations for indepth assessment when the screening they conduct indicates a possible developmental delay. The CDSA and the school system are both funded to serve children through the Individuals with Disabilites Act (IDEA). The CDSA serves children birth to two (IDEA Part C) and the school system serves those ages three to five (IDEA Part B).

The ABCD staff person trains the medical offices to track screenings, results, referrals, and service receipt in the medical record for each child. The ABCD staff person then conducts periodic chart reviews of a sample of cases to document progress over time. These data are used to inform the ongoing technical assistance to the medical office.

The Assuring Better Child Health and Development Project began in North Carolina in August 2000, by piloting formal developmental screening and surveillance for children receiving Early Periodic

Screening, Diagnosis, and Treatment (EPSDT) services in pediatric and family practices.

For more information regarding the ABCD project use this link: http://www.nashp.org/abcd-state/north-carolina.

Target Audience

Medical professionals providing pediatric primary care

Documented Outcomes

	Type of Study	Outcomes		
		Increase in screenings*	Increase in referrals to services*	Improved coordination across system of care
Berry et. al. (2008)[i]	Non-experimental			✓
Germuth (2016)[ii]	Non-experimental with comparison groups	✓	✓	
Hanlon (2013)[iii]	Document review			✓
Kaye & Rosenthal (2008)[iv]	Document review	✓	✓	
Klein & McCarthy (2009)[v]	Non-experimental	✓	✓	
Pelletier & Abrams (2002)[vi]	Non-experimental	✓	✓	
Plaza et.al. (2013)[vii]	Document review	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcomes *Increase in developmental/autism screenings or assessments performed, Increase in referrals of children to services, or Children increase use of services*

Research Evidence for Assuring Better Child Health and Development Project

- This program is linked to increases in developmental or autism screening rates for medical professionals and increases in referrals to early intervention programs.

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

66

Review of Descriptive and Non-Experimental Studies

Citation	Berry, C., Krutz, G. S., Langner, B. E., & Budetti, P. (2008). Jump-starting collaboration: The ABCD initiative and the provision of child development services through Medicaid and collaborators. Public Administration Review, May/June, pp. 480-490.
Population and Sample	The study involved 4 states and 150 unique key informants. Key informants included state Medicaid directors, personnel from partner agencies, frontline staff involved in the program, medical and nursing directors, and participating families and providers.
Methodology	Non-experimental
Purpose	A national evaluation of the ABCD program to assess the feasibility and success of providing child development services through Medicaid.
Measures & Assessments	• Interviews • Program documents • Observations
Study Implementation	• The evaluation team conducted three annual site visits to each of four states. Key informants included state Medicaid directors, personnel from partner agencies, frontline staff involved in the program, medical and nursing directors, and participating families and providers. • Review of materials related to implementation including documents used for staff recruitment, training, and provider education; information provided for education of program participants; agendas and minutes from meetings; quarterly reports; and materials used for advertising and marketing-related activities. • Conducted observations of home visits and interviews with families. • Successful implementation in the four states studied relied on the ability to identify and build on or integrate into existing programs, collaborations, infrastructure, or strategies. • An important feature of implementation was to plan, pilot, and refine prior to expanding into other sites. Two states (NC and WA) planned from the start to pilot one or more projects or elements of projects, refine them after pilot results, and then gradually expand to other sites. The other two states (VT and UT) initially planned statewide rollout of their programs or components of their programs but moved to a pilot-refine0expand approach in implementation. • The study was not able to quantify the actual delivery of services.
Staff Qualifications	• Not addressed
Key Findings	• The ABCD initiative inspired cross-agency and cross-disciplinary developments that emerged during the evaluation, specifically, increased interagency cooperation and heightened awareness of and attention to broader models of child development services. • A closely related outcome of the ABCD initiative was noticeably increased attention to child development services beyond the medical model that was observed throughout the four states.

Citation	Germuth, A. (2016). Evaluation of Smart Start's Race to the Top – Early Learning Challenge: Assuring Better Child Health and Development (ABCD) Project: 3-Year Summary Report. Durham, NC: EvalWorks, LLC.
Population and Sample	The study described the results of the ABCD project, as implemented in 14 Community Care regions in North Carolina between July 2013 and December 2015.
Methodology	Non-experimental with comparison groups
Purpose	The study is a formative and summative evaluation of North Carolina's ABCD program. Focal questions included: • To what degree is the RTT-ELC ABCD project achieving outputs and outcomes among participating regions and practices? • What are the key factors related to outcomes? • What are the key components of sustainability?
Measures & Assessments	• Developmental screenings and referrals • Autism screenings and referrals • Referrals to and receipt of intervention services
Study Implementation	• A focus group was conducted with 12 of the 17 ABCD Coordinators to gather information about the areas medical practices needed the greatest support and what proved most effective in increasing screening and referral rates • Analyses of file chart reviews and tracking form data provided by ABCD Coordinators for July 2013 through December 2015 • A phone survey was conducted with 20 of the 36 medical practices identified by ABCD coordinators
Staff Qualifications	• Not addressed

Key Findings	• Medical practices that worked with ABCD coordinators the longest (Level 3 sites) screened 95.5% of all children birth-5 who were due for screening (10% increase over baseline) • Medical practices that worked with ABCD coordinators the shortest amount of time (Level 1 sites) increased screening rates to 5% above baseline • 77.5% of children in Level 3 sites were referred for follow-up when the ABCD screening suggested a delay or concern, compared to 68% of children at baseline • Level 2 and Level 3 sites referred a higher proportion of possibly at-risk children to appropriate Individuals with Disabilities in Education Act (IDEA) Parts B and C agencies than Level 1 sites. • There was an increase over baseline in the percentage of children who received an expected MCHAT screening (for autism spectrum disorders) at Level 3 sites

Citation	**Hanlon, C. (2013). Measuring and improving care coordination: Lessons from ABCD III. National Academy for State health Policy.**
Population and Sample	Synthesized reports from five ABCD III states (Arkansas, Illinois, Minnesota, Oklahoma, Oregon)
Methodology	Document review
Purpose	Five states piloted and evaluated strategies to improve care coordination among primary care providers (PCPs) and community service providers. This report describes their evaluation methods, summarizes the results, and highlights lessons learned from their experiences evaluating care coordination.
Measures & Assessments	The states relied on two main methods—use of new data tracking tools or claims data analysis coupled with chart review—to measure the common outcome (closed feedback loops between PCPs and early intervention or EI).
Study Implementation	• Collected, reviewed, and synthesized reports from 5 states providing ABCD III, which assessed the progress and impact of piloted interventions to improve care coordination for young, Medicaid-eligible children with or at risk of developmental delays. • Each state agreed to use "closing the feedback loop" as a shared outcome of care coordination which included: PCP referral to local community service provider after identification of patient risk via screening; community service provider follow-up (with referral feedback) to referring PCP; and documentation of referral feedback in the PCP chart or by the PCP (a "closed loop"). • In Illinois and Minnesota, PCPs documented closed loops (referrals made to early intervention (EI) to indicate whether and/or when feedback was received from EI) using new data tracking tools (chart review and an Access database) created for ABCD III. • In Minnesota, participating clinics monitored and reported screening, referral, care coordination, and communication information in the Access database and submitted it to evaluators every six months. • In Oklahoma, PCP offices checked a box in an electronic system acknowledging receipt of referral feedback for a child referred. • In Arkansas and Oregon, Medicaid and/or EI data was used to identify children for whom EI claims were submitted and whose charts should be randomly sampled to identify evidence of PCP receipt of EI referral results. • Oregon had each participating managed care organization pull a sample of continuously enrolled children who turned 1, 2, or 3 years old in the last calendar year and who had a 9, 18, or 24 or 30 month well child visit. They also made modifications within the EI data system to allow tracking of whether EI reported feedback information to referring providers. • In Arkansas, the state's Quality Improvement Organization developed a chart abstraction tool and led chart review. The Oregon Pediatric Improvement Partnership developed the chart abstraction tool and guidance for collecting and submitting requested data.
Staff Qualifications	• Not addressed
Key Findings	• By creating and implementing use of standard forms, privacy policies, databases and care coordination logs, all ABCD III states are now able to track referral feedback, which is critical to ongoing efforts to improve care coordination. • Findings suggest that ABCD III states' improvement strategies (learning collaboratives offering training in quality improvement processes and peer learning opportunities coupled with efforts to bring key community partners together) can improve care coordination for children. • Electronic tracking enhanced both the intervention and the evaluation. • Additional attention is needed to ensure that electronic health record adoption supports rather than hinders quality improvement. • Measuring multiple aspects of the care process—screening, referral and closed feedback loops—enables prioritization of quality improvement efforts. • State policy can facilitate measurement of closed feedback loops and is critical to sustainability.

Citation	**Kaye, N., & Rosenthal, J. (2008). Improving the delivery of health care that supports young children's healthy mental development: Update on accomplishments and lessons from a five-state consortium. Portland (ME): National Academy for State Health Policy.**
Population and Sample	The study incorporated data from five states participating in an ABCD II consortium (California, Illinois, Iowa, Minnesota, and Utah).
Methodology	Non-experimental with comparison groups
Purpose	The study summarized the outcomes and lessons learned from the five states participating in the consortium.
Measures & Assessments	• The percent of children aged 0-3 screened using a standardized tool to identify concerns related to social and emotional development • The percent of children aged 0-3 identified with significant concerns who were referred for services to assess, prevent, or treat those concerns • The percent of children aged 0-3 identified with significant concerns who received follow-up services to assess the need for developmental services, prevent delays, or treat delays, either in the primary care office or elsewhere.
Study Implementation	• Collected, reviewed, and synthesized reports from 5 states providing ABCD II, which assessed system performance, strategies to improve service delivery, and lessons learned.
Staff Qualifications	• Not addressed
Key Findings	• Screening rates in participating practices increased. In some cases, the screening rates changed from zero to almost 100% of eligible children • The use of multi-dimensional screening tools was associated with increased identification of potential risk for delay (compared to a tool that only screened for socio-emotional concerns) • Referral rates were 2 to 10 percent of children screened Screenings for Socio-Emotional Delays • California: Screenings rates pre: 0% and post: 94% (Pool: Number of children who had a 12-, 18-, or 24-month well-child visit during the intervention period.) • Illinois: Screenings rates pre: about 0% and post: at or above 43% (Pool: Number of children who had a 6-, 9-, 18-, or 24-month well-child visit during the intervention period at the practice-based pilot.) • Iowa: Screenings rates pre: 53% and post: 93% (Pool: Number of children under age 3 who had a well-child visit from one of the pilot practices during the intervention period.) • Minnesota: Screenings rates (urban and rural locations) pre: 0% and post: 93% (Pool: Number of children age birth to five who had a well-child visit and belonged to the intervention group defined by day of appointment or physician.) • Utah: Screenings rates infants pre: 0% and post: 76%; screenings rates toddlers pre: 0% and post: 84% (Pool: Number of children in the target age group who had a well-child visit.) Referrals • California: about 10 percent of the children screened were referred. • Illinois: about 6 percent of the children screened were referred. • Iowa: there was an "overall baseline referral rate of at least 5 percent of the 400 children in the sample and a post-intervention rate of at least 6 percent of the 400 children in the sample." As regards the social and emotional domain, the baseline referral rate was "about 2 percent of the children who were adequately screened (i.e., screened with either the Iowa Child Health and Development Record (Iowa-CHDR) or a standardized tool) and a post-intervention rate of about 3 percent of the children who were adequately screened." • Minnesota: the urban practice referral rate was 2% of children who were screened and the rural practice referral rate was 14% of children who were screened. • Utah: about 5 percent of the infants and toddlers screened were referred.

Citation	**Klein and McCarthy (2009). North Carolina's ABCD Program: Using Community Care Networks to Improve the Delivery of Childhood Developmental Screening and Referral to Early Intervention Services**
Population and Sample	The study profiled three community care networks implementing the ABCD program in NC. One served Guilford, Randolph, and Rockingham counties, one served Cumberland County, and one served Harnett, Hoke, Lee, Montgomery, Moore, Richmond, and Scotland counties.
Methodology	Non-experimental

Purpose	The goals of the study were to capture implementation and results data related to the ABCD program.
Measures & Assessments	• Interviews
Study Implementation	• Interviews were conducted with local community care network executive and medical directors, project coordinators, a case manager, a physician office manager, the head of the state's early intervention branch, the exceptional children preschool coordinator the NC Department of Public Instruction, and the leader of a statewide public-private initiative promoting early childhood development. • Varied based on the community and the specific activities, but typically through the relationship developed between the ABCD coordinator and physicians
Staff Qualifications	• Not addressed
Key Findings	• In the period 2004 to 2008, the North Carolina ABCD program was associated with: o A quintupling of the number of developmental screenings performed during Well-Child Visits for Medicaid-support children o A quadrupling of the number of referrals to Early Intervention programs • Across the three community care networks, "The number of developmental screenings increased nearly twofold to more than six fold," from 2004 to 2008. The study team also noted that "Changes may not be directly comparable across these networks" and that at one location, a lower screening rate may reflect "the challenges of its rural service area and the fact that its intervention is active in only a subset of its counties." • Across the state, "the proportion of infants and toddlers who received Early Intervention services reached 4.3 percent in 2008, representing a 43 percent increase from a rate of 3.0 percent in 2003" and "Early Intervention service rates ranged from 3.0 percent to 6.6 percent in 2008 in the counties served by the three profiled CCNC networks." • Across the state, "In 2006, physicians were responsible for 28 percent of all referrals to the infant-toddler Early Intervention program; by 2008, this proportion had increased to 37 percent."

Citation	**Pelletier, H., & Abrams, M. (2002). The North Carolina ABCD Project: A new approach for providing developmental services in primary care practice.**
Population and Sample	The study tracked program outputs from North Carolina's implementation of ABCD. The study collected data in Guilford County.
Methodology	Non-experimental
Purpose	The report described North Carolina's accomplishments and lessons learned from a multi-year demonstration project implementing ABCD.
Measures & Assessments	• The number of children who were screened as a percentage of well-child visits. • The number of children who failed the developmental screen as a percentage of the total number of children screened. • The number and type of referrals as a percentage of the total number of children screened
Study Implementation	• The demonstration project reported data related to the number of children screened as a percentage of well-child visits; the number of children who failed the developmental screen as a percentage of the total number of children screened; and the number and type of referrals as a percentage of the total number of children screened. • The project surveyed parents to learn what they want and what they find most useful in terms of early childhood development services. • A written survey was mailed to physicians, nurses, and other office staff involved in the process for at least six months. • The project developed an office guide to assist physician practices in incorporating the ABCD model that included information on developmental systems, a template for developing work flows and systems, referral forms, member materials, and program data. The guide was adapted to each of six participating physician practices to fit the needs and realities of each site.
Staff Qualifications	• An early intervention specialist held a four-year undergraduate degree in social work with knowledge of developmental disabilities and experience working with families and young children.
Key Findings	• From 2000 to 2001 (18 months), participating sites completed 3,573 screenings on 3,426 children • Seven percent (n=241) of children screened received a referral. (The state average for referrals to early intervention services was between two to four percent.) • An additional 80 families received support for concerns when the child did not qualify for a referral • The statewide referral rate is approximately 3.9 percent

	• The percentages of children screened (in the fourth quarter of 2000-2001) at the three sites associated with Guilford Child Health varied, "from a high of 72 percent at Devon (a small clinic within a housing project) to 38 percent at Wendover (with ten physicians and nurse practitioners)." • The total percentage of children screened increased over time: "the total percentage of children screened by GCH grew to 47 percent in the final quarter of 2000-2001, from 5 percent the previous year, and it has continued to rise, to 63 percent in the second quarter of 2001-2002."

Citation	**Plaza, C., Rosenthal, J., & Hinkle, L. (2013). The enduring influence of the Assuring Better Child Health and Development (ABCD) Initiative. National Academy for State Health Policy.**
Population and Sample	The study team reviewed the legacy of four ABCD initiatives: ABCD I Consortium (2000-2003); ABCD II (2003-2007), ABCD Screening Academy (2007-2009), and ABCD III (2009-2012).
Methodology	Document review
Purpose	The report provides background information on the program, support associated with the National Academy for State Health Policy, and program results.
Measures & Assessments	• Increased identification of children with or at risk for developmental delays • Referral for follow up assessment and services • Improved access to treatment • Coordination across systems that care for young children
Study Implementation	• Collected and reviewed reports from 27 Medicaid programs • Synthesis focused on changes in the identification of children with developmental delays or at risk of delays; referral, information-sharing, and feedback mechanisms; access to follow-up treatment; and care coordination across systems of care.
Staff Qualifications	• Not addressed
Key Findings	• The program is associated with increased identification of children with or at risk for developmental delays; all but one state saw improvements in screening rates • The program is associated with improved referral, information-sharing, and feedback mechanisms • There is improved access to follow-up services • There is improved coordination across systems of care

Review of Screening and Training Interventions Similar to ABCD

Citation	**Guevara, J. P., Gerdes, M., Localio, R., Huang, Y. V., Pinto-Martin, J., Minkovitz, C. S., Hsu, D., Kyriakou, L., Baglivo, S., Kavanagh, J., & and Pati, S. (2013). Effectiveness of developmental screening in an urban setting. Pediatrics, 131, pp. 30–37.**
Population & Sample	The study incorporated 2,103 children under the age of 30 months and more than 36 weeks gestational age from four primary care practices in a large, urban, city. Most participants were African-American with mean family income less than $30,000. Children were randomly assigned to three groups: (1) developmental screening using Ages and Stages Questionnaire-II (ASQ-II and Modified Checklist for Autism in Toddlers (M-CHAT) with office staff assistance, (2) developmental screening using ASQ-II and M-CHAT without office staff assistance, or (3) developmental surveillance using age-appropriate milestones at well visits.
Methodology	Randomized controlled, parallel-group trial with intention-to-treat analysis
Purpose	The study's goal was to examine were the percentage of children identified as having developmental delays, referred to EI, and eligible for EI services when developmental screenings were used with a high-risk, urban, population.
Measures & Assessments	• Ages and Stages Questionnaire-II (ASQ-II) • Modified Checklist for Autism in Toddlers (M-CHAT)
Study Implementation	• Caregivers completed a questionnaire regarding demographic characteristics and received stratified (by age group) random assignments to one of three groups. Caregivers in the screening groups completed the ASQ-II at child's 9-, 19-, and 30-month well child visits and the M-CHAT at their 18- and 24-month visits; caregivers in group 1 received staff assistance while those in group 2 received none. • Caregivers in groups 1 and 2 completed age-appropriate developmental milestones at non-screening visits; caregivers in group 3 completed milestones at well-child visits. • Children who failed a screening test or milestone or whose parents had concerns about their development could be referred to EI services at the clinician's discretion. Referrals occurred through completion and faxing of EI health appraisals/prescriptions or through the provision of EI telephone contacts to parents.

	• Electronic decision support was implemented in the screening arms to remind clinicians to complete the ASQ-II at 9-, 18-, and 30-month well-child visits and to complete the M-CHAT at 18- and 24-month visits. Referrals for treatment were made as indicated by screening results.
Staff Qualifications	• Clinicians
Key Findings	• Children who received screenings (with and without office staff assistance) were more likely than children who received surveillance to be identified with delays, referred to early intervention, and found eligible for early intervention services. • Children who received screenings (with and without office staff assistance) were more likely than children who received surveillance to experience a shorter time to identification, early intervention referral, and early intervention evaluation. • The study team reported that, overall, 20.9% of patients were identified as having developmental delays. However, there were differences in the likelihood of being identified, based on group. Specifically, among children in group 1 (developmental screening with office support): 23% were identified as having a developmental delay, 19.9% received an early intervention referral, 9.8% completed the referral, and 7% were found to be eligible for early intervention services. Among children in group 2 (developmental screening without office support): 26.8% were identified as having a developmental delay, 17.5% received an early intervention referral, 8.5% completed the referral, and 5.3% were found to be eligible for early intervention services. Among children in group 3 (developmental surveillance only): 13% were identified as having a developmental delay, 10.2% received an early intervention referral, 6% completed the referral, and 3% were found to be eligible for early intervention services. • While the overall differences among groups were statistically significant, the differences in the identification of delays between groups 1 and 2 were not statistically significant. As regards the referral of children for follow-up, there were not statistically significant differences between groups 1 and 2. As regards the likelihood of being referred if identified as having delays, there were statistically significant differences between group 1 and the other two groups. Finally, the study team found that "Children in the screening arms were more likely to complete an MDE and be eligible for EI services than children in the DS arm" and "There was no difference (P = .208) between screening arms in EI eligibility. There was no difference in the percentage eligible for services among referred children (OS: 35.0%; NS: 30.5%; DS: 29.6% [P = .15]) or among children who completed an MDE (OS: 71.0%; NS: 62.7%; DS: 50.0% [P = .10])."

Citation	**Briggs, R. D., Stettler, E. M., Silver, E. J., Schrag, R. D. A., Nayak, M., Chinitz, S., & Racine, A. D. (2012). Social-emotional screening for infants and toddlers in primary care. Pediatrics, 129(2), pp. e377–e384.**
Population & Sample	The study involved 3169 children in a prospective cohort design, aged 6 to 36 months. More than 80% of practice patients were either African-American or Hispanic. More than 67% of practice patients were served through subsidized insurance.
Methodology	Quasi-experimental with prospective cohort design
Purpose	The study's goal was to assess the universal application of the Ages and Stages Questionnaire: Social-Emotional, for screening children ages 6 to 36 months, with follow-up by services for children at or above the risk cutoff score.
Measures & Assessments	• Ages and Stages Questionnaire: Social-Emotional (ASQ:SE)
Study Implementation	• Attempted sequential (every 6 months) social emotional screenings of all children 6 months to 3 years over a 5-year period using the parent completed ASQ:SE. Children who screened above the risk cutoff thresholds were referred for assessment/intervention to the ITS to allow comparison of follow-up scores between those accepting intervention and those declining.
Implementation Fidelity	• First, ASQ:SE along with a letter of explanation in English and Spanish reviewing the purpose of the screening was distributed to the family waiting in private exam room. Families could decline or ask for help in completing the questionnaire. Completed questionnaires were returned to the Infant toddler specialist (ITS) during or after the child's visit. ITS reviewed and scored questionnaires and placed scoring sheet in child's chart. If scores indicated risk, the ITS offered to complete a more comprehensive assessment. If second assessment indicated the need, the ITS made treatment and referral decisions in consultation with the pediatric provider and either delivered the treatment or closely followed all referrals made. Treatment by the ITS included office- and home-based appointments as needed and was dyadic (caregiver-child) in nature.
Staff Qualifications	• Infant toddler specialist (ITS) mental health specialist co-located within pediatric primary care medical homes

Key Findings	• Of the 3169 children who received a universal screening, 711 (22%) scored at or above the risk cutoff score. • Of the 711 children who scored "at risk", 170 completed a rescreening. At the time of rescreening, children who received parent-consent follow-up by clinical staff demonstrated significant improvement on ASQ:SE scores, compared to children who declined follow-up services. • Children with identified developmental delays were referred to external treatment for follow-up and were less likely to demonstrate improvement at the time of rescreening. • Children with no or subsidized insurance were more likely to score "at risk" (above the risk cutoff score) than children with private insurance. • Male children had a higher rate of "at risk" scores than female children.

Citation	**Hix-Small, H., Marks, K., Squires, J., & Nickel, R. (2007). Impact of implementing developmental screening at 12 and 24 months in a pediatric practice. Pediatrics, 120(2), pp. 381-389.**
Population & Sample	The study involved 18 pediatricians and 1,428 caregivers and children in two samples: a 12-month and a 24-month sample. Combined, 72% of children were Caucasian, 14% Hispanic; child mean age was approximately 17-18 months. Children with previously identified delays or disorders were excluded.
Methodology	Quasi-experimental drawing upon a convenience sample
Purpose	The purpose of this study was to investigate the effectiveness and costs of incorporating a parent-completed developmental screening tool, the Ages and Stages Questionnaire, into the 12- and 24-month well-child visits under "real world" conditions, using a combined in-office and mail-back data collection protocol.
Measures & Assessments	• Ages and Stages Questionnaire • Pediatric Developmental Impression
Study Implementation	• 30 minutes of training were provided for pediatric support staff on ASQ administration and data collection procedures. Receptionists provided parents with study materials at check-in and instructed them to review and complete forms (an introductory letter, consent form, demographic questions, and ASQ with postage paid return envelope). Nurses answered questions and collected completed forms in the examination rooms. • Pediatrician completed the PDI after the well-child visit, blinded to the ASQ results and indicated whether they would make a referral for additional eligibility evaluation. • Pediatricians referred cases according to their usual care procedures. ASQ referrals followed eligibility criteria in the state where the study took place.
Staff Qualifications	• Parents completed Ages and Stages Questionnaire • Trained medical staff administered the Pediatric Developmental Impression.
Key Findings	• There was a 15% decline in patient volume but an increase of 224% in referral rates in the participating practice. The most notable increase in referrals was at 12 months. • There was an 82% agreement between the Ages and Stages Questionnaire and Pediatric Developmental Impression. • Pediatricians based referrals on assessment of communication and gross motor delays, using the Pediatric Developmental Impression. • There was 68% agreement between delays identified by the Ages and Stages Questionnaire and Pediatric Developmental Impression. • Physician referrals accounted for only 42% of total referrals, highlighting the need for pediatric developmental screening.

Citation	**Schonwald, A., Huntington, N., Chan, E., Risko, W., & Bridgemohan, C. (2009). Routine developmental screening implemented in urban primary care settings: More evidence of feasibility and effectiveness. Pediatrics 123, pp. 660–668.**
Population & Sample	Two primary care practices in a large, Northeastern, city. One practice serves approximately 12,000 children, 40% African-American, 35% Latino. Sixty-five percent (65%) of the client base qualifies for Medicaid or free services. The second practice serves approximately 1,800 children, 6% African-American, 54% Latino. Eighty percent (80%) of the client base qualifies for Medicaid or free services.
Methodology	Quasi-experimental
Purpose	The study's goal was to examine both the feasibility and effectiveness of using the Parent's Evaluation of Development Status (PEDS) with children ages 6 months to 8 years as an initial screening tool, followed by second-stage screening for those with at least one predictive concern on the PEDS. The study team examined changes in identification rates and referrals.
Measures & Assessments	• Initial screening: Parent's Evaluation of Development Status (PEDS)

	• Second-stage screening: Michigan Scales of Child Development for children less than 2.8 years old; Brigance screens for children 2.9 to 5.9 years old; Wide Range Achievement Test-IV, Vanderbilt Attention Scales, and the Pediatric Symptom Checklist for children 6 to 9 years old
Study Implementation	• Anonymous provider surveys were completed before PEDS training and implementation asking about knowledge, attitudes, and practice related to developmental screening. 40-60 minute PEDS training sessions were then conducted with providers and clinic staff. • Parents completed the 10-item PEDS survey prior to seeing the provider during a well child visit. • If the survey indicated the need for an intermediate level assessment, the second-stage screening (SSS) was conducted by an EI provider using the Michigan Scales of Child Development, which included the Brigance for children 2.9 to 5.9 years of age and the Wide Range Achievement Test-IV, Vanderbilt Attention Scales, and the Pediatric Symptom Checklist for children 6.0-9.0 years of age. Children identified with skills below normed cutoffs were referred for EI services or public school evaluations. Referring primary care providers were informed by email of the SSS findings and whether the child was in need of outside testing. • Providers were instructed to score and respond to the PEDS as recommended in the manual and the scoring algorithm. Clinician judgment was incorporated so that more evaluation was arranged if the clinician was concerned, regardless of the screen. • A focus group with providers was conducted 9 months after implementation to gather their impressions and reactions to the PEDS implementation. 4 pediatricians and 1 nurse practitioner participated. • Use of PEDS was assessed via medical chart review for all 2- and 3-year-old well child visits for pre- and post-implementation. • Implementation fidelity was measured through child chart reviews for accuracy and item agreement as well as clinic surveys. Medical assistants were instructed to provide the PEDS at every WCC visit for children between the ages of 6 months and 9 years. Providers were not asked to find a PEDS survey and complete it with the parent if it was not already completed when they entered the examination room but rather to address the flaw in the arranged system with the staff. Most providers delivered developmental surveillance rather than formal screening in the instances when a PEDS was not completed.
Staff Qualifications	Pediatricians conducted second-stage screenings
Key Findings	• 61.6% of eligible children were screened by parents completing the PEDS. • After the screening approach was implemented, and compared with same-aged children before the screening approach was implemented, there were more behavioral concerns identified in the two-year old cohort of children and more developmental concerns identified in the three-year old cohort of children. • Referrals only were made for developmental concerns (as behavioral concerns were addressed by the provider at the time of the visit). The study team found that "Overall referral rates for 2-year-olds remained similar pre-PEDS and post-PEDS implementation, whereas referral rates increased for 3-year-olds " and "Referral rates for children with new concerns were not significantly different pre-PEDS versus post-PEDS, either overall or for the separate age groups." • Types of referrals were consistent with those produced before the screening approach was implemented. Identification Rates • Charts for 616 children were reviewed. New developmental and behavioral concerns were identified for 149 children. A new developmental concern was identified for 143 children. A new behavioral concern was identified for 61 children. • The study team found that "Nearly all of the children with a behavioral concern also had a developmental concern." • Of the 149 children identified with a new developmental or behavioral concern, 30 already were receiving services (for a different concern). • The study team found that there was a significant increase in identification of developmental concerns (20.7% vs. 26.3%; p = .05) and behavioral concerns (8.0% vs. 12.2%; p = .04). More specifically, among two-year old children, identification of behavioral concerns increased from 7.1% to 14.2% (p=.02). There was not a change, however, in the identification of developmental concerns among two-year old children. Among three-year old children, identification of developmental concerns increased from 11.2% to 19.2% (p=.02); there was not an increase in the identification of behavioral concerns. • The study team compared children who had a completed PEDS to those who did not. Among three-year old children, twice as many concerns were identified for children who received a PEDS

screening, compared to those who had not, but the differences between the two groups of children were not statistically significant (p=.058).

Second-Stage Developmental Screening Process

- A second-stage developmental screening process, or SSS, accompanied the use of the PEDS and did not exist before using the PEDS.
- After starting the use of the PEDS, "19% of referrals for 2-year-olds and 22% for 3-year-olds were for SSS." Before using the PEDS, "20% of referrals for 3-year-olds were to a developmental specialist". After using the PEDS, there were no such referrals (to a developmental specialist). The study team suggested that the care providers " chose to begin with the available SSS instead of referring directly to a developmental specialist for further evaluation."

End Notes

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[ii] Germuth. A. (2016). Evaluation of Smart Start's Race to the Top – Early Learning Challenge: Assuring Better Child Health and Development (ABCD) Project: 3-Year Summary Report. Durham, NC: EvalWorks, LLC.

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Additional Resources

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Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

North Carolina Department of Public Health Adolescent Parenting Program

Goals

The North Carolina Division of Public Health (DPH) sponsors the Adolescent Parenting Program which strives to improve the well-being of adolescent parents and their children. DPH indicates that program goals are to (a) increase self-sufficiency (by delaying additional pregnancies and increasing high school graduation rates or achievement of the GED) and (b) improve child welfare and school readiness (by improving positive parenting and ensuring children have a medical home and safe home environment). (http://www.teenpregnancy.ncdhhs.gov/app.htm)

Similarly, the evaluation team at UNC-Greensboro led by Dr. Kenneth Gruber (2012)[i], indicates there are four primary outcomes:

(a) delaying a subsequent pregnancy until beyond adolescence;

(b) graduating from high school or earning a GED;

(c) successfully transitioning to adulthood through achievements such as enrolling in postsecondary education, receiving vocational training, being employed at a livable wage, and living in safe and stable housing environment; and

(d) increasing the incidence of appropriate discipline, nurturing behavior, and assurance that the children are well cared for.

NC DPH Adolescent Parenting Program Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:** None
- **Research supports** use of the program with adolescent or teen-aged, first-time, mothers
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
  - Children on track for typical development
- **Purveyor training required:** Yes
- **Smart Start information or guidance:** No
- **Staff qualifications:** Four-year or higher degree in social work or a related field
- **Frequency:** Monthly
- **Minimal service threshold:** Prenatal period
- **Implementation Guidance:** http://www.teenpregnancy.ncdhhs.gov/app.htm

Program Features

The program provides support to first-time pregnant and parenting teens through a range of services that include home visitation, group education, parenting education, referrals, case management, and peer connections. Participants in the program receive monthly home visits using either the Partners for a Healthy Baby or Parents as Teachers home-visiting curriculum. Participants also receive minimum of 24 hours of annual peer group education.

Each program requires at least one full-time program coordinator to serve a caseload of 15-25 teens. Program coordinators may vary as to degree achievement (with most program coordinators having at least a four-year degree in social work or a related field). Sangalang (2006)[ii] noted that trained program coordinators provide services, with 18 hours of program-specific training required each year. Program coordinators must also be trained in the selected home visiting curriculum.

Target Audience

First-time teen parents, typically 12 to 19 years old.

Documented Outcomes

	Type of Study	Birth Outcomes		Parent Outcomes				
		Improved Birth weight*	Longer Gestational age*	Higher Mother's Education	Delayed Second Pregnancy	More Stable Home Environment**	Increased Financial security	Increased Healthy behaviors
Gruber (2012)	Non-experimental with a retrospective comparison of program and non-program participants			✓	✓	✓	✓	✓
Sangalang et al (2006)	Non-experimental with a retrospective comparison of program and non-program participants	✓	✓		✓			

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome: *More children on track for typical and/or enhanced development*
**Aligned with Smart Start outcome: *Increase in positive parenting practices*

Research Evidence for NC DPH Adolescent Parenting Program

- The program is associated with positive parent and birth outcomes.
- The model studied is specific to programs operating through North Carolina's Department of Public Health.
- A variety of parenting curricula may be used.

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Gruber, K. J. (2012). A comparative assessment of early adult life status of graduates of the North Carolina Adolescent Parenting Program. Journal of Child and Adolescent Psychiatric Nursing, 25, pp. 75–83.**
Population and Sample	The study, which focused on Greensboro's program operated through the YWCA, involved 15 program graduates and 20 comparison individuals who did not participate in the program. To be eligible, participants had to meet several criteria, which included: (a) Blue Medicaid eligibility, (b) be enrolled in high school or in a GED program within 90 days, (c) have a one child under 3 years of age (if parenting), and (d) consent to voluntary participation.
Methodology	Non-experimental with a retrospective comparison of program and non-program participants
Purpose	The study examined the current status of program participants, with comparisons to individuals (i.e., teen parents) who did not participate in the program.
Measures & Assessments	• Surveys/ Young Female Parent Life Status Assessment Form • Parenting Sense of Competence Scale • Parenting Opinions Questionnaire (modified)
Study Implementation	Survey-based interviews were conducted with program graduates as well as individuals who were of comparable age, and were "friends of acquaintances" of the study participants. Both program and comparison individuals were teen mothers. The program sample consisted of teen mothers who graduated from the Greensboro YWCA Adolescent Parenting Program between 2004 and 2008; 27 women comprised the recruitment population. The comparison sample consisted of teen mothers who were "friends or acquaintances" of the program graduates; comparison mothers were over 18 and had children of about the same age as the program graduate.
Implementation Fidelity	• Data were collected by "experienced staff members" from the YWCA; the staff members did not have prior contact with any study participants. • Survey-based interviews were conducted with participants which lasted 1 to 1.5 hours • Study participants were given a $25 gift card for participating in the study
Staff Qualifications	• Staff qualifications for providing the program were not addressed.
Key Findings	Education • At the time of data collection, 100% (15 of 15) program graduates had completed high school. Forty percent of comparison parents had not completed high school. • At the time of data collection, 60% of program graduates were either enrolled in a community college or in a four-year college. Additionally, 20% of program graduates reported that they were planning to take college courses. In comparison, 30% of comparison parents were enrolled in a community college or a four-year college while an additional 10% reported that they were planned to take courses. Number of Children

- In comparison to program graduates, more than twice as many comparison mothers reported having more than one child and two reported having a second child while still a teen.

Relationship or Family Status

- The majority (87%) of program graduates reported that they either lived on their own and with a husband or boyfriend. In comparison, 55% of comparison mothers reported that they either lived on their own and with a husband or boyfriend.
- Twenty-seven percent of program graduates reported that they lived with a family member. In comparison, 60% of comparison mothers reported that they lived with a family member in the past 12 months.
- Program graduates and comparison mothers reported similar levels of satisfaction with living arrangements.
- Program graduates and comparison mothers reported similar levels of mobility in the prior 12 months and were similar in the plans to move residences in the next six months.

Financial Security

- Seventy-three percent of program graduates reported that they paid for their housing, compared to 25% of comparison mothers.
- Sixty-seven percent of program graduates reported that they paid for their utilities, compared to 20% of comparison mothers.
- Sixty-seven percent of program graduates reported being employed, compared to 30% of comparison mothers.
- Eighty percent of program graduates reported that they had employment "at least some of the time in the past 12 months," compared to 67% of comparison mothers.
- Of the participants who were not employed, three of five program graduates reported that they were "actively looking for employment," compared to nine of 14 comparison mothers.
- Program graduates and comparison mothers reported similar "primary sources of financial support," which included "self" and "significant others and/or family."
- Ninety-three percent of program graduates reported use of food stamps, compared to 65% of comparison mothers.
- Thirty-three percent of program graduates reported use of Temporary Assistance for Needy Families/Work First, compared to 15% of comparison mothers
- Twenty-seven percent of program graduates reported involvement with the Family Life Council, compared to 5% of comparison mothers
- Forty percent of program graduates reported participating in YWCA parenting programs, compared to 5% of comparison mothers

Healthy Behaviors

- Thirteen percent of program graduates reported smoking, compared to 45% of comparison mothers
- Thirteen percent of program graduates reported drinking alcohol, compared to 55% of comparison mothers
- Thirty-three percent of program graduates reported "having friends with police arrest records," compared to 55% of comparison mothers

Spirituality

- Forty-seven percent of program graduates reported "attending weekly religious services" compared to 85% of comparison mothers

Parenting

- Program graduates and comparison mothers had similar means on parenting measures. Further, there were low scores on the Support of/Affection to Parents subscale.

Citation	**Sangalang, B. B., Barth, R. P., & Painter, J. S. (2006). First-birth outcomes and timing of second births: A statewide case management program for adolescent mothers. Health & Social Work, 31(1), pp. 54-63.**
Population and Sample	The study involved 1,260 participants in the NC APP program, who also were first-time adolescent/teen parents. Program mothers were compared to 1,260 adolescent/teen parents who also were first-time parents but who were not participating in the APP program.
Methodology	Non-experimental with a retrospective comparison of program and non-program participants
Purpose	The study examined whether or not program participants exhibited better outcomes, when compared to adolescent or teen-aged first-time, mothers who were not program participants. Outcomes of

	interest included (a) use of prenatal care; (b) birth weight; (c) gestational age; and (d) delay of second birth.
Measures & Assessments	Adequacy of Prenatal Care Utilization (APNCU) Index
Study Implementation	Program records were used to generate information on adolescent/teen mothers who participated in the program from 1991 to 1998. The comparison group of adolescent/teen mothers was a random selection from birth records, matched to program participants on (a) county of residence and (b) mother's age at first birth. The study only examined singleton births.
Staff Qualifications	• The study indicated that program coordinators could have undergraduate degrees in fields that included social work, psychology, or sociology. • All program coordinators had to complete 18 hours of "in-service" training, annually. • Some program coordinators had graduate degrees in social work (or a related field).
Key Findings	Prenatal Care • Program participants and comparison mothers were similar on measures of prenatal care, with no significant differences found in each group's use of prenatal care. • The authors reported that approximately half of each group received "adequate" prenatal care. Birth Weight and Gestational Age • A relatively high percentage (90.6%) program participants gave birth to babies with "normal" birth weight, compared to 86.1% of comparison mothers. • A relatively high percentage (84.4%) program participants gave birth to babies born at full-term, compared to 77.4% of comparison mothers. Program Effects • The study conducted analyses that controlled for maternal characteristics. Findings from logistical regression analyses that included controls did not indicate a significant association between program participation and use of prenatal care. However, factors such as maternal age, race, and marital status were significantly associated with use of prenatal care. • Program participation was significantly associated with baby birth weight, even after controlling for maternal characteristics. More specifically, "the odds of an APP participant giving birth to a normal weight baby were 1.67 times that of a non-APP participant." Further, two maternal characteristics (age and smoking) were significantly associated with birth weight. • Program participation was significantly associated with baby gestational age, even after controlling for maternal characteristics. More specifically, "APP participants were 1.69 times more likely than non-APP participants to give birth to a full-term baby." Further, the maternal characteristics (a) age, (b) marital status, and (c) smoking were significantly associated with baby gestational age. • Program participants and comparison mothers were similar in the percent of each group that only had one birth (during the period of time examined by the study). • Program participants and comparison mothers were similar in the percent of mothers (62%) who did not have a second birth during the period of time examined by the study. • Program participants (ages 12 to 16; 69.4%) had longer times between births than comparison mothers (67.1%) in the same age group. • Program participants (ages 12 to 16; 88%) had not had a second birth two years after their first birth, compared to 85% of comparison mothers in the same age group. • Program participants (ages 12 to 16; 66%) had not had a second birth four years after their first birth, compared to 60% of comparison mothers in the same age group. • Program participants and comparison mothers who were in the 17 to 19 age group when they had their first child, were similar on a measure of delayed second birth. • Cox regression estimates suggested that program participants (in the 12 to 16 age group) were 20 percent less likely to have a second birth than comparison mothers, which was a significant difference between program participants and comparison mothers. • Race was significantly associated with "time until the second birth."

End Notes

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[i] Gruber, K. J. (2012). A comparative assessment of early adult life status of graduates of the North Carolina Adolescent Parenting Program. Journal of Child and Adolescent Psychiatric Nursing, 25, pp. 75–83.

[ii] Sangalang, B. B., Barth, R. P., & Painter, J. S. (2006). First-birth outcomes and timing of second births: A statewide case management program for adolescent mothers. Health & Social Work, 31(1), pp. 54-63.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Be Active Kids®

Goals

The goal of Be Active Kids (BAK) is to give young children the tools they need to develop positive physical activity and nutrition habits.[1]

Be Active Kids Snapshot

- **EC Profile Indicator:** H60 - Percent of children who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports** use with children birth to 5 years of age
- **Related Smart Start outcomes:**
  - Increase in **child** practice of healthy behaviors
  - Increase in **provider** practice of healthy behaviors
- **Purveyor training required**: Yes
- **Staff qualifications:** Smart Start funded Technical Assistance staff must meet TA Practitioner Qualifications
- **Frequency:** Integrated daily into child care activities
- **Suggested Assessments:** GO NAP SACC
- **Implementation Guidance:** http://www.beactivekids.org/beactive-at-school-childcare

Program Features

Be Active Kids is a program developed by health professionals to educate young children about healthy options for physical activities, eating habits, and food safety. Designed for use in any child care classroom setting, the Be Active Kids program consists of a developmentally appropriate curriculum kit of educational materials, interactive games, and hands-on lesson plans to help engage children in learning about healthy lifestyles. Childcare providers attend the 3 hour Be Active Kids training session. Once trained, providers begin implementing the program to integrate learning and movement in the classroom.

Be Active Kids also offers several training modules to assist in the continuing education of early childhood professionals. The training modules vary in length from one to five hours. Be Active Kids trainings relate to the following NC Division of Child Development topic areas: 1) planning a safe, healthy learning environment; 2) children's physical and intellectual development; 3) child growth development; and 4) productive relationships with families.

Partnerships that are implementing or considering implementing Be Active Kids program as a train-the-trainer model may want to consider the following:

1. Training consists of a 4-hour session for trainers on how to effectively teach and implement the Be Active Kids curriculum.
2. Trainers providing technical assistance for child care providers in addition to curriculum training on Be Active Kids must meet Smart Start TA Practitioner Qualifications.

For more information regarding Be Active Kids use this link: http://beactivekids.org

Target Audience

Early care and education professionals who work with infants, toddlers, twos and/or preschoolers

Documented Outcomes

	Type of Study	Child Care Provider		Provider- or Parent-Reported Child Outcomes			Child Outcomes	
		Change in provider attitudes about physical activity and healthy eating*	Change in provider practices**	Child improved knowledge about healthy eating and physical activity***	Children increase physical activity***	Children improve healthy eating habits***	Children can recognize healthy foods***	Children can recognize healthy physical activity***
Smith et.al. (2007)[ii]	Non-experimental with comparison groups	✓		✓	✓		✓	✓
Dunn et.al. (2001)[iii]	Non-experimental with comparison groups	✓		✓	✓	✓	✓	✓
DeMarco et.al. (2014)[iv]	Non-experimental		✓		✓			

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome: *Increase in the provider practice of healthy behaviors*

**Aligned with Smart Start outcome: *Increase in program quality*

***Aligned with Smart Start outcome: *Increase in children's practice of healthy behaviors*

Research Evidence for Be Active Kids

- The program is aligned with changes in provider knowledge, attitudes, and behaviors related to nutrition, healthy foods, and activities.
- Parents and children also demonstrate improvements in knowledge and behaviors after exposure to program content.

Review of Experimental or Quasi-Experimental Studies

None

Review of Descriptive Studies

Citation	**Smith, M., MacDougall, J. M., Sutherland, L., Kelsey, K., & Farel, A. (2007). Be Active Kids evaluation report. Blue Cross Blue Shield of North Carolina: Durham, NC.**
Population and Sample	The study took place in North Carolina over a two-year period and included data from 67 trainers (23 of whom participated in follow-up), 168 child care providers who completed both pre- and post-training surveys (56 of whom completed a 10-week follow-up survey), and 98 child care providers who did not participate in training (69 of whom completed a 10-week follow-up survey) and parents and children from 11 centers (18 classrooms) that participated in the program and 11 comparison centers (19 classrooms) that did not participate in the program. Baseline and follow-up data were collected from 110 program parents and children and from 97 comparison group parents and children.
Methodology	Non-experimental
Purpose	The study was an evaluation of the Be Active Kids program with a focus on (1) measuring program trainer knowledge and attitudes about the program and its content; (2) measuring program trainer self-efficacy in working with and teaching child care providers about the program; (3) assessing child care provider knowledge, attitudes, and behavior related to program content (nutrition and healthy eating, physical activity, and food safety); (4) child care provider self-efficacy related to program implementation as well as barriers and benefits associated with the program; (5) assessing the impact of the program on four- and five-year old children and their parents, in areas related to program content.
Measures & Assessments	• Training surveys • Child care provider surveys • Parent surveys • Child interviews
Study Implementation	• There was a one-day "train-the-trainer" event attended by 68 trainers from 36 North Carolina counties. Of these 68 participants, 67 trainers completed pre- and post-surveys. • The trainers who attended the "train-the-trainer" event then were to train child care providers; 23 trainers participated in a follow-up survey after completing their first provider training. • A total of 309 child care providers received training in the program. Of these, 168 providers completed pre- and post-training surveys. Of these, 56 providers completed a 10-week follow-up survey. • A comparison group of 98 providers (69 of whom completed the 10-week follow-up survey) also participated in data collection. • Children (and their parents) enrolled in 11 program centers (18 classrooms, n=110 children) and 11 comparison centers (19 classrooms; n=97 children) participated in study surveys and interviews.
Staff Qualifications	• Not addressed
Key Findings	Trainers • The results demonstrated that overall, the train-the-trainer model is effective. The train-the-trainer session was well-received by participants. • On the pre- and post-surveys conducted at the time of training, there were significant gains on measures of trainer knowledge regarding program content (all at p<.001). There also were significant gains on measures of knowledge regarding nutrition and physical activity in preschool

children (p<.001). Overall training knowledge increased from an average 8.63 to 10.24 (out of a total of 11 possible points; p<.001).

- Trainers also demonstrated improvements in attitude on two topics: (a) importance of nutrition for reducing the risk of chronic disease in childhood and (b) importance of nutrition for reducing the risk of chronic disease in adulthood, both significant at p<.001. There also were improvements in trainer beliefs that physical activity is related to improved adult health, significant at p<.01.
- There were not significant increases in trainer attitudes regarding the importance of physical activity for child health.
- There were improvements in trainer confidence regarding (a) overall teaching skills (significant at p<.01); (b) ability to teach about nutrition (significant at p<.001) and physical activity and food safety (significant at p<.01).
- Many of the improvements noted at the time of training were maintained at the time of follow-up, after they had held their first provider training.

Child Care Providers

- After being trained on the curriculum, BAK providers' scores around knowledge, self-efficacy, and attitude showed significant improvements (p values ranging from .01 to .001). No significant improvements were shown for comparison providers for the same variables.
- There were improvements in BAK attitudes regarding food safety (p<.001) with no change reported in the comparison group of child care providers.
- At the time of the 10-week follow-up survey, BAK providers and comparison group providers differed on (a) whether they had ideas about how to teach nutrition (93% versus 77%, respectively; (b) physical activity (96% versus 90%); and (c) food safety (93% versus 65%).
- BAK providers reported that concerns about barriers or challenges to teaching children about program content reduced over time.

Parents and Children

- At the time of the 10-week follow-up survey, program parents significantly increased knowledge on several items related to program content: (a) minimum amount of time that four and five year olds should spend being physically active every day; (b) the MyPyramid Food Guidance System as a replacement for the Food Guide Pyramid; and (c) the use of the MyPyramid Food Guidance System to guide calorie and nutrient intake (all significant at p<.05). Comparison group parents are reported a significant improvement on the item related to the use of the MyPyramid Food Guidance System to guide calorie and nutrient intake, p<.05. Comparison group parents reported a significant decrease in the number of parents who correctly answered questions related to the minimum amount of time that four and five year olds should spend being physically active every day (p<.05).
- Parents reported some improvements in attitudes. Program and comparison parents reported a significant increase in agreement with the item "Teaching preschool children about physical activity will lead to more physical activity in their daily lives", p<.05. Comparison group parents also reported increased agreement with the item "Teaching preschool students about food safety will help them to avoid getting sick", p<.05.
- There were no significant improvements for BAK or comparison parents with respect to parent diet or level of physical activity or television behaviors. Among comparison parents there was a significant decrease in the number of parents who reported eating three or more servings of fruit per day, p<05.

Children

- At the time of the 10-week follow-up, there were no significant differences among program or comparison group children in their ability to identify foods correctly or choose healthy food options.
- Program children significantly improved overall correct choices, increasing the average score from 8.65 to 9.22 (out of 10; p<.001). Program children significantly improved their ability to identify healthy foods, increasing the average score from 3.1 to 3.5 (out of 5, <.05). Comparison group children demonstrated decreases in food identification (p<.001) but did demonstrate significant improvement in ability to place the correct food in the correct category on MyPyramid (p<.001).
- Program children exhibited significant differences in comparison to comparison group children in their ability to correctly identify healthy activities (with an increase in mean score from 1.94 to 2.22, out of 3, p<.05). Program children did not significantly improve their correct answers to food safety questions.
- There was a significant improvement (p<.05) in the number of program children who consumed skim or low-fat milk, and no improvement among comparison children. There was also a significant increase in the number of program and comparison children who had 3 or more

	servings of vegetables. There was a significant increase in the number of comparison children who had no sugar-sweetened beverages daily. • For children's physical activity, there were no significant changes in physical activity among program or comparison children, but there was a significant improvement ($p<.05$) for program children with respect to television viewing. • Program children reported an increase in sedentary indoor and active outdoor activities. Among comparison group children, there was no change in the average amount of sedentary indoor activities while the report of active outdoor activities decreased. • Program and comparison children showed no significant differences for answering questions related to handwashing.

Citation	**Dunn, C., Thomas, C., Smith, C., & Pegram, L. (2001). Be Active Kids: A nutrition and physical activity education program for four- and five-year-olds. The Forum for Family and Consumer Issues, 6(3).**
Population and Sample	More than 1500 child care providers participated in program training over a three-year period. A survey was conducted 8 weeks after the training; 72 providers responded (response rate of 59%). As regards child outcomes, there were 100 children in five child care centers incorporated into the treatment group. The children were an average 4.4 years old. Fifty-percent of the children were African-American and 40% were Caucasian. Fifty-five percent of children were female. There were 54 children, in three centers, that were incorporated into the comparison group. The children averaged 4.5 years old. Nineteen percent of the children were African-American and 74% were Caucasian. Fifty percent of the children were female.
Methodology	Non-experimental
Purpose	The study was an evaluation of the Be Active Kids training and curriculum in practice at child care sites. The provider survey targeted the extent to which providers used the program curriculum in their classrooms and whether or not there were plans for future use of materials.
Measures & Assessments	• Provider survey • Child interview
Study Implementation	• The evaluation studied program effectiveness in three phases: o In Phase 1, child care providers who participated in local trainings were asked to complete training evaluations. o In Phase 2, child care providers who participated in local trainings received a follow-up survey, 8 weeks following their training. o In Phase 3, children in both treatment and comparison groups received a 15-minute interview, conducted by a study team member considered an expert in early childhood education.
Staff Qualifications	• Not addressed
Key Findings	Provider Survey Responses • Ninety-percent of providers reported that Be Active Kids increased child knowledge about healthy eating • Eighty-five percent of providers reported that Be Active Kids increased child knowledge about physical activity • Ninety-percent of providers reported that Be Active Kids was associated with increased physical activity in children • Seventy-six percent of providers reported that Be Active Kids was associated with healthier eating in children • Ninety-six percent of providers reported that Be Active Kids was associated with a positive change in provider attitudes about physical activity and healthy eating Child Interviews • Treatment group children could recognize significantly more fruits and vegetables than comparison group children ($p < .05$) • Treatment group children were significantly more likely to identify at least three healthy foods than comparison group children ($p < .05$) • Treatment group children were significantly different from comparison group children in ability to identify healthy eating and physical activity as healthy behaviors ($p < .05$) • Treatment group children were significantly different from comparison group children in ability to understand and demonstrate physical activity ($p < .05$)

Citation	**De Marco, A. C., Zeisel, S., & Odom, S. L. (2014). An evaluation of a program to increase physical activity for young children in child care. Early Education and Development, 0, pp. 1-21.**
Population and Sample	The study included a total of six classrooms in three child care centers. Altogether, the classroom served children ages 1-2 years (toddlers), 2-3 years (twos), and 4-5 years (preschool).
Methodology	Multiple baseline single case design
Purpose	This study is an evaluation of Be Active Kids, with a focus on three questions: 1. What is the level of light and moderate/vigorous physical activity at baseline? 2. Does the Be Active Kids intervention increase the amount of light and moderate/ vigorous physical activity and decrease the amount of sedentary physical activity? 3. Does the Be Active Kids intervention increase the amount of teacher-directed physical activity?
Measures & Assessments	• PlayCheck Observation Procedure, adapted from the Observational System for Recording Physical Activity in Children–Preschool (OSRAC-P) • Center and classroom surveys
Study Implementation	• The Be Active Kids (BAK) program materials and a two-hour teacher (lead and assistant) training were provided by project investigators. The training was provided after five initial observations were conducted to gather baseline data. • Teachers were asked to incorporate activities into their lesson plans and to include an indoor and an outdoor lesson on days the researchers observed their classrooms. They were also asked to record the activities in their lesson plans. • Evaluation data were collected through standardized classroom observations and surveys. Each classroom was observed using the PlayCheck observation system five times prior to the intervention (baseline) and five times after the intervention (treatment). Start times at each of three centers were staggered by several weeks. • Three observers were trained by watching videos of children's physical activity in child care settings and discussing codes to come to a common understanding of the operationalized definitions of each activity level (moderate/vigorous, light, and sedentary). • 10 children were selected for observation if the class contained more than 10 children. Numbered vest were used to help observers identify children. • Center directors completed a short demographic survey about the center, asking about the school schedule, total number of children and number of children per age group; race/ethnicity of children; number of children with a disability; and centers' star ratings, which is an indicator of child care quality in NC. • Lead teachers completed a demographic survey about their classrooms, asking about the age group cared for; number of children; number of adults; gender, race/ethnicity, disability status of the children; lead teacher's educational attainment, age, race/ethnicity, number of years providing child care, tenure at the current center, and experience with physical activity programs for young children. • Fidelity of implementation was monitored through lesson plan reviews, which were to incorporate children's physical activities
Staff Qualifications	• Not addressed
Key Findings	• Moderate or vigorous physical activity increased from 12.2% of observation periods to 16.6% of observation periods. • Light physical activity increased from 61.6% to 64.3% of observation periods. • Sedentary activity decreased from 25.6% to 18.9% of observation periods. • In comparing teacher-directed and non-teacher directed activities, 94% of observations related to teacher-directed physical activity showed improvements over time, compared to 39% of activities that were not teacher-directed. Effect sizes related to teacher-directed activities were medium to large, especially when related to moderate or vigorous physical activity and sedentary activity. • Overall, from pre-intervention to post-intervention four of the six classrooms saw increased moderate/vigorous physical activity, light physical activity increased in three classrooms, and sedentary physical activity decreased in five. The biggest increases in physical activity were found during teacher-directed activity. • In teacher-directed activities moderate/vigorous and light activity increased in five and six classrooms, respectively.

End Notes

[i] Be Active Kids. Be Active Kids. (n.d.) [Website]. Available from: http://beactivekids.org/bak/Front/Default.aspx.

[ii] Smith, M., MacDougall, J. M., Sutherland, L., Kelsey, K., & Farel, A. (2007). Be Active Kids evaluation report. Blue Cross Blue Shield of North Carolina: Durham, NC.

[iii] Dunn, C., Thomas, C., Smith, C., & Pegram, L. (2001). Be Active Kids: A nutrition and physical activity education program for four-and five-year-olds. Forum for Family and Consumer Issues, 6(3).

[iv] De Marco, A. C., Zeisel, S., & Odom, S. L. (2014). An evaluation of a program to increase physical activity for young children in child care. Early Education and Development, 0, pp. 1-21.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Breastfeeding Support (Lactation Consultation)

Goals

There is ample evidence of the importance of breastfeeding for healthy child development. In acknowledgement of the importance of the practice, the World Health Organization recommends exclusive breastfeeding for up to 6 months and ongoing breastfeeding, along with appropriate foods, up to 2 years of age. A woman's early experience with breastfeeding can affect whether and how long she continues to breastfeed. Breastfeeding support though lactation consultation seeks to increase the use and duration of breastfeeding among general and targeted populations. Breastfeeding support can result in more mothers being willing to start and continue breastfeeding for at least six months.

Breastfeeding Support (Lactation Consultation) Snapshot

- **EC Profile Indicator:** H60 – Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports** use with children from birth
- **Related Smart Start outcomes:**
  - Increase in child practice of healthy behaviors
- **Training required:** Yes
- **Staff qualifications:** Certification through International Board Certified Lactation Consultants, Certified Lactation Counselors, or Lactation counselors.
- **Suggested Measure:** Number and percentage who 1) Initiated breastfeeding 2) Exclusively breastfed for first 6 months of age
- **Implementation Guidance:** https://iblce.org/

Program Features

Breastfeeding support works by providing education, counseling, and encouragement to pre- and post-natal mothers as well as fathers and other important family members. Support includes interventions to improve breastfeeding outcomes such as helping the mother and baby with latch and positioning, helping with lactation crisis, counseling mothers on returning to work or school as well as addressing other concerns of the mother and their family. Support can be provided by healthcare professionals such as doctors, nurses or lactation consultants through medical and community venues, and individually or in group settings. Health care professionals should be adequately trained (i.e. certified by the International Board of Lactation Consultant Examiners) and experienced in providing breastfeeding support. The advice and support provided should be consistent and evidenced based.

Breastfeeding support programs often have to acknowledge and respond to social, cultural, and biological challenges to breastfeeding. A review of studies suggests that providing support in a combination of settings is effective at improving the rate and duration of breastfeeding. Programs may follow a specific curriculum or model or may be developed to meet the specific needs and cultural expectation of a target

population.

Target Audience

Open to all mothers; targeted at prenatal and new mothers

Documented Outcomes

	Type of Study	Parent Outcome			
		Breastfeeding initiation	Breastfeeding duration	Breastfeeding rates	Maternal health
Patel and Patel (2016)[i]	Meta-analysis	✓	✓	✓	✓
Dumphy et.al. (2016)[ii]	Non-experimental; comparison of pre- and post-implementation groups	✓	✓	✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

Research Evidence for Breastfeeding Support (Lactation Consultation)

- There are two types of certification included in reporting: International Board Certified Lactation Consultants and Certified Lactation Counselors.
- An additional staff type may be Lactation Counselors.
- Lactation consultants and counselors are associated with positive breastfeeding outcomes.

Review of Experimental and Quasi-Experimental Studies

See Meta-Analyses

Review of Meta-Analyses

Citation	**Patel, S. and Patel, S. (2016). The Effectiveness of Lactation Consultants and Lactation Counselors on Breastfeeding Outcomes. Journal of Human Lactation 2016, Vol. 32(3) 530–541**
Population and Sample	This meta-analysis examined 16 studies, 8 of which were conducted in the United States, in both urban and rural settings.
Methodology	Meta-analysis with examination of risk bias for each study
Purpose	This study included randomized trials that involved lactation consultants or counselors, who provided antenatal education, postpartum support, or both antenatal education and postpartum support. The study examined breastfeeding initiation, duration, and rates.
Measures & Assessments	The studies included randomized trials that involved lactation consultants. The studies involved several different interventions:

Bonuck 2005	Study lactation consultants attempted 2 prenatal meetings, a postpartum hospital visit, and/or home visits and telephone

	calls. Control subjects received the standard of care.
Bonuck 2006	Study lactation consultants attempted 2 prenatal meetings, 1 postpartum hospital and/or home visit, and telephone calls as needed. Controls received the standard of care.
Bonuck 2014	The Provider Approaches to Improved Rates of Infant Nutrition & Growth Study (PAIRINGS) had 2 arms: usual care versus pre- and postnatal visits with a lactation consultant (LC) and electronically prompted guidance from prenatal care providers (EP). The Best Infant Nutrition for Good Outcomes (BINGO) study had 4 arms: usual care, LC alone, EP alone, or LC+EP.
Brent 1995	This program consisted of individual prenatal lactation consultation, daily rounds by the lactation consultant on the postpartum unit, and outpatient follow-up at 48 hours after discharge, at the time that the infant was 1 week of age, and at all future health supervision visits for infants up to 1 year of age.
Carlsen 2013	The women were randomly assigned to 6 mo of breastfeeding support or standard care controls. At 6 mo, there were 207 dyads in the study; 105 dyads received support, and 102 dyads were control subjects. One International Board Certified Lactation Consultant carried out the intervention, which was based on structured interviews and consisted of encouraging telephone calls.
Duffy 1997	70 primiparae who intended to breast feed their baby were recruited from the antenatal clinic of the study hospital at 36 weeks' gestation. Intervention: antenatal group sessions on position and attachment of the baby on the breast were conducted by a lactation consultant.
Lavender 2005	Women who expressed a desire to breastfeed at the start of their pregnancy. Women were allocated to either routine antenatal education or an additional single educational group session supervised by a lactation specialist and attended by midwives from their locality.
Mattar 2007	A random sample of eligible low-risk antenatal patients was recruited from clinics in the National University Hospital, Singapore. Group A received breastfeeding educational material and individual coaching from a lactation counselor. Group B received breastfeeding educational material with no counseling. Group C received routine antenatal care only.
McKeever 2002	In a randomized controlled trial with prognostic stratification for gestational age, 101 term and 37 near-term (35–37 weeks' gestational age) mother-newborn pairs were randomized to either a standard care group (standard care and standard length of hospitalization) or an experimental group (standard hospital care with early discharge and home support from nurses who were certified lactation consultants).
Petrova 2009	This randomized clinical trial included 52 women in the intervention group who received one-to-one pre- and postnatal breastfeeding education and support from a lactation consultant. Women (n = 52) randomized to controls received standard breastfeeding services.
Pinelli 2001	The SSBC (supplementary structured breastfeeding counseling) consisted of viewing a video on breastfeeding for preterm infants; individual counseling by the research lactation consultant; weekly personal contact in the hospital; and frequent postdischarge contact through the infants' first year or until breastfeeding was discontinued. The CHBS (conventional hospital breastfeeding support) group had standard breastfeeding support from regular staff members confined to

	the period of hospitalization in the NICU.
Rasmussen 2011	In Bassett Improving Breastfeeding Study (BIBS) 1, 40 women received targeted breastfeeding support in the hospital and via telephone or usual care. Information regarding breastfeeding was collected via telephone for 7 days after delivery and at 30 and 90 days postpartum. In BIBS 2, 34 obese mothers received a manual or electric breast pump to use for 10-14 days or no pump; data collection was similar.
Serafino-Cross 1992	Fifty-two volunteers of lower socio-economic status were recruited for this study from four obstetrical clinics and were randomly assigned to an intervention or a comparison group. Both groups received the standard clinic and in-hospital breastfeeding teaching and were given breastfeeding instruction in the hospital by the researcher. The women in the intervention group received, in addition, an average of seven home breastfeeding support contacts by the researcher over two months postpartum, and were provided with the researcher's phone number. Women in the comparison group did not receive home visits but had access to the clinic nutritionist if any questions or problems arose.
Su 2007 Singapore	Women were 4andomized into three groups. Group 1 was the control group and women received routine antenatal, intrapartum, and postnatal obstetric care with no special intervention applied. At our hospital, this included optional antenatal classes, which did address infant feeding, and postnatal visits by a lactation consultant should any problems with breast feeding arise. Women 4andomized to group 2 received one session of antenatal breastfeeding education in which they were shown a 16 minute educational video entitled "14 Steps to Better Breastfeeding" (InJoy Videos, Boulder, CO), which introduced the benefits of breastfeeding, demonstrated correct positioning, latch on, and breast care, and discussed common concerns. They were also given printed guides on breast feeding13 14 and an opportunity to talk to a lactation counsellor for about 15 minutes. They subsequently received routine intrapartum and postnatal obstetric care. Women 4andomized to group 3 were placed in a two session postnatal lactation support programme. They were visited by a lactation consultant within the first three postnatal days before discharge from hospital. They also received the same printed guides on breast feeding13 14 during this visit. A second support session was provided during their first routine postnatal visit one to two weeks after delivery. During these two encounters, the women received hands-on instructions in latching on, proper positioning, and other techniques to avoid common complications. Each encounter lasted about 30 minutes.
Tahir 2013	Mothers were followed up for 6 months. The intervention group (n=179) received lactation counselling via telephone twice monthly by certified lactation counsellors in addition to receiving the current conventional care of postnatal breastfeeding support. The control group (n=178) received the current conventional care of postnatal breastfeeding support. Definitions of breastfeeding practices were according to World Health Organization (WHO) definitions.
Wambach 2011	An International Board of Lactation Consultants Examiners–certified lactation consultant (also a registered nurse) and a trained peer counselor (who had been a breastfeeding teen mother) provided the

		experimental intervention, composed of prenatal, in-hospital, and postnatal education and support, through 4 weeks postpartum. Two prenatal classes (1.5 and 2 hr in length) provided content from the Breastfeeding Educated and Supported Teen Club (BEST) curriculum that was tested and found effective in raising teenage breastfeeding initiation in a Florida high school teen parent program (Volpe & Bear, 2000). Classes, cotaught by the lactation consultant and peer counselor, focused on the benefits of breastfeeding for mother and baby, decision making, and the "how to" of breastfeeding as well as managing breastfeeding after return to work and/or school. Participants were encouraged to bring a support person of their choice to the classes to enhance social network support for breastfeeding decision making and breastfeeding initiation and continuation. Participants were required to attend at least one class, or they were dropped from the study. Peer counselor telephone calls occurred before and after Class 1 and following Class 2 to provide ongoing decision-making support and information. The in-hospital experimental intervention was a face-to-face visit from the peer counselor who provided encouragement and support for early breastfeeding efforts. Those teens choosing to breastfeed, or leaning toward doing so, also received a lactation consultant visit. Postpartum telephone contact with the lactation consultant and/or peer counselor occurred at 4, 7, 11, and 18 days and 4 weeks for those experimental participants who initiated breastfeeding, unless they ceased breastfeeding before 4 weeks. These calls provided ongoing support and advice to address barriers to continued breastfeeding (e.g., breastfeeding problems, milk supply concerns, preparation for return to school). Experimental group participants received a double-set-up electric breast pump at no charge on an as-needed basis (e.g., return to school or work). An advanced-practice nurse and trained peer counselor team provided the attention control intervention components. Attention control interventions paralleled the experimental group interventions in the amount of content and timing and included two prenatal education classes on healthy pregnancy behaviors and birth preparation. The attention control intervention did not focus on breastfeeding. As with the experimental group, attention control participants were required to attend at least one class or they were dropped from the study. They also received peer counselor prenatal telephone support and an in-hospital peer counselor visit. This visit focused on postpartum maternal physical recovery and maternal role adjustment. Postdischarge, only those who breastfed received postpartum telephone interventions by peer counselors to promote and support maternal transition and postpartum adaptation. Like the attention control prenatal intervention classes, these calls were intended to mimic the breastfeeding intervention, in order to control for attention and other nonspecific effects. Usual care participants received standard prenatal and postpartum care at their respective clinic with varying provider types and birth settings. No controls were placed on level or content of care, or on educational or social support services for usual care group participants.
Study Implementation	N/A	
Staff Qualifications	Lactation consultants typically are International Board Certified Lactation Consultants, Certified Lactation Counselors, or Lactation counselors.	
Key Findings	Breastfeeding Initiation • The study authors found a treatment effect for interventions that involved lactation consultants and counselors such that the odds ratio for "any initiation" versus "not initiating"	

of breastfeeding was 1.35 (95% confidence interval of 1.10 to 1.67).

Breastfeeding Duration

- The study authors reported that interventions that involved lactation consultants and counselors were aligned with beneficial effects, as measured by median and mean duration of breastfeeding.
- The studies involved in the meta-analysis measured duration in different ways. As reported by the study authors: "Five studies reported median duration for any breastfeeding. Two studies reported median duration for exclusive breastfeeding. Three studies reported mean duration for any breastfeeding and 1 study reported mean duration for exclusive breastfeeding."

Breastfeeding Rates

- The study authors reported that interventions that involved lactation consultants and counselors were aligned with beneficial effects on breastfeeding rates, wherein breastfeeding at up to 1 month, between 1 month and up to 3 months, and between 3 months and up to 6 months were assessed.
- As regards breastfeeding rates up to 1 month, the interventions were associated with an odds ratio of 1.49 (95% confidence interval of 1.09 to 2.04) for any breastfeeding versus not breastfeeding. The authors noted "substantial heterogeneity" on this measure and that the "true effect size could vary depending on the setting."
- As regards breastfeeding between 1 month and up to 3 months, the interventions were associated with an odds ratio of 1.76 (95% confidence interval of 1.20 to 2.57) for any breastfeeding versus not breastfeeding. The authors noted "substantial heterogeneity" on this measure.
- As regards breastfeeding between 3 months and up to 6 months, the interventions were associated with an odds ratio of 1.29 (95% confidence interval of 1.05 to 1.58) for any breastfeeding versus not breastfeeding.

Exclusive Breastfeeding Rates

- As regards exclusive breastfeeding up to 1 month, the interventions were associated with an odds ratio of 1.71 (95% confidence interval of 1.2 to 2.44) for exclusive breastfeeding versus not exclusive breastfeeding. The authors noted "substantial heterogeneity" on this measure.
- As regards exclusive breastfeeding between 1 month and up to 3 months, the interventions were associated with an odds ratio of 1.80 (95% confidence interval or 1.14 to 2.83), for exclusive breastfeeding versus not exclusive breastfeeding. The authors noted "substantial heterogeneity" on this measure.
- As regards breastfeeding between 3 months and up to 6 months, the interventions were associated with an odds ratio of 1.17 (95% confidence interval of .82 to 1.67), for exclusive breastfeeding versus not exclusive breastfeeding. The study authors did not find a statistical effect on the number of women engaging in breastfeeding.

Infant Health Outcomes

- As regards infant health outcomes, the study team reported that the interventions involving lactation consultants and counselors did not have a statistical association with reducing sick outpatient or emergency room visits for: otitis media, respiratory tract illness, nd gastrointestinal illness.

Maternal Health Outcomes

- As regards maternal health outcomes, the study team reported that interventions involving lactation consultants reported statistically significant improvements in LATCH scores, nipple pain, and nipple trauma, as compared to usual care. The authors also reported that the interventions were not associated with a decrease in the incidence of mastitis.

Review of Descriptive Studies

Citation	**Dumphy, D., Thompson, J., and Clark, M. (2016). A Breastfeeding Quality Improvement Project in Rural Primary Care. Journal of Human Lactation 2016, Vol. 32(4) 633–641**
Population and Sample	The study incorporated healthy, full-term, infants who ranged in age from newborn to 4 months old. Families completed at least two of four routine pediatric visits in a rural, northern Georgia,

	pediatric practice. The study's authors described the setting as a "high-risk, low socioeconomic setting." There were two phases of the study: pre-implementation and post-implementation. For pre-implementation, the study used a convenience sample that consisted of: the first 43 healthy newborns presenting for their initial newborn visit from November 2013 through the 4-month visit of the final enrolled infant, which occurred in June 2014. For post-implementation, the study used a convenience sample that consisted of: the first 45 healthy newborns presenting for their initial newborn visit from July 2014 through the 4-month visit of the final enrolled infant, which occurred in February 2015. The study excluded: (a) infants discharged from the neonatal intensive care unit; (b) premature infants; and (c) infants who did not complete at least two well-child visits. There were not statistically significant differences between pre- and post-implementation groups with regard to: maternal parity, delivery type, newborn birth weight, newborn gender, previous breastfeeding experience, insured status, and WIC participation. There also were no statistically significant differences in pre- and post-implementation groups with regard to previous breastfeeding experience. In both the pre- and post-implementation groups, more than 50% of the sample participated in WIC and more than 60% of the sample were publicly insured. On average, maternal age in the post-implementation group was higher (p=.02).
Methodology	Non-experimental
Purpose	The study was described as a quality-improvement project, designed to increase breastfeeding rates with a specific focus on increasing: breastfeeding initiation (as measured at the newborn visit) and continuation rates (as measured at the 1-month, 2-month, and 4-month well-child visits) of exclusive, partial (breastfeeding couplets also supplementing with formula), and any breastfeeding by at least 10%.
Measures & Assessments	• Electronic medical records (EMR) were used to capture data on routine newborn, 1-month, 2-month, and 4-month well-child visits. The study collected pre-implementation data from November 2013 to June 2014. The study collected post-implementation data from July 2014 to February 2015.
Study Implementation	• The project was informed by 19 clinical recommendations, which included: 1. Establish a written breastfeeding-friendly office policy. 2. Culturally and ethnically competent care. 3. Antenatal encouragement of breastfeeding. 4. Support in the postpartum inpatient setting. 5. In the newborn period, encourage exclusive breastfeeding. 6. First follow-up visit 48-72 hours from discharge; IBCLC available. 7. Parental education resources. 8. Encourage breastfeeding in the office. 9. Maintain a breastfeeding-friendly office 10. Have protocols in place for telephone triage and follow-up calls. 11. Commend breastfeeding with every visit. 12. Encourage exclusive breastfeeding. 13. A work-site lactation policy. 14. Community resources. 15. Advocate for health policy for breastfeeding support in primary care. 16. Provide workplace breastfeeding support. 17. Train all staff/providers; have a resource person on staff. 18. Precept medical students and residents. 19. Track breastfeeding rates. • Staff received training on implementation of breastfeeding-friendly office policy and worksite policy. • All staff and providers received lactation-specific education. • The in-office IBCLC provided general training and follow-up. • There were complimentary community breastfeeding classes that also were offered. • The practice purchased an upgrade to the EMR to facilitate tracking of breastfeeding rates, along with training to office staff and providers.

	• Other materials and resources included: community breastfeeding class flyers and supplies, community resources (recommendation #14), breastfeeding positional support pillows, breastfeeding-friendly office signs, and custom EMR breastfeeding report upgrades.
Staff Qualifications	• Project implementation was led by a staff person who was dually certified NP/IBCLC. • As reported by study authors: All staff and providers received lactation-specific education through the American Academy of Pediatrics (AAP) Education Physician in Their Communities (EPIC) breastfeeding program, conducted by a contracted pediatrician and IBCLC within the AAP local chapter.
Key Findings	Mothers with Previous Breastfeeding Experience • The study found that mothers with prior experience were associated with a higher percentage of infants with any or exclusive breastfeeding, when compared to mothers with no prior experience (81.8% versus 36.4%, respectively). Pre-Implementation Two-Month Visit • Mothers with prior breastfeeding experience were associated with a higher percentage of infants with any or exclusive breastfeeding, compared to mothers with no prior experience (60% versus 23.8%, respectively). Post-Implementation Two-Month Visit • All mothers with prior breastfeeding experience (n=19) were associated with any or exclusive breastfeeding, compared to 62.5% of mothers without prior experience (n=15, p<.05). This was measured at the newborn visit. • The study's authors did not find additional significant differences in breastfeeding rates, at other time points included in the study. Change in Breastfeeding Rates • The study authors reported that breastfeeding rates increased from pre-implementation to post-implementation for all four time points: newborn, 1-month, 2-months, and 4-months. • In the post-implementation group, exclusive breastfeeding rates increased at the 1-month, 2-month, and 4-month visits. • The study authors found a positive relationship between the breastfeeding friendly office-protocol and increased breastfeeding rates, over time. • Of the 45 post-implementation mothers, 16 were reported to continue breastfeeding at 4 months, compared to 10 in the pre-implementation group. Of the 16 post-implementation mothers, 13 were reported to be exclusively breastfeeding, compared to 5 mothers in the pre-implementation group. • Study authors also reported a decrease in partial breastfeeding rates.

End Notes

[i] Patel, S. and Patel, S. (2016). The effectiveness of lactation consultants and lactation counselors on breastfeeding outcomes. Journal of Human Lactation 2016, Vol. 32(3) 530–541.

[ii] Dumphy, D., Thompson, J., and Clark, M. (2016). A breastfeeding quality improvement project in rural primary care. Journal of Human Lactation 2016, Vol. 32(4) 633–641.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Child Care Health Consultant

Goals

The goal of the child care health consultation is to provide information, training, and technical assistance on health and safety aspects in child care facilities.

Program Features

A Child Care Health Consultant (CCHC) is a health professional who works in partnership with staff from a child care facility to promote healthy and safe environments for children in child care. The Child Care Health Consultant can provide a variety of services including, but not limited to, the following: observing and assessing health and safety practices, reviewing policies and procedures and health records, training child care providers in appropriate health and safety practices, providing consultation regarding communicable diseases and medication administration among other topics, as well as resource and referral information to parents or providers.

In North Carolina, a health professional becomes a qualified CCHC upon successful completion of the NC Child Care Health Consultant Training Course through the NC Child Care Health and Safety Resource Center. To be eligible for the course, the health professional should have a degree in nursing and licensure as a Registered Nurse (RN) or a minimum bachelor's degree in health education or a similar related health field. The 6-month training course includes web-based distance learning as well as two on-site training sessions and a final project.

For more information about this model, use this weblink: http://www.healthychildcarenc.org/index.php

Child Care Health Consultant Snapshot

- **EC Profile Indicator:** PLA 40 - Average Star Rating for Children in 1-5 star care, and Percent of Children in 4 and 5 star care
- **Clearinghouse Rating:** None
- **Research supports** use with early care and education directors, staff, and teachers
- **Related Smart Start outcomes:**
  - Increase in the provider practice of healthy behaviors
- **Purveyor or approach training required:** Yes
- **Staff qualifications:** Registered Nurse or Bachelor's degree in Health Education
- **Suggested Assessments:**
  - North Carolina Health and Safety Assessment
- **Implementation Guidance:** http://www.healthychildcarenc.org/?page=nccchc

Target Audience

Early care and education directors, staff, and teachers

Documented Outcomes

	Type of Study	Center Outcomes			Child Outcomes			
		Improved health and safety policies and standards	Improved health and safety practices*	Increase in developmental screening/assessment completed or data on screening appearing in center files**	Higher immunization rates	Increase in child medical homes and health insurance	Reduced upper respiratory illness symptoms	Reduced accidental injuries
Alkon et.al. (2009)[i]	Experimental with random assignment	✓	✓					
Child Care Health Linkages Project[ii] (2001-04)	Non-experimental with comparison groups	✓	✓		✓			
Hanna et. al. (2012)	Non-experimental			✓				
Isbell et.al. (2012)[iii]	Non-experimental, gains within treatment group	✓	✓	✓	✓	✓		
Ulione (1997)[iv]	Non-experimental, convenience sample; gains within treatment time-series design						✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in the provider practice of healthy behaviors*
Aligned with Smart Start outcome ***Increase in developmental screenings or assessments performed*

Research Evidence for Child Health Care Consultant

- Increase in the number and quality of written health and safety policies and standards in child care centers.
- Improved staff competencies and compliance related to health and safety standards
- Improved child health (e.g., increased immunizations, health coverage, decrease in upper respiratory illness and accidental injury rates).

Review of Experimental and Quasi-Experimental Studies

Citation	**Alkon, A., Bernzweig, J., To, K., Wolff, M., Mackie, J.F. (2009). Child Care Health Consultation improves health and safety policies and practices. Academic Pediatrics, 9(5), pp. 366-370.**
Population and Sample	The study included 111 child care centers in five California counties. Counties were selected from strata that included geography (urban, rural, mixed), population density, and poverty rate. There was random assignment to treatment and comparison groups. Seventy-three centers in the treatment group and 38 centers in the comparison group were included in analyses.
Methodology	Experimental with random assignment
Purpose	Child Care Health Consultant services, administered by county level agencies including the Department of Public Health, Child Care Resource and Referral, Education, and community-based organizations addressed topics such as written policies, infection control, hygiene, sanitation, working with children with special needs, and working with ill children. The study's goal was to assess center improvements in health and safety policies and practices, after receiving Child Care Health Consultant services.
Measures & Assessments	• California Childcare Health Program Health and Safety Policies Checklist • California Childcare Health Program Health and Safety Checklist
Study Implementation	• The programs were operated by a variety of agencies, including the Department of Public Health, Child Care Resource and Referral Agency, County Office of Education and a community-based organization. • Health consultants visited an average of 34 centers and averaged 20 contacts per center each year. • Some counties also worked with health advocates; in three counties these health advocates also were child care providers. • Topics included were written policies, infection control, sanitation and hygiene, children with special needs, and inclusion/ exclusion of ill children. • California Childcare Health Program Health and Safety Policies Checklist was completed at baseline and post-intervention by recording whether the program had written health and safety policies and the quality of each policy. • California Childcare Health Program Health and Safety Checklist was completed by observing health and safety practices in one classroom per center for 2 to 4 hours. • A trained research assistant completed observations at centers to collect objective data on health and safety policies and practices.
Staff Qualifications	• The article did not address staff qualifications. However, there is a note that one county could not hire a nurse and instead used a health advocate.
Key Findings	• Policies Checklist: o Treatment centers made significant improvements (over comparison centers) on the number and quality of written health and safety policies, met more national health and safety (NHS) standards, medication administration, care of mildly ill children, exclusion of ill children, cleaning and sanitizing, handwashing, daily health checks, inclusion of children with special needs, emergency preparedness, and staff health. • Health and Safety Checklist: o When consultation model (county or center-based), time in study, and director turnover were controlled for, treatment centers significantly improved health and safety practices for emergency preparedness and handwashing compared with comparison centers o Treatment and comparison centers improved indoor and outdoor facilities and overall Health and Safety Checklist means.

Citation	**Child Care Health Linkages Project. California Childcare Health Program UCSF School of Nursing September 2001–June 2004.**
Population and Sample	The study included 64 California Child Care Health Consultants, who primarily were nurses, in five California counties. This cohort of CCHC's provided services to more than 4,561 child care centers and 1,398 family child care homes. Study sites were assigned to treatment and comparison groups for the outcomes evaluation.
Methodology	Non-experimental with comparison groups
Purpose	The Child Care Health Linkages project provided several services to participating sites, including (a) a standard training curricula for health and early care and education professionals; (b) 20 Child Care Health Consultation programs (provided services such as health promotion and protection, staffing and health consultation, and activities for healthy development); (c) technical assistance to 20 county-wide CCHC programs; and (d) program evaluation. The study's goal was to assess the outcomes of the Linkages Project in three domains: training outcomes, formative outcomes, and summative outcomes.
Measures & Assessments	• Child Health Record Review • Advocate Daily Encounter Form • CCHP Health and Safety Checklist-Revised • CCHP Health and Safety Policies Checklist • The Child Care Evaluation Worksheet
Study Implementation	• Observations and record reviews were conducted to assess program adherence to key National Health and Safety Performance Standards (NHS standards) and to assess child health status using the CCHP Health and Safety Checklist and the Child Care Evaluation Worksheet • The CCHC program was facilitated by (a) linkages between community agencies and ECE programs, (b) community characteristics unique to each county (e.g., a wealth of resources in urban settings and personal relationships in rural settings), and (c) the lead agency of the consultation program must invest and commit to the consultation program. • Barriers to implementation included (a) a lack of health and safety resources and outreach in the community, (b) ECE providers may not be informed about consultation programs or be able or willing to participate, and (c) geographically expansive and isolated counties make provision of service difficult and access to consultation programs and health and safety resources difficult.
Staff Qualifications	• Health professionals, primarily nurses. • ECE professionals were also trained to become Child Care Health Advocates (CCHAs).
Key Findings	• There were statistically significant changes in CCHC knowledge, after trainings. • Treatment sites had more complete and up-to-date policies and met more NHS health and safety standards • There were significant improvements in mean Health and Safety Checklist scores for the treatment group in practices such as safe storage of staff and children's personal belongings and handwashing, among treatment group sites • There were statistically significant improvements in the percent of infants and toddlers with up-to-date immunizations, among treatment group sites

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Isbell, P., Kotch, J., Savage, E., Gunn, E., Lu, L., Weber, D. (2012). Improvement of child care program's policies, health practices, and children's access to health care linked to child care health consultation. NHSA Dialog, 16(2), pp. 34-52.**
Population and Sample	The study included data from a final sample of 77 North Carolina child care sites (34 centers, 41 homes, and 2 faith-based programs) representing 1,871 children.
Methodology	Non-experimental
Purpose	Child Care Health Consultation services, provided through the Quality Enhancement Project for Infants and Toddlers, operated through 15 Child Care Health and Consultation programs; services provided in 23 North Carolina counties. The study's goal was to determine if Child Care Health Consultation services were associated with (a) improvements in policies and practices and (b) child-level outcomes such as improved access to health care and a reduction in illness and injury.

Measures & Assessments	• Advocate Daily Encounter Form • Evaluation Summary • The Child Care Evaluation Worksheet
Study Implementation	• The Daily Encounter Form was used to track the activities and length of services (i.e., amount of time spent in consultation) provided by CCHCs. This allowed the study team to track the nature, type, and length of services provided across CCHCs, to determine the amount of consultation support provided.
Staff Qualifications	• The CCHC is defined as "a licensed health professional with education and experience in child and community health and early care and education, preferably with specialized training in child care health consultation."
Key Findings	• There was a positive and significant impact on centers' nine written health and safety policies scores • There was significant improvement on centers' four health and safety practice scores • The proportion of children enrolled at centers with screening information in their files increased, including significant increases in (a) developmental, (b) hearing, (c) oral, and (d) vision screenings. • The percentage of children with medical homes, health insurance, and immunizations increased significantly • There were non-significant changes in the percentage of children with well-child physicals and emergency contact information on file.

Citation	**Ulione, M. S. (1997). Health promotion and injury prevention in a child development center. Journal of Pediatric Nursing, 12(3), pp. 148-154.**
Population and Sample	The study incorporated a convenience sample of 29 children enrolled in a university child care center in a major metropolitan location
Methodology	Non-experimental
Purpose	The health program contained three components: (1) signs and symptoms of illness and infection control; (2) prevention of child and staff injuries; and (3) basic first aid for child care. Resources and referrals also were covered. The study's goal was to determine if a nurse-led, health-focused program, targeting child care centers, was associated with improved child health and decreased child injuries.
Measures & Assessments	• Child Health Assessment Inventory
Study Implementation	• The center participants received continuing education credit through the St. Louis Health Department for successful completion of the program. • Anecdotal notes were also taken on any changes that were made in policies, procedures, or the physical layout of the center as a direct result of the consultant's comments.
Staff Qualifications	• The nurse-directed health promotion program was designed specifically for this study by the author and by a pediatric community health nurse who specializes in child care health issues. • A registered nurse evaluated the health of study subjects • The authors suggest that this type of program is a way to integrate nursing care into child care. The authors suggest nurse practitioners, community health nurses, and nurse educators provide consultation to child care providers on health care issues and problems.
Key Findings	• There was a significant reduction in upper respiratory illness symptom rates • There was no difference in diarrhea rates • There was a significant decrease in the number of accidental injuries • Examples of specific changes include: o There were two changes made by the child care staff as a result of the program. The first was an environmental change made after the Health Promotion Program. Before the program wooden blocks were available in the free space area of the 3-year and 4-year-old rooms. After the program, the lead teachers formed semicircle areas with soft padded walls for block play in the 3- and 4-year-old rooms. The blocks had to stay in that enclosed area and were not allowed out in the free play area. o The second change was a policy change that occurred after the results of the intervention were discussed with the child development center director. A policy was implemented recommending that all new staff attend a communicable disease prevention class as part of their orientation to working at the center. The center staff felt the information they received in the health promotion class was very valuable to them in caring for young children.

Citation	**Hanna, H., Mathews, R., Southward, L. H., Cross, G. W., Kotch, J., Blanchard, T., Cosby, A. G. (2012). Use of paid child care health care consultants in early care and education settings: Results of a national study comparing provision of health screening services among Head Start and non-Head Start centers. Journal Pediatric Health Care, 26, pp. 427-435.**
Population and Sample	1,822 child care center directors selected for participation in the study though the use of a stratified random sample of U.S. Licensed child care samples.
Methodology	Non-experimental
Purpose	The study's goal was to determine a potential association between Child Care Health Consultant services and child care center director reports of health and safety practices (maintenance of health records, emergency procedures, and developmental screenings and assessments). The study did not deliver a treatment but followed-up on treatment provided through Child Care Health Consultants in different states and communities
Measures & Assessments	• Telephone survey
Study Implementation	• Child care center directors participated in a telephone-survey conducted between March 20 and April 6, 2006.
Staff Qualifications	The survey asked whether there was a paid health consultant (such as a physician, nurse, nurse practitioner, public health nurse, dentist, or mental health professional) working with the site. The authors noted that Head Start sites can seek volunteer services and other community resources in receiving child care health consultation.
Key Findings	• 73% of respondents reported that they did not employ a CCHC. • Directors (Head Start and non-Head Start) who reported working with a CCHC were more likely to report the use of health-promoting screenings and assessments.

End Notes

[i] Alkon, A., Bernzweig, J., To, K., Wolff, M., Mackie, J.F. (2009). Child Care Health Consultation improves health and safety policies and practices. Academic Pediatrics, 9(5), pp. 366-370.

[ii] Child Care Health Linkages Project. California Childcare Health Program UCSF School of Nursing September 2001-June 2004.

[iii] Isbell, P., Kotch, J., Savage, E., Gunn, E., Lu, L., Weber, D. (2012). Improvement of child care program's policies, health practices, and children's access to health care linked to child care health consultation. NHSA Dialog, 16(2), pp. 34-52.

[iv] Ulione, M. S. (1997). Health promotion and injury prevention in a child development center. Journal of Pediatric Nursing, 12(3), pp. 148-154.

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Published: July 2018

Color Me Healthy

Goals

The goals of Color Me Healthy are the following: 1) to introduce children at an early age to nutritious foods, 2) to help children explore opportunities for physical activity, and 3) to have young children share nutrition and activity messages with those living in their homes.

Program Features

Color Me Healthy is a program delivered in child care centers, home child care programs, and Head Start classrooms. This curriculum is used with 4- and 5-year-olds and is designed to show children that healthy food and physical activity are fun. This is accomplished through the use of activities designed to stimulate all of the child's senses (North Carolina Division of Public Health, 2012).

Color Me Healthy Snapshot

- **EC Profile Indicator:** H60 - Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse rating:** None
- **Research supports** use with children in child care 4 to 5 years of age and their families
- **Related Smart Start outcomes:**
  - Increase in child practice of healthy behaviors
- **Purveyor training required:** Yes
- **Staff qualifications:** Smart Start funded Technical Assistance staff must meet TA Practitioner Qualifications
- **Frequency:** Minimum weekly
- **Dosage:** 15-30 minutes per session
- **Implementation Guidance:** http://www.colormehealthy.com.

The Color Me Healthy curriculum includes a teacher's guide, picture cards, classroom posters, a compact disk, and cassette tape with seven songs, and reproducible parent newsletters. The teacher's guide contains 12 lessons designed to be used during "circle time" that last 15 to 30 minutes and can be taught daily or weekly. Also included in the kit are six "imaginary trips" that allow children to use their imagination to travel to different places or events. The newsletters are written on a fifth-grade reading level and are designed to provide families with information about healthy eating and physical activity. They also provide suggestions about how the family can be active together and ways to encourage more fruit and vegetable consumption.

Color Me Healthy uses a train-the-trainer approach to support child care provider directed implementation of the program. In the North Carolina counties that offer Color Me Healthy, staff training is provided by N.C. Cooperative Extension agents and a local community partner, usually the county health department.

For more information regarding Color Me Healthy use this link: http://www.colormehealthy.com.

Target Audience

Children in child care 4 to 5 years of age and their families.

Documented Outcomes

	Type of Study	Child Outcomes		
		Increased healthy eating habits*	Increased knowledge related to healthy eating*	Increased physical activity*
Witt & Dunn (2012)[i]	Experimental	✓	✓	
Dunn et al (2006)[ii]	Non-experimental	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in children's practice of healthy behaviors*

Research Evidence for Color Me Healthy

- This program is linked to increases in healthy practices of children including healthful eating and physical activity.

Review of Experimental and Quasi-Experimental Studies

Citation	**Witt, K. F., & Dunn, C. (2012). Increasing fruit and vegetable consumption among preschoolers: Evaluation of *Color Me Healthy*. Journal of Nutrition Education and Behavior, 44(2), pp. 107-113.**
Population and Sample	Seventeen preschool classrooms located in Boise, Idaho participated in the study. Child care centers were randomly assigned to one of two conditions: children (n=165) in 10 centers received the *Color Me Healthy* (CMH) curriculum and children (n=98) in 7 centers served as a comparison group and did not receive the curriculum. A total of 83 CMH and 70 comparison preschool children received fruit for snack at three time periods and 70 CMH and 52 comparison preschool children received vegetables for snack at three time periods.
Methodology	Experimental
Purpose	To determine whether *Color Me Healthy* increases fruit and vegetable consumption.
Measures & Assessments	• Teacher Surveys • Pre/post (before and after serving snack to children) weights of fruit and vegetable snacks at baseline, one week after the curriculum, and three-months after the curriculum.
Study Implementation	• The study conducted a process evaluation to ensure fidelity of program implementation. • Color Me Healthy was implemented for 6 weeks; 2 circle-time lessons and 1 imaginary trip were taught to the children each week. Lessons were 15-30 minutes in duration. • Color Me Healthy comes in a "toolkit" that includes a teacher's guide, 4 sets of picture cards, classroom posters, a music CD that contains 7 original songs, a hand stamp, and reproducible parent newsletters. • The process evaluation assessed delivery of lessons to the children, children's attendance at the lessons, and the completion of take-home activities.

Staff Qualifications	• The lead teachers were responsible for teaching the CMH curriculum. • The lead teachers from the 10 CMH classrooms attended a training session that was held prior to program implementation. The teachers learned about the curriculum and were instructed on how to teach each lesson and imaginary trip.
Key Findings	• Ninety percent of CMH teachers thought children were eating more fruits and vegetables and all CMH teachers thought children were recognizing more fruits and vegetables since initiating the program. • The study found that children who received CMH increased their consumption of fruit snack by 31.2% and vegetable snack by 24.2% between baseline and the immediate follow up (one week after the program) and increased their consumption of fruit snack by 20.8% and vegetable snack by 33.1% between baseline and the three-month follow up. • The study found a statistically significant difference in the percentage of fruit and vegetable snack consumed between CMH and comparison children at both the immediate (Fruit: CMH=89.9% and Comparison=58.3%; Vegetable: CMH=62.1% and Comparison=33.2%) and three-month follow up (Fruit: CMH=79.5% and Comparison=64.9%; Vegetable: CMH=71.0% and Comparison=34.0%). • Hierarchical linear modeling determined that group assignment (i.e., CMH or comparison) was the only significant predictor of fruit and vegetable consumption.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Dunn, C., Thomas, C., Ward, D., Pegram, L., Webber, K., & Cullitan, C. (2006). Design and implementation of a nutrition and physical activity curriculum for child care settings. Preventing Chronic Disease, 3(2), pp. 1-8.**
Population and Sample	An 8-week follow up survey was sent to 1,023 child care providers in North Carolina who participated in a Color Me Healthy Training. A total of 486 child care providers completed the survey.
Methodology	Non-experimental
Purpose	To evaluate the *Color Me Healthy* curriculum.
Measures & Assessments	Child care provider surveys
Study Implementation	• There was a "Train-the-Trainer" session to teach county representatives how to teach the program to local child care providers. Representatives came from North Carolina Cooperative Extension and the North Carolina Division of Public Health. • Child care providers were asked to rate the training and the materials, after attending a local training session. • More than 85% of providers responding to a follow-up survey reported using 6 out of the 7 program components. 67% of survey respondents reported using the parent newslettters. This may have been due to the cost of duplicating the newsletters for distribution.
Staff Qualifications	• The article did not provide details on specific qualifications for trainers. The program is designed to be implemented by child care providers.
Key Findings	Following 8 weeks of implementing the curriculum: • 92% of providers indicated that using the curriculum increased the physical activity of their students and increased the children's knowledge about movement. • 93% indicated that it increased children's knowledge about healthy eating. • 79% indicated that children were more willing to try new foods. • 82% reported that the curriculum improved children's fruit and vegetable recognition.

End Notes

[i] Witt, K. F., & Dunn, C. (2012). Increasing fruit and vegetable consumption among preschoolers: Evaluation of Color Me Healthy. Journal of Nutrition Education and Behavior, 44(2), pp. 107-113.

[ii] Dunn, C., Thomas, C., Ward, D., Pegram, L., Webber, K., & Cullitan, C. (2006). Design and implementation of a nutrition and physical activity curriculum for child care settings. Preventing Chronic Disease, 3(2), pp. 1-8.

Additional Resources

North Carolina Division of Public Health. Color Me Healthy. 2012. Retrieved from http://www. colormehealthy.com/.

San Bernardino County Department of Public Health. Healthy San Bernardino: Promising Practices database. 2006. Retrieved from http://www.healthysanbernadinocounty.org/modules.php?op=modload&name=PromisePractice&file=index.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Family Connects

Goals

According to Family Connects, the program's goals are to:

1. *Connect with every mother - along with the father and other family members - in their home after the birth of a newborn. The nurse home visits are designed to share in the joy of a new baby, assess unique family risks, and respond to immediate needs for support and guidance.*
2. *Offer supportive guidance to families in several factors, responding specifically to questions about newborn care.*
3. *Link families to community services based on their individual needs and preferences.*
4. *Help new parents connect with their infant, providing them with the confidence and support needed to sustain infant and parent health, child development and overall family well-being.*

(source: http://www.familyconnects.org/about/)

Family Connects Snapshot

- **EC Profile Indicator:** FS 30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse rating:** None
- **Research supports** use with all parents of newborns
- **Related Smart Start outcomes:**
  - Increase in parents use of services
- **Training required:** Yes
- **Staff qualifications:** Registered public health nurse
- **Dosage:** Between four and seven intervention contacts with or on behalf of family
- **Suggested Assessments:**
  - Family Support Matrix
- **Implementation Guidance:** http://www.familyconnects.org/about/

Program Features

The Family Connects model includes between four and seven intervention contacts with or on behalf of families with newborns[i]. The contacts include (1) the "initial family contact," which occurs shortly after the birth (and may be conducted in the hospital or by telephone), (2) the "integrated home visit," which is conducted by a registered public health nurse, (3) one-to-two follow-up visits, conducted by a nurse and as deemed necessary; (4) one-to-two contacts between the nurse and community service providers as needed; and (5) telephone follow-up with the family afer the conclusion of all home visits.

Home visits are conducted by nurses who provide families with "developmentally-informed gift bags," which contain items that parents of newborns need (e.g., diapers). The nurse home visitors use motivational interviewing techniques to work with parents of newborns,

delivering the interventions and assessments considered necessary for that family. The program uses the 12-factor Family Support Matrix as a general guide to well-being.

While the approach is standardized, the program also is designed to respond to each family's unique needs. The greater the needs, the more home visits the family receives.

Target Audience

All parents of newborns

Documented Outcomes

	Type of Study	Parent Outcomes		Child Outcomes				
		Community Connections*	Father Involvement	Infant Emergency Medical Care	12-Month Total Emergency Care	12-Month Hospital Overnights	12-Month Emergency Department Visits	6- to 12-Month Emergency Medical Care
Dodge et.al. (2013)[ii]	Experimental			✓	✓	✓	✓	✓
Goodman et.al. (2016)[iii]	Non-experimental with comparison groups	✓	✓	✓				

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Parents increase use of services referred to in the community*

Research Evidence for Family Connects

- The program is associated with positive parent and child outcomes such as use of community connections, father involvement, infant emergency medical care, and child-level emergency health care outcomes throughout the first year of life.

Review of Experimental and Quasi-Experimental Studies

Citation	**Dodge, K. A., Goodman, W. B., Murphy, R. A., O'Donnell, K., & Sato, J. (2013). Randomized controlled trial of universal postnatal nurse home visiting: Impact on emergency care. Pediatrics, 132(2), pp. S140-S146.**
Population and Sample	The study included 4,777 live births in Durham North Carolina, randomly assigned to treatment and control groups. Families in the treatment group were offered between 3 and 7 contacts in the 3 to 12 weeks after birth. A sub-sample of 549 families was used to analyze program impact.
Methodology	Experimental; randomized controlled trial
Purpose	The study assessed the effectiveness of the Durham Connects (DC) program in reducing the use of emergency medical care for children aged birth through one. Durham Connects provides brief, universal, home visitation services by a nurse to mothers after they give birth. The nurses used the home visit as an opportunity to screen children for risks, provide brief interventions, as needed, and refer families to community resources, as needed, including more intensive services. The study had two goals: Evaluate impact of random assignment to DC on preventing emergency medical care (emergency department [ED] visits and hospital overnights) at infant age 12 months, well after the nurse home visitor had ended contact with the family. Evaluate whether the impact of the DC program held across diverse types of families.
Measures & Assessments	Infant Emergency Medical Care/ Hospital Records
Study Implementation	A nurse conducts home visits with the newborn's parents, during which the nurse provides "educational interventions," and assess health and psychosocial risk. Altogether, families receive between four and seven contacts, including the one-to-three home visits provided in the home, one-to-two contacts between a nurse and community service agencies, and a follow-up contact that occurs one month after a referral. Risk assessments are conducted in four domains: parenting/childcare (childcare plans, parent–infant relationship, and management of infant crying), family violence/ safety (material supports, family violence, past maltreatment), parent mental health/wellbeing (depression/anxiety, substance abuse, emotional support), and health care (parent health, infant health, and health care plan). The study team used a random subsample of 549 families in an intent-to-treat analysis of program impact.
Staff Qualifications	Registered public health nurses
Key Findings	Infant Emergency Medical Care The study team found that, between the time of birth and age 12 months, the treatment group families had 50% less infant emergency medical care, compared to control group families (effect size = .28 , $p < .001$). Between 6 and 12 months of age, treatment families had 31% less infant emergency care than control group families (effect size = .14, $p < .03$). The study team found that treatment families had 85% fewer hospital overnights, compared to control group families (effect size = .27, $p < .001$). Treatment families also had 18% fewer Emergency Department visits, compared to control group families (not statistically significantly different). The study team found that the program was impactful for every subgroup. 12-Month Total Emergency Care The study team found a significant interaction effect ($p<.001$) for infants with 1 or more birth risks (effect size = .51, $p<.001$). However, the team also found the program had a significant impact on infants with no birth risks (effect size = .19, $p<.001$). The study team found a significant interaction effect ($p<.001$) such that there were larger effects for families

	that either had Medicaid or no insurance (effect size = .27, p<.001). However, the team also found the program had a significant impact on families with private insurance (effect size = .22, p<.001). The study team found a significant interaction effect (p<.001) associated with minority status. Families considered non-minorities had larger effect sizes (effect size = .36, p<.001) than families considered minorities (effect size = .23, p<.001). The study team found a significant interaction effect associated with gender, such that there was a larger effect on boys (effect size = .34, p<.001) than on girls, for whom there still was a significant impact (effect size = .23, p<.001). 12-Month Hospital Overnights The study team found a significant impact for all subgroups. However, there were larger impacts for: Single-parent families (effect size = .34, p<.001), compared to two parent families (effect size = .22, p<.001). Boys (effect size = .37, p<.001), compared to girls (effect size = .14, p<.001). 12-Month Emergency Department Visits The study team found a significant impact for non-minority families (effect size = .18, p<.02). The study team did not find a significant impact for minority families. 6- to 12-Month Emergency Medical Care The study team found a significant impact for families that had private health insurance (effect size = .18, p<.001). The study team did not find a significant impact for families that used Medicaid or had no insurance. The study team found a significant impact for non-minority families (effect size = .24, p<.001). The study team did not find a significant impact for minority families. The study team found a significant impact for two-parent families (effect size = .17, p<.002). The study team did not find a significant impact for single-parent families.

Citation	**Goodman, W.B., Christopoulos, C., and Quinn, J. (2016). Evaluation of the Family Connects Northeast Program in the North Carolina Race to the Top Early Learning Transformation Zone: Final Report. Prepared for the Center for Child & Family Health and the North Carolina Department of Health and Human Services.**
Population and Sample	The study included 1427 mothers (and 1453 infants) who gave birth in four North Carolina counties between February 1, 2014 and December 31, 2015. The study also included 1242 mothers (and 1264 infants) who were eligible to participate in an evaluation survey and 517 mothers (528 infants) who completed an evaluation survey.
Methodology	Natural comparison design, or the examination of outcomes for infants born before the program's implementation with outcomes for infants born during the program's implementation
Purpose	The study assessed program impact in four North Carolina counties. The study's goals were to: Examine Family Connects implementation (including program uptake, fidelity of nurse home visits, reliability in assessing family risk, and successful nurse referrals to community resources). Examine associations between program eligibility and (1) family connections to community supports and services; (2) parenting and child care; (3) mother and infant health and well-being; and (5) mother and infant utilization of emergency medical care.
Measures & Assessments	The study incorporated survey questionnaires that assessed: Community Service Utilization. Mother parenting beliefs and behaviors, including the Infant Intentionality Questionnaire. Father involvement. Child care. Mother social support, which included a modified, 12-item version of the Social Provision Scale. Mother mental health, which included the 10-item Edinburgh Postnatal Depression Scale and the Generalized Anxiety Disorder-7 questionnaire. Mother and infant health. Mother and infant emergency medical care.
Study Implementation	The study team assessed program implementation over a 17-month period (September 1, 2014 – December 31, 2015) The study team also assessed short-term program impact for infants between 4-8 eight months old.

	To address possible bias, "all intervention group families participating in the impact evaluation were recruited without regard for Family Connects (*FC)* participation status." Further, the study team used a "blinded" design such that "families were not aware that the primary goal of the survey was to examine *FC* impact on child and family wellbeing, and interviewers did not know which families actually completed the *FC* program." Fidelity of implementation was assessed in multiple ways, including: Scheduling and home visiting completion rates; Fidelity in adhering to the FC manualized protocol; Reliability in assessing family risk on the 12-factor Family Support Matrix; and Successful family connections from nurse referrals to community resources and supports. The impact evaluation included treatment (September 1, 2014 – December 31, 2015 births) and comparison group (February 1, 2014 – July 31, 2014 births) families from four North Carolina counties.
Staff Qualifications	Home visits were provided by registered public health nurses.
Key Findings	Community Connections The study team found that treatment families accessed significantly more total community resources since birth, compared to comparison group families (effect size = .07, p<.01). While treatment families reported more frequent use of community resources, the differences between treatment and comparison group families were not statistically significant. The study team did not find statistically significant differences between treatment and comparison group families in the number of community resources currently being utilized, or the relative helpfulness of the resources. Mother Parenting Beliefs and Behaviors The study team did not find statistically significant differences between treatment and comparison group families for mother-reported, positive parenting behaviors or for negative parenting behaviors. The study team did not find statistically significant differences between treatment and comparison group families for mother negative intentionality beliefs about infant behaviors. Father Involvement The study team found significant differences between treatment and comparison group families on measures of mother-reported father involvement that included: Father-infant relationship quality (effect size = .27, p<.05) Father help with family work (effect size = .33, p<.05) The study team did not find statistically significant differences between treatment and comparison group families for father financial support for the infant. Child Care The study team did not find statistically significant differences between treatment and comparison group families for utilization of non-parental child care. For those mothers who reported using regulated child care, the study team did not find statistically significant differences between treatment and comparison group families on the quality of child care, for those mothers who reported using regulated child care. Both groups used high-quality child care. Mother Mental Health and Social Support The study team did not find statistically significant differences between treatment and comparison group families for overall rates of social, although the rates were higher in treatment mothers (p<.05). The study team found that treatment mothers were 18% less likely than comparison mothers to report possible clinical depression; this difference, however, was not statistically significant. The study team did not find statistically significant differences between treatment and comparison group families for mother-reported possible clinical anxiety. Mother Health and Health Care The study team did not find statistically significant differences between treatment and comparison group families for mothers' 6-week postpartum check-up completion rates. The 6-week postpartum check-up completion rates were above 90% for each group. The study team found that treatment group mothers were 16% less likely to report that they, or their partner, were currently using contraception/birth control (p<.01).

Infant Health and Health Care

The study team did not find statistically significant differences between treatment and comparison group families for the rates with which infants slept on their backs and the rates with which infant immunizations were up-to-date.

Treatment group infants were 40% less likely to be exposed to household smoking and 40% more likely to be breastfeeding at the time of the interview. However, differences between the groups were not statistically significant.

For those infants younger than age 6 months, the study team did not find statistically significant differences between treatment and comparison group families for infant sleep position and breastfeeding, although infants in treatment families were 15% more likely to sleep on their back and 38% more likely to be currently breastfeeding.

Mother and Infant Emergency Medical Care

The study team found significant differences between treatment and comparison group families on mother self-report of emergency medical care since infant birth, with treatment mothers reporting 37% more urgent care or emergency room visits than comparison mothers ($p<.05$).

The study team found that treatment mothers reported 77% fewer hospital overnight stays since discharge from the initial birthing hospital stay, relative to comparison mothers ($p<.01$).

The study team did not find statistically significant differences between treatment and comparison group families for mothers' total emergency medical care utilization.

The study team found significant differences between treatment and comparison group families on mother's report of infant emergency medical care. More specifically, treatment mothers reported that their infants utilized 25% less total emergency medical care since initial hospital discharge than the comparison group (effect size = .18, $p<.01$) and 24% fewer urgent care or emergency room visits than the comparison group (effect size = .18, $p<.01$).

The study team did not find statistically significant differences between treatment and comparison group families for hospital overnight stays, although treatment mothers reported 31% fewer hospital overnight stays.

End Notes

[i] Goodman, W.B., Christopoulos, C., and Quinn, J. (2016). Evaluation of the Family Connects Northeast Program in the North Carolina Race to the Top Early Learning Transformation Zone: Final Report. Prepared for the Center for Child & Family Health and the North Carolina Department of Health and Human Services.

[ii] Dodge, K. A., Goodman, W. B., Murphy, R. A., O'Donnell, K., & Sato, J. (2013). Randomized controlled trial of universal postnatal nurse home visiting: Impact on emergency care. Pediatrics, 132(2), pp. S140-S146.

[iii] Goodman, W.B., Christopoulos, C., and Quinn, J. (2016). Evaluation of the Family Connects Northeast Program in the North Carolina Race to the Top Early Learning Transformation Zone: Final Report. Prepared for the Center for Child & Family Health and the North Carolina Department of Health and Human Services.

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Published: July 2018

Nutrition and Physical Activity Self-Assessment for Child Care
Go NAP SACC

Goals

The goals of Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) are the following: 1) to improve the nutritional quality of food served, 2) to improve the amount and quality of physical activities, 3) to improve child care center nutrition and physical activity policy, and 4) to encourage staff-child interactions.

Go NAP SACC Snapshot

- **EC Profile Indicator:** H60 - Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports** use with early care professionals and preschool children 2 to 5 years of age
- **Related Smart Start outcomes:**
  - Increase in the provider practice of healthy behaviors
  - Increase in child practice of healthy behaviors
- **Purveyor training required:** Yes
- **Staff qualifications:** Smart Start funded Technical Assistance staff must meet TA Practitioner Qualifications
- **Minimal service threshold:** Completion of at least 1 cycle of the 5 steps of NAP SACC
- **Suggested Assessments:** Go NAP SACC assessment
- **Implementation Guidance:** http://www.napsacc.org/.

Program Features

NAP SACC interventions include the following components:

- Self-Assessment: The child care director and key staff complete the NAP SACC self-assessment tool, assessing the center on areas of nutrition and physical activity. The self-assessment is completed every six months.
- Action Planning: Based on self-assessment answers, with guidance and support from the NAP SACC consultant, centers choose three to four areas for improvement and create an Action Plan for making the improvements.
- Workshops: The NAP SACC consultant delivers four workshops to the child care center staff covering the topics: 1) childhood overweight, 2) nutrition for children, 3) physical activity for children, and 4) personal health and wellness for the staff.
- Targeted technical assistance: NAP SACC consultants maintain regular contact with the centers to provide support and guidance in making the improvements.

Evaluate, Revise, and Repeat: The NAP SACC self-assessment instrument is completed a second time to see where improvements have or have not been made. At this time the Action Plan is revised to include new goals and objectives and technical assistance continues.

Go NAP SACC is an updated version featuring new tools on an interactive website that builds on the foundation set by NAP SACC. Updates inlcude resources for children birth – 5 years, a new focus on breastfeeding and infant feeding, screen times, and outdoor play. This updated version can be tailored for different child care settings including family child care homes.

For more information regarding Nutrition and Physical Activity Self Assessment for Child Care use this link: http://www.napsacc.org/.

Target Audience

Early care professionals and preschool children ages birth to 5 years of age

Documented Outcomes

	Type of Study	Outcomes		
		Improved provider policies or practices related to nutrition or physical activity*	Increase in children's physical activity**	Increase in parent knowledge about nutrition or physical activity***
Alkon et.al. (2014)[i]	Experimental	✓	✓	✓
Battista etl.al. (2014)[ii]	Descriptive	✓		
Benjamin et.al. (2007)[iii]	Quasi-experimental	✓		
Benjamin Neelon et. al. (2014)[iv]	Experimental	✓		
Ward et.al. (2007)[v]	Experimental	✓		

*Aligned with Smart Start outcome *Increase in the provider practice of healthy behaviors*
**Aligned with Smart Start outcome *Increase in children's practice of healthy behaviors*
***Aligned with Smart Start outcome *Increase in parent knowledge*

Research Evidence for Nutrition and Physical Activity Self-Assessment for Child Care

- The program is most often linked to improved provider policies or practices related to nutrition and physical activity.

Review of Experimental and Quasi-Experimental Studies

Citation	**Benjamin, S. E., Ammerman, A., Sommers, J., Dodds, J., Neelon, B., & Ward, D. S. (2007). Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC): Results from a pilot intervention. Journal of Nutrition Education and Behavior, 39(3), pp. 142-149.**
Population and Sample	19 child care centers (15 intervention, 4 comparison) located in 8 counties in North Carolina
Methodology	Experimental
Purpose	To determine the feasibility, acceptability, and reported impact of Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC), a nutrition and physical activity environmental intervention in child care.
Measures & Assessments	• Self-assessment instrument developed for the study
Study Implementation	• The NAP SACC consultant worked with the centers to develop an action plan to improve at least 3 areas from the pre self-assessment instrument. Those selected were not necessarily those with the lowest scores but those that would result in the most fitting and lasting environmental changes at the centers. • The trained NAP SACC consultant delivered three 30-minute workshops to center directors and interested providers in the centers on childhood overweight, healthful eating, and physical activity. Attendees were awarded continuing education credits. • Ongoing TA (visits and calls) was provided by the NAP SACC consultant to center directors to support center policy and practice changes. • Post self-assessments were completed at the end of the 6-month intervention period.
Staff Qualifications	• Child Care Health Consultants
Key Findings	• Intervention centers rated themselves higher on the NAP SACC at follow-up than at baseline, and relative to comparison centers, reported a variety of environmental nutrition and physical activity improvements confirmed by research staff.

Citation	**Ward, D. S., Benjamin, S. E., Zimmerman, A. S., Ball, S. C., Neelon, B. H., & Bangdiwala, S. I. (2007). Nutrition and physical activity in child care: Results from an environmental intervention. American Journal of Preventive Medicine, 35(4), pp. 352-356.**
Population and Sample	• 29 child care health consultants randomly assigned to intervention (n=20) or delayed-intervention control groups (n=9) • 82 child care centers (56 intervention, 26 control) recruited as a convenience sample from consultants' caseloads
Methodology	Experimental; Randomized control trial
Purpose	To evaluate the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) intervention program.
Measures & Assessments	• Environment and Policy Assessment and Observation (EPAO) – administered pre and post training
Study Implementation	• The intervention included 5 steps: o Trained observers administered the EPAO before the intervention; o The NAP SACC consultant worked with the centers to develop an action plan with the goal of affecting about 20% of the nutrition and physical activity components contained in the assessment. o Center staff attended continuing education workshops; o TA was provided by the consultants; and o Trained observers completed the re-assessment following the intervention of about 6 months. • Field observers were blinded to center group assignment (intervention, control). • Implementation fidelity was considered as a possible moderating factor but fidelity was not measured in a systematic way.
Staff Qualifications	• Child Care directors implemented the activities; Child Care Health Consultants provided training and technical assistance to child care directors
Key Findings	• Of the 56 centers included in the intervention group, 41 completed most or all of the intervention and were included in the analysis. • The intervention centers showed an 11% improvement (not significant) from baseline to follow-up on the EPAO, while no change was observed in the control centers. • There was a significant pre/post difference on the EPAO between intervention groups that implemented the program and control groups for the nutrition items. • For the EPAO physical activity score, there was a positive change for the intervention group and a negative change for the control group. The difference between groups was not significant.

Citation	**Alkon, A., Crowley, A. A., Benjamin Neelon, S. E., Hill, S., Pan, Y., Nguyen, V., Rose, R., Savage, E., Forestieri, N., Shipman, L., & Kotch, J. B. (2014). Nutrition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. BMC Public Health, 14(215), pp. 1-13.**
Population and Sample	552 3-to-5-year olds (260 intervention, 292 control) 137 child care providers (76 intervention, 61 control)
Methodology	Experimental; Randomized control trial
Purpose	The purpose of this study was to evaluate the impact of the NAP SACC intervention conducted by trained nurse child care health consultants (CCHC) in licensed child care centers in three states. CCHCs are child health professionals with specialized training in child care health and safety issues. They conduct health and safety assessments, provide educational workshops in child care, consult with the directors on health and safety issues, and provide resources to help the center improve the quality of their health and safety policies and practices.
Measures & Assessments	• Diet Observation in Child Care (DOCC) • Environmental Physical Activity Observation (EPAO) • California Childcare Health Program (CCHP) Health and Safety Policies Checklist • Observation System for Recording Activity in Preschools (OSRAP) • Provider and Parent Questionnaires • Child height and weight measurements
Study Implementation	• Centers in the intervention group received $500 for their participation and were asked to purchase equipment or supplies to support physical activity. Control centers received NAP SACC intervention in year two. • CCHCs facilitated five one-hour workshops for child care providers and other staff (e.g., cooks, administrators) at the intervention centers on childhood obesity, healthy eating for young children,

	physical activity for young children, personal health and wellness and working with families to promote healthy behaviors. • Seven intervention centers also received the "Raising Healthy Kids: parent workshop at their center locations. • CCHCs worked with center directors to write or update their nutrition and physical activity policies. They also provided at least monthly on-site consultations and additional phone or email consultations, and distributed posters and information sheets on nutrition and physical activities. Posters were displayed at the centers and information sheets were given to providers and parents. • Data collection occurred at baseline and seven months post-intervention at all centers. • Research assistants in each state, who were blinded to group assignment, completed observations of physical activity and nutrition and assessments of centers' written policies and child-level height and weight measurements. • One additional research assistant, also blinded to group assignment, was trained to complete the NAP SACC measures of nutritional intake and physical activity based on observations of individual children in all three states. A 90% inter-rater reliability with the co-investigator was achieved prior to baseline data collection. • Center directors, child care providers, and parents completed demographic questions including information on ethnicity, education, and employment. • CCHCs completed a daily encounter form to report on consultation activities. • Child care director, provider, other staff, and parent knowledge were measured before and immediately after each workshop using four multiple choice questions per workshop.
Staff Qualifications	• Trained nurse child health professionals and child care providers
Key Findings	• Results showed significant increases in providers' and parents' knowledge of nutrition and physical activity, center-level improvements in policies, and decrease in child-level mean BMI for the treatment sites and participants with complete data relative to the control sites.

Citation	**Benjamin Neelon, S. E., Taveras, E. M., Ostbye, T., & Gillman, M. W. (2014). Preventing obesity in infants and toddlers in child care: Results from a pilot randomized controlled trial. Maternal Child Health Journal, 18, 1246-1257.**
Population and Sample	Convenience sample of 32 child care centers randomly assigned to intervention (n=16) and control (n=16) groups
Methodology	Experimental; Randomized control trial
Purpose	This study evaluated a pilot intervention, Baby Nutrition and Physical Activity Self-Assessment for Child Care (Baby NAP SACC), to improve the nutrition and physical activity environments of child care centers serving infants and toddlers.
Measures & Assessments	• Environment and Policy Assessment and Observation (EPAO) • Child Care Director Survey
Study Implementation	• A self-assessment, completed by directors at all intervention centers at the onset of the study, was developed for the study as an intervention instrument to highlight the best practice response and spark change in intervention centers at the onset of the study. • Based on the self-assessment intervention consisted of five steps: 1) self-assessment; 2) action planning; 3) technical assistance; 4) training; and 5) re-assessment. • Trained interventionists worked with directors to choose four targets areas (two nutrition and two physical activity) for improvement based on the self-assessments and to create an action plan to make these changes. • Centers received ongoing technical assistance provided at least monthly by the interventionist during the 6-month intervention period. TA included training, research, and intervention materials focused on the behavioral targets. • During months two through four of the intervention, interventionist delivered two workshops to center staff focused on infant and toddler feeding and physical activity. • Center directors completed a follow-up self-assessment at the end of the intervention period. • The Registered Dietitian, who provided regular feedback and support to the interventionists, supervised all intervention activities.
Staff Qualifications	• Child care directors • Of the two interventionists, one had an MPH degree in health education and one had a BS degree in Nutrition and was also a certified athletic trainer. They received four weeks of training on nutrition and physical activity for infants and toddlers.
Key Findings	• Intervention centers improved their obesity-related policies and practices, mostly driven by changes in physical activity.

	• At follow-up, EPAO score had increased by a mean of 12.8 points in the intervention group and decreased by 4.2 points in the control group. • For the physical activity domain, sedentary time, physical activity environment, and physical activity staff behaviors were the primary domains contributing to improved EPAO sub-score. • Based on follow-up questions of the 12 intervention directors, 92% reported being "satisfied" or "very satisfied" with the Baby NAP SACC intervention and 83% reported they would recommend the intervention to other center directors.

Review of Meta-Analyses

None

Review of Descriptive Studies and Non-Experimental Studies

Citation	**Battista, R., Oakley, H., Weddell, M. S., Mudd, L. M., Greene, J. B., & West, S. T. (2014). Improving the physical activity and nutrition environment through self-assessment (NAP SACC) in rural area child care centers in North Carolina. Preventative Medicine, 67, pp. S10-S16.**
Population and Sample	29 child care centers with mini-grants to improve nutrition and/or physical activity at their center. School district-affiliated centers included only elementary school pre-kindergarten (Pre-K) programs for those aged 3–5 years. Unaffiliated centers included infants through children aged five years and were classified as private child care centers such as family, non-profit centers, and/or Head Start Program with sliding fee scales and are subsidized through the federal Child and Adult Care Food Program (CACFP).
Methodology	Pre/post within group
Purpose	To determine if child care centers in rural, Western North Carolina met recommendations for nutrition and physical activity, if focusing on nutrition and physical activity practices and policies was effective in improving the center environment, and if differences existed between centers affiliated or unaffiliated with schools.
Measures & Assessments	• Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC)
Study Implementation	• Local health departments recruited child care centers to participate in the study by soliciting mini-grants or requests for proposals ranging from $1,000 to $8,000 to be used for improving nutrition and/or physical activity at their centers. Funding was provided by the Centers for Disease Control Communities Putting Prevent to Work. • Center directors completed the initial self-assessment. • Following the pre-self-assessment, child care centers were awarded their grant money but were not allowed to purchase equipment until workshops were completed with 100% attendance. • CCHCs worked with center directors to choose three specific focus areas (one in nutrition, one in physical activity, one of their choice focused on either nutrition or physical activity) for improvement and to develop action plans. • CCHCs presented a series of three 2-hour workshops covering five topic areas within the first two weeks of the intervention. Workshops were designed to improve child care staff's knowledge of nutrition and physical activity and to present strategies to change current practices and policies. Staff was provided with continuing education units for participating in the workshops. • Post assessment was completed approximately six months after the initial assessment.
Staff Qualifications	• Child care center directors and trained NAP SACC consultants
Key Findings	• At baseline, over 95% of the centers met all recommendations. However, post-intervention, results indicated significant improvement across center types in five out of 37 nutrition and seven out of 17 physical activity standards following the intervention. • Centers unaffiliated with schools made significant changes in ten nutrition standards, while those affiliated with schools improved in only two standards and decreased on one standard. • Overall, rural child care centers in Western North Carolina that were meeting standards were still able to strengthen policies and practices by following NAP SACC. This was especially true for centers unaffiliated with schools. • Continued financial support may assist centers in sustaining increased physical activity in children.

End Notes

[i] Alkon, A., Crowley, A. A., Benjamin Neelon, S. E., Hill, S., Pan, Y., Nguyen, V., Rose, R., Savage, E., Forestieri, N., Shipman, L., & Kotch, J. B. (2014). Nutrition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. BMC Public Health, 14(215), pp. 1-13.

[ii] Battista, R., Oakley, H., Weddell, M. S., Mudd, L. M., Greene, J. B., & West, S. T. (2014). Improving the physical activity and nutrition environment through self-assessment (NAP SACC) in rural area child care centers in North Carolina. Preventative Medicine, 67, pp. S10-S16.

[iii] Benjamin, S. E., Ammerman, A., Sommers, J., Dodds, J., Neelon, B., & Ward, D. S. (2007). Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC): Results from a pilot intervention. Journal of Nutrition Education and Behavior, 39(3), pp. 142-149.

[iv] Benjamin-Neelon, S. E., Taveras, E. M., Ostbye, T., & Gillman, M. W. (2014). Preventing obesity in infants and toddlers in child care: Results from a pilot randomized controlled trial. Maternal Child Health Journal, 18, 1246-1257.

[v] Ward, D. S., Benjamin, S. E., Zimmerman, A. S., Ball, S. C., Neelon, B. H., & Bangdiwala, S. I. (2007). Nutrition and physical activity in child care: Results from an environmental intervention. American Journal of Preventive Medicine, 35(4), pp. 352-356.

Additional Resources

University of North Carolina Center for Health Promotion and Disease Prevention. (n. d.). Nutrition and Physical Activity Self Assessment for Child Care (NAP SACC). Retrieved from http://www. napsacc.org/.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Healthy Families America

Goals

The goals of Healthy Families America (HFA) are to: (1) to build and sustain community partnerships to systematically engage overburdened families in home-visiting services prenatally or at birth, (2) cultivate and strengthen nurturing parent-child relationships, (3) promote healthy childhood growth and development, and (4) enhance family functioning by reducing risk and building protective factors.[1]

Program Features

In order for children to grow, develop, and reach their individual potential, they need a stable, secure, responsive, and supportive home environment. When families are faced with multiple challenges, such as previous experiences of abuse or neglect, current substance abuse and mental health issues, or violent surroundings, they often are not able to provide an environment that is supportive of positive outcomes for children. Programs that provide families who are at risk with long-term guidance about positive parenting, child health, and child development are likely to help prevent child abuse, neglect, and other poor childhood outcomes.

Healthy Families America is a home-visiting program developed to work with families who may have histories of trauma, intimate partner violence, mental health issues, and/or substance abuse issues. HFA has defined three critical elements of the program. The first critical element involves entrance into the program including the following:

- initiation of services prenatally or at the birth of the baby,
- use of a standardized assessment tool to systematically identify families who are most in need of services, and
- offer voluntary services that use positive outreach efforts to build family trust.

The second critical element focuses on service content and includes the following components:

- services are provided over the long term (three to five years) using well-defined criteria for increasing or decreasing frequency of services,

Healthy Families America Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:**
  - Promising Practices Network rated Healthy Families New York as Proven
  - Home Visiting Evidence of Effectiveness Review – Meets DHHS Criteria
  - California Evidence-Based Clearinghouse rated HFA as Well Supported by Research Evidence for child well-being but Evidence Fails to Demonstrate Effect for prevention of child abuse and neglect
- **Research supports** use with parents with children ages birth through five; children at risk for abuse, maltreatment, or neglect
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
- **Purveyor training required:** Yes
- **Frequency:** Weekly during first six months then monthly
- **Minimal service threshold:** The HFA minimum engagement criteria is defined as participation in 75% or more of scheduled home visits over the first 6 months of intervention.
- **Suggested Assessments:**
  - Adult-Adolescent Parenting Inventory-2 (AAPI-2)
  - Parenting Stress Index
  - HOME
- **Implementation Guidance:** http://www. healthyfamiliesamerica.org

- services should be culturally competent and materials must reflect the diversity of those being served,
- comprehensive services should support the parent as well as parent-child interaction and child development,
- families are linked to a medical provider and any additional services as needed, and
- staff should have limited caseloads (10 to15 families).

The third critical element focuses on staff characteristics and includes the following:

- service providers are selected based on their ability to establish a trusting relationship with families,
- service providers receive intensive training specific to their role, and
- staff receive ongoing, effective supervision.

Certified Healthy Families America should implement the following 12 critical elements (as noted by Frankel et.al. 2000[ii]):

(1) Intervening early to facilitate warm, secure and nurturing child/caregiver relationships.

(2) Using standardized assessments to identify families who are most in need of services.

(3) Relying on voluntary participation and trust-building to engage and retain families.

(4) Offering intensive services entailing weekly home visits for minimally the first 6 months after the birth of the baby and then tapering off to a leaner schedule and lasting for a period of 3–5 years.

(5) Assuring that services are respectful of differences in cultural values and tradition.

(6) Focusing services on three areas: (a) Stress reduction; (b) Positive parent–child interaction; and, (c) Stimulating child social, cognitive, and physical development.

(7) Linking all families to appropriate services in the community.

(8) Maintaining limited caseloads so that practitioners can devote sufficient time to meeting the unique and varying needs of each family.

(9) Selecting service providers based primarily upon personal qualities, openness to cultural diversity, and skills for performing key job functions.

(10) Giving home visitors a sound professional framework that includes knowledge of cultural differences, infant and child development, mandated reporting, domestic violence, mental health conditions, substance abuse issues, and community resources.

(11) Providing home visitors with intensive training specific to their role, including principles of (a) family assessment and home visitation, (b) preventive health care and home safety, (c) trust building with consumers, (d) individualized family support plans, (e) behavioral observation, (f) basic teaching skills, and (g) crisis intervention skills.

(12) Providing home visitors with ongoing, effective supervision.

For more information regarding Healthy Families America use this link: http://www.healthyfamiliesamerica.org.

Target Audience

Families with infants (prenatal to shortly after birth) who are at risk for adverse childhood experiences, including child maltreatment

Documented Outcomes

	Type of Study	Parent-reported parent or family outcomes											Child socio-emotional development
		Reduction in parenting stress	Educational attainment; participation in school or training	Use of contraception; avoidance of second pregnancy	Shared reading	Use of developmentally supportive activities	Developmental screenings	Use of aggressive or harsh discipline; Abusive or neglectful parenting*	Use of safety practices	Use of parenting resources	Reduction in alcohol or substance use	Attitudes and behaviors	
Jacobs et.al. (2015)[iii]	Experimental	✓	✓	✓				✓			✓		
Green et.al. (2014)[iv]	Experimental				✓	✓	✓						
LeCroy & Krysik (2011)[v]	Experimental		✓					✓	✓	✓	✓		
Dumont et.al. (2008)[vi]	Experimental							✓					
Ownbey et.al. (2011)[vii]	Non-experimental with comparison groups			✓									
Cullen et.al. (2010)[viii]	Non-experimental; one group pretest–posttest design											✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Improved parenting practices*

Research Evidence for Healthy Families America

- Parent outcomes range from reduction in stress, to changes in attitudes, and improved parenting behaviors. Some parents change personal behaviors such as participation in school or training programs, use of contraceptives, and use of alcohol.
- One study has documented positive child socio-emotional outcomes.

Review of Experimental and Quasi-Experimental Studies

Citation	**Jacobs, F., Easterbrooks, A., & Mistry, J. (2015). The Massachusetts Healthy Families Evaluation-2 (MHFE-2): A randomized, controlled trial of a statewide home visiting program for young parents. Final Report to the Children's Trust of Massachusetts, Tufts Interdisciplinary Evaluation Research (TIER).**
Population and Sample	The study incorporated 684 Massachusetts mothers who were randomly assigned to a treatment group (n=417) that received Home Visiting Services; HVS) or a control group (n=267; Referral and Information Only; RIO).
Methodology	Experimental; Intent-to-Treat
Purpose	The study was a statewide evaluation of Healthy Families Massachusetts (HFM). The study was a longitudinal evaluation, with a focus on adolescent parents. The study's five research questions were: 1. How do those mothers enrolled in HFM utilize program services? 2. To what extent do programs operate, and do participants utilize services, as intended by the 3. HFM model? 4. Is program dosage associated with outcomes? 5. What is the nature of the home visitor-mother relationship? 6. Does participation in HFM yield positive effects in the five HFM goal areas? The five goal areas were: • Prevent child abuse and neglect by supporting positive, effective parenting, • Optimal health, growth, and development in infancy and early childhood, • Encourage educational attainment, job, and life skills among parents, • Prevent repeat pregnancies during the teen years, and • Promote parental health and well-being.
Measures & Assessments	• Parenting Stress Index • Phone Interview • In-Person Interview • Public Agency Data (Department of Children and Families, Elementary and Secondary Education, Public Health, Transitional Assistance) • Participant Data System • Census Data
Study Implementation	• Eligible participants were at least 16 years old and female who also (a) provided informed consent to participate in the study; (b) had not received HFM services in the past; and (c) spoke either English or Spanish. Participants were randomly assigned to treatment or control groups. • Participants received three semi-structured phone interviews at: one month after enrollment, 12 months after enrollment, and 24 months after enrollment. Interviews were conducted in the home. Participants also received written questionnaires and the study team conducted observations of the mother-child interactions. • Data extracts retrieved from public agencies were used to assess outcomes. • There were 10 implementation fidelity measures, which were developed for the study and based upon Healthy Families American program elements: 1. 60% of referrals made during prenatal period, first contact with 80% new participants either prenatally or within 2 weeks of birth, 2. contacts made with 100% of new participants within 10 days of referral, 3. first home visit completed with 100% of participants within 20 days of referral, 4. 90% of eligible parents accept services, 5. participants receive at least 18 visits per year enrolled, 6. 75% of participants receive at 75% of their visits according to their service level,

	7. 100% of participants receive at least 18 months of services, 8. 85% of home visitors receive weekly supervision lasting 1.5 hours (program-level only), 9. 100% of participants receive weekly home visits for at least 6 months following the birth of their baby/enrollment if enrolled postpartum (individual-level only), 10. 100% of participant receives at least one home visit. • Program-level and individual participant-level fidelity was tracked for the study. Overall, program fidelity averaged a score of .74 (range of .71 to .80) on a scale of 0 to 1, where 1 indicates highest possible model fidelity. As regards individual participant fidelity, 85% of 433 treatment mothers had data on all indicators and 12% were missing data on one indicator (3% were missing data on two-three indicators). Overall, participants met about half of the individual participant implementation indicators.
Staff Qualifications	• Paraprofessionals, trained in the program
Key Findings	Prevention of Abuse and Neglect • There was no program impact related to the reduction of the rate of child maltreatment, in either the treatment or control group. • In families in which there was substantiated maltreatment reports, in the treatment group, 90% of mothers were identified as the person committing the offense, compared to 60% of control group mothers. • One possible explanation is that the presence of the HFM home visitor contributed to more observance of the home environment, or "increased surveillance," which might be linked to a higher rate of treatment mothers being identified. Parenting Stress • At Time 2 (12 months post-enrollment) and Time 3 (24 months post-enrollment), treatment mothers reported less parenting stress as measured by the Difficult Child (Time 2) and Parental Distress (Time 3) subscales of the Parenting Stress Index. Treatment mothers scored, on average, 23 points on the Difficult Child and 28 points on the Parental Distress subscales, compared to 24 points and 30 points, respectively, for control mothers. • Effect sizes were .22 for the Difficult Child and .25 for the Parental Distress subscales. • At T2, 24% of treatment mothers reported the use of harsh discipline, compared to 30% of control group mothers. Optimal Health, Growth, and Development in Infancy and Early Childhood • There were no significant program effects identified on measures of child behavior, English language skills, child responsiveness, or infant (baby) health. Encourage Educational Attainment, Job, and Life Skills Among Parents • A significant program effect was identified for mother's educational attainment. Treatment mothers were more likely to finish at least one year of college by T3, compared to control group mothers (Odds Ratio = 1.92, p=.007) • By T3, 17% of treatment mothers completed at least one year of college, compared to 10% of control group mothers. Prevent Repeat Pregnancies During the Teen Years • A significant program effect was identified for use of condoms. • At T2, 25% of treatment mothers reported using condoms, compared to 18% of control group mothers. Promote Parental Health and Well-Being • Twenty-five percent of treatment mothers reported engaging in three or more risky behaviors, compared to 36% of control group mothers. • Eleven percent of treatment mothers reported using marijuana, compared to 20% of control group mothers. • Thirty-nine percent of treatment mothers reported perpetrating acts of intimate partner violence more than once in the past year, compared to 51% of control group mothers. • Thirty-six percent of treatment mothers were victims of domestic violence, compared to 39% of control group mothers.

Citation	**Green, B. L., Tarte, J. M., Harrison, P. M., Nygren, M., & Sanders, M. B. (2014). Results from a randomized trial of the Healthy Families Oregon accredited statewide program: Early program impacts on parenting. Children and Youth Services Review, Volume 44, pp. 288-298.**
Population and Sample	The study incorporated 803 first-time Oregon mothers who were randomly assigned to treatment (n=402; Health Families Oregon with seven programs) or control (n=401) groups.
Methodology	Experimental; Intent to Treat
Purpose	The study was a component of a larger, randomized study that assessed Healthy Families America as

	implemented in Oregon, or Healthy Families Oregon (HFO). The study team conducted a telephone survey with a randomly selected group of mothers to assess early outcomes at children's 1-year birthday. The study focused on the following questions: (1) What short-term program effects can be detected at children's 1-year birthday? In particular, compared to control families: (a) Do parents in the HFO group report more positive parenting behaviors and skills compared to families in the control group? (b) Do parents in the HFO group report lower parenting stress, less depressive symptomatology, and more positive family functioning compared to families in the control group? and (c) Do children in the HFO treatment group experience more supports for healthy development, specifically increased breastfeeding and increased rates of developmental screening? (2) Are there outcome differences for key subgroups of families? In particular, do outcomes differ for: (a) prenatally vs. postnatally enrolled mothers; (b) Hispanic vs. White/Caucasian mothers; (c) teenage vs. older mothers; (d) mothers with depressive symptomatology vs. non-depressed mothers; and (e) families with more vs. fewer total risk factors.
Measures & Assessments	• New Baby Questionnaire • Telephone Survey • Home Visiting Records • Adult Adolescent Parenting Inventory, Corporal Punishment Subscale (AAPI-CP) • Parent-Child Activities Scale (PCAS) • Family Functioning subscale of the Protective Factors Survey (PFS) • Parenting Stress Index – Short Form (PSI-SF) • Pregnancy Risk Assessment Monitoring System (PRAMS)
Study Implementation	• For the larger study, families were screened for inclusion in the study using the New Baby Questionnaire. Eligible parents were then randomly assigned using a random-number generator to program or control groups. • Following assignment, a first home visit was scheduled with parents assigned to the program group to conduct additional program intake assessments. Comparison families were mailed a standard resource and referral information packet. • For the telephone interview component presented in this article, a subsample of 1,604 mothers was randomly selected to complete telephone surveys. Families who participated received a $15 gift card. Telephone surveys were completed with 803 mothers.
Staff Qualifications	• Not addressed
Key Findings	Shared Reading • Treatment mothers reported reading with their infants significantly more frequently than control group mothers. Participants were asked "how often they read to their young child" with the possible responses: Not at all, Seldom, A few times, 3–4 times per week, About once a day, or More than once a day. The average score for treatment mothers was 4.74, compared to an average score of 4.43 for control group mothers ($p<.01$). • Sixty-two percent (62.4%) of treatment mother reported "reading at least daily to their young children," compared to 52.1% of control group mothers. Developmentally Supportive Activities • As measured with the Parent-Child Positive Activities Scale (a 6-point Likert scale), treatment mothers had an average score of 4.84, compared to an average score of 4.73 for control group mothers ($p<.05$). Corporal Punishment • As measured by the AAPI, there was no significant difference between treatment (mean score 1.89) and control group (mean score 1.97) mothers. Developmental Screenings • Treatment mothers were significantly more likely to report that their child received a developmental screening (Odds Ratio .4, p=.000) • Of the parents and children screened, treatment mothers were less likely to be told their child had a development concern (Odds Ratio 1.72, not significant at p=.078) Health • There were no other significant differences between treatment and control group mothers on health outcomes. Parenting Stress • While the treatment mothers reported less overall depression or parenting stress, as measured by the Parenting Stress Index, these results are not statistically significant. The average score for treatment mothers on depression was 2.17, compared to an average score of 2.22 for control group mothers (not significant). The average score on the Parenting Stress Index-SF for treatment mothers was 1.9, compared to an average score of 2.0 for control group mothers (not significant).

	• On the PSI, General Distress subscale, the average score for treatment mothers was 1.78, compared to an average score of 1.86 for control group mothers (not significant). • On the PSI, Parenting Stress subscale, the average score for treatment mothers was 2.02, compared to an average score of 2.14 for control group mothers (not significant). Family Relationships • As measured by the Family Functioning subscale of the Protective Factors Survey (5-point Likert scale), the average score for treatment mothers was 4.16, compared to an average score of 4.15 for control group mothers (not significant). The study team examined outcomes by sub-groups and found: • Non-depressed mothers exhibited stronger program effects on frequency of parent-child interactions than depressed mothers (p=.042). Non-depressed treatment mothers exhibited stronger program effects on the frequency of parent-child interactions than non-depressed control group mothers. • There were no significant differences between treatment and control group families with two or fewer risk factors, on measures of depression or stress. • In moderate and high-risk families, treatment mothers exhibited less stress and fewer depressive symptoms, compared to control group mothers. • As regards the use of harsh discipline or the endorsement of corporal punishment, the program appears to have the strongest effect on higher risk families and especially those families with the highest level of risk.

Citation	**LeCroy, C. W., & Krysik, J. (2011). Randomized trial of the healthy families Arizona home visiting program. Child and Youth Services Review, Volume 33, pp. 1761-1766.**
Population and Sample	The study incorporated 195 families who were randomly assigned to treatment group (n=97) and child development control group (n=98) at a single site in a large metropolitan area in Arizona. The treatment and control groups were found to be equivalent on most characteristics. Mothers in the treatment group were significantly younger than mothers in the control group. There also were significant differences on the use of prenatal care, income, health insurance, employment, and car ownership. More treatment parents reported being involved with Arizona's Child Protective Services, compared to control group mothers. All participants (n=195) completed baseline assessments. As the six-month time period, 94% of treatment and 91% of control group mothers were retained in the study. At the one-year time period, 88% of treatment and 89% of control group mothers were retained in the study.
Methodology	Experimental
Purpose	The purpose of the paper was to examine the effectiveness of home visiting as a means of improving parental, child, and maternal outcomes and preventing child abuse and neglect. The study incorporated a program that had a quality assurance approach and statewide accreditation.
Measures & Assessments	• Revised Parent-Child Conflict Tactics Scale (CTS-R) • Adult-Adolescent Parenting Inventory-2 (AAPI-2) • Home Visiting Records • Emotional/Social Loneliness Inventory
Study Implementation	• The screening and enrollment process for the study included administration of a 15-item screen assessing at-risk criteria such as teenage mother and a positive score led to a parent survey, a modified version of the Kempe Family Checklist. If the score on the survey was 25 or greater for either parent, then participation in the study was offered. If the parent accepted participation, random assignment to either the Healthy Families Arizona program or the Arizona Child Development Study (the control condition) was offered. • The program had a quality assurance protocol that was monitored by program staff.
Staff Qualifications	• Home visitors had a bachelor's degree or equivalent years of experience; all received training
Key Findings	Violent Behaviors • There were significant differences between treatment and control group mothers on measures of aggressive discipline practices. • There were not significant differences on a measure of family violence. Parenting Attitudes and Practices • There was a significant difference between treatment and control group mothers on Safety Practices (as measured with the AAPI-2), at six months. Treatment mothers had an average score of 17.95, compared to an average score of 16.05 for control group mothers (p=.04).

	• There were not significant differences between treatment and control group mothers on Inappropriate Expectations, Lack of Empathy, Belief in Corporal Punishment, Reversing Roles, Oppressing Child's Independence, or Mother's Reading. Parenting Support • There were significant differences between treatment and control group mothers on the use of resources, at both the six-month and 1-year time periods. Mental Health and Coping • There were significant differences between treatment and control group mothers on the use of alcohol, at the 1-year time period. Twelve percent of treatment and 20.5% of control group mothers reported alcohol use (p=.04). • There were not significant differences between treatment and control group mothers on Emotional Loneliness or Pathways to Goal. Maternal Outcomes • There were significant differences between treatment and control group mothers in participation in schooling or training, at the 1-year time period. Thirty-five percent (35.2%) of treatment mothers and 6.8% of control group mothers reported participation at the 1-year time period (p=.01). • There were not significant differences between treatment and control group mothers on use of birth control.

Citation	**Dumont, K., Mitchell-Herzfeld, S., Greene, R., Lee, E., Lowenfels, A., Rodriguez, M., & Dorabawila, V. (2008). Healthy Families New York (HFNY) randomized trial: Effects on early child abuse and neglect. Child Abuse & Neglect, Volume 32, pp. 295-315.**
Population and Sample	The study incorporated 1,173 families who were at risk for child abuse and neglect. Families were randomly assigned to either an intervention group (n=579) or a control group (n=594); 34% of mothers in the study were white, non-Latina; 45% African American, non-Latina; and 18% Latina; 31% were under 19, 54% were first-time mothers, 53% had not yet completed high school or received a GED, and 82% were never married. The study team determined that there were no significant differences between the treatment and control on descriptive characteristics. Further, the team found that 20% of the sample had a prior Child Protective Services (CPS) report and that 9% of the sample also had a substantiated report of child abuse or neglect, prior to baseline. Of these, over 40% of reports were considered "open" at the time of random assignment to treatment and control groups.
Methodology	Experimental
Purpose	The study was designed to evaluate the effects of Healthy Families New York (HYNY), a variant of Healthy Families America, a home visiting program focusing on parenting behaviors in the first 2 years of life. The study was designed to assess women assigned to treatment or control groups prior to the giving birth to their first child. The study also included older women who already had a child. The study was designed to assess four goals associated with HYNY: (1) promote positive parenting skills and parent-child interaction; (2) prevent child abuse and neglect; (3) support optimal prenatal care, and child health and development; and (4) improve parent's self-sufficiency. The study also focused on: (1) documenting the program's ability to reduce child abuse and neglect; (2) exploring and testing prevention versus intervention approaches; and (3) evaluating program services as provided to the psychologically vulnerable.
Measures & Assessments	• Parent-Child Conflict Tactics Scale (CTS-PC) • Office of Child and Family Services (OCFS) database; substantiated CPS reports
Study Implementation	• After enrollment and random assignment to groups, intervention families were appointed a home visitor who set up an initial visit to complete the enrollment process. After enrollment in HFNY, families were offered the services typically provided by the program. • Control group participants were provided with information about other services in the community and made referrals based on the needs identified during the initial assessment for study eligibility. They were not referred to other home visiting programs similar in type, duration, and intensity to HFNY and the study did not follow up to determine whether they followed through with the referrals. • Following the baseline interview, participants were interviewed in their homes shortly after the birth of their children (if they entered the study before the birth), at the time of the children's first

	and second birthdays, and, for a subsample, again at age 3. Interviews ranged from 45 minutes to an1 hour and 15 minutes. Baseline and Years 1 and 2 data were included in the current report. • At each follow-up, data were extracted from the OCFS database tracking child abuse and neglect reports and determination. Mothers also completed a paper-and-pencil version of the CTS-PC and placed the completed instrument in a sealed envelope.
Staff Qualifications	• Not addressed
Key Findings	• Mothers in the intervention group committed fewer acts of serious abuse at age 2. • Among women who were "psychologically vulnerable," HFNY mothers were one-quarter as likely to report engaging in serious abuse and neglect as control mothers (5% versus 19%) at age 2. Did HFNY have an effect on abusive or neglectful parenting? • The study team did not find statistically significant ($p<.05$) program effects related to the prevalence of events (or, whether an event occurred), as self-reported by participants, at year 1 or year 2 time periods. • There were significant differences between treatment and control group mothers on several sub-scales related to the frequency of events (or, how often an event occurred. For example, at year 1, treatment mothers reported significant fewer acts of "very serious physical abuse, minor physical aggression, and psychological aggression in the past year" and "harsh parenting in the past week." • At year 2, treatment mothers reported fewer "acts of serious physical abuse in the past year," compared to control group mothers. Specifically, treatment mothers reported one-fourth as many acts as control group mothers. • There were no significant differences between treatment and control group mothers on the prevalence or frequency of substantiated CPS reports of abuse or neglect, at either year 1 or year 2. Were effects of HFNY concentrated in the prevention subgroup? • Analyses were conducted on first-time mothers under the age of 19. These mothers were randomly assigned to treatment or control groups at a gestational age of 30 weeks or less. • At year 2, treatment mothers in the sub-group analysis were significantly less likely to report engaging in minor physical aggression against their children in the past year, compared to control group mothers (51% versus 70%, respectively). • At year 2, treatment mothers in the sub-group analysis were significantly less likely to report harsh parenting behaviors in the past week, compared to control group mothers (41% versus 62%, respectively). • Analyses of what the authors term the more "diverse group" of parents indicated comparable rates of minor physical aggression in the past year and harsh parenting in the past week, for treatment and control group mothers. • The authors reported that there did not appear to be a moderating effect related to the frequency of sub-scale items. Further, the patterns of non-significant effects for CPS reports and self-reported maltreatment, at year 2, were consistent with significant effects identified for minor physical aggression and harsh parenting. Were effects of HFNY concentrated in the psychologically vulnerable subgroup? • Analyses were conducted on a sub-group considered to be psychologically vulnerable. • At year 2, 5% of treatment mothers in this sub-group reported "engaging in acts of serious abuse or neglect," compared to 19% of comparison mothers. The authors also noted that "there was no difference in rates of self-reported serious abuse and neglect for the remaining women." • At year 2, there were significant differences between the sub-group of psychologically vulnerable mothers and comparison mothers on the frequency of serious abuse and neglect, with the sub-group reporting fewer incidents ($p<.05$). • At year 1, there were significant differences between the sub-group of psychologically vulnerable mothers and comparison mothers on the frequency of psychological aggression. • The authors reported that psychological vulnerability did not moderate differences between treatment and control group mothers on substantiated CPS reports.

Citation	**Duggan, A., Caldera, D. Rodriguez, K., Burrell, L., Rohde, C., & Crowne, S. S. (2007). Impact of a statewide home visiting program to prevent child abuse. Child Abuse & Neglect, Volume 31, pp. 801-827.**
Population and Sample	The study incorporated 325 families, who were enrolled in six Healthy Families Alaska (HFAK) program. Participants were randomized into treatment (n=162) and control (n=163) groups. Treatment and control

	group mothers were similar on measures of demographic characteristics. It was common to find depressive symptoms, substance abuse, and partner violence at the time of baseline assessments. Compared to control group mothers, treatment mothers were less likely to have "poor psychological resources" and to have enrolled in the program prenatally. Follow-up interviews were completed for 85% of the treatment group and 86% of the control group. The follow-up mothers were more likely to "have worked prior to study enrollment," "more likely to be "married to or living with the child's father, and "less likely to have enrolled prenatally."
Methodology	Experimental
Purpose	The purpose of the study was to assess the impact of Healthy Families Alaska, which was described as a "voluntary, paraprofessional home visiting program in preventing child maltreatment and reducing the multiple, malleable psychosocial risks for maltreatment for which families had been targeted."
Measures & Assessments	• Center for Epidemiological Studies Depression Scale (CES-D) • Mental Health Index (MHI-5) • CAGE score • Revised Conflict Tactics Scale (CTS2) • Parent–Child Conflict Tactics Scale (CTS-PC) • Infant-Toddler version of the Home Observation for Measurement of the Environment (HOME) Inventory • Nursing Child Assessment Satellite Training (NCAST) Teaching Scale. • Short form of Abidin's Parenting Stress Index (PSI) • Adult-Adolescent Parenting Index (AAPI) • Child Protective Services Reports • Pediatric Medical Records • Mother/Primary Caregiver Interview • Observations

Study Implementation	• Baseline family attributes were collected by trained research staff (blinded to family group assignment)
	• Follow-up data were collected when children were 2 years old
	• Study investigator conducted pediatric medical chart review
	• The study team identified measures of "adequate services," which included (a) enrollment ≥12 months, (b) enrollment ≥24 months, and enrollment ≥24 months and receipt of ≥75% of expected visits and ≤3 months on Level X, where Level X is intensive outreach to re-establish contact with families who are difficult to engage.
	
	• Adequate services also were defined for each parental risk; measures of "service adequacy" were based on visit content. The measures included:
	  • Any documented general discussion of the risk with the parent, such as a general discussion of the dangers of substance use.
	  • Any documented specific action taken to address the risk, such as giving the mother information for accessing substance use services.
	  • General discussion and maternal agreement with two statements: "I can talk with my home visitor about everything" and "My home visitor talks with me about sensitive issues."
	  • Specific action and maternal agreement with these statements.
	
	• Implementation fidelity was designed to include factors such as "staff recruitment and training, policies, protocols, and mechanisms to integrate HFAK with other services." The study team used multiple methods to assess implementation, including "home visitor surveys, review of training curricula, observation of selected training sessions, review of policy and procedure manuals, and discussion with program leaders." Further, home visitation staff completed questionnaires (in both 2001 and 2003) in which they rated their own competence in behaviors such as "developing a trusting relationship with parents," "helping parents acquire knowledge and skills," "working with mothers," and "working with fathers."

Staff Qualifications	• Not addressed
Key Findings	The program did not prevent child maltreatment, nor reduce the parental risks that had made families eligible for service. There was little evidence of effectiveness in preventing child abuse although this was clearly a high-risk sample—17% of control families and 16% of HFAK families had substantiated reports in the child's first 2 years of life. Impact on child maltreatment reports.

- The authors found that treatment and control group mothers were similar on rates of substantiated reports overall and with regard to neglect.
- Treatment and control group mothers were found to be similar on substantiated and unsubstantiated reports, combined.
- Nearly one-third of families had at least one report in two years.
- Over a quarter of families were reported for neglect.
- The authors did not find treatment versus control group mother differences in number of reports.

Impact on indicators of potential child maltreatment, disciplinary strategies, and parenting attitudes.

- The authors found that treatment and control group mothers were similar with regard to the percent of families in which the birth mother relinquished her role. The authors also found that the groups were similar with regard to the percent of children who were hospitalized for ambulatory care sensitive conditions and using the emergency department.
- Treatment and control group mothers were similar with regard to the percent of mothers who reported specific disciplinary strategies and neglectful behaviors and who were observed to interact poorly with their children.
- Treatment mothers were significantly less likely to provide a poor quality home environment, as measured using the HOME Scale. Specifically, 20% of treatment mothers were found to provide a poor quality home environment, compared to 31% of control group mothers ($p<.001$).
- Treatment and control group mothers were similar with regard to the frequency of hospitalizations and emergency department visits.
- Treatment mothers reported a lower incidence of use of mild physical and psychological disciplinary tactics, compared to control group mothers.
- Treatment and control group mothers were similar with regard to reported frequency of more severe forms of physical discipline and neglectful behaviors.
- Treatment and control group mothers were similar with regard to attitudes toward corporal punishment.
- Treatment and control group mothers were similar with regard to total AAPI scores.
- Treatment and control group mothers were similar with regard to all four AAPI subscales.

Impact on parent risks for child maltreatment and use of community services.

- The authors reported that it was common to find poor maternal mental health, substance use and partner violence, at follow-up.
- Treatment and control group mothers were similar on all but one of the binary outcomes identified by the authors. There was a trend towards reduced risk for maternal problem alcohol use, at follow-up.
- Treatment and control group mothers were similar with regard to mean scores on all but one of the measures of mental health and partner violence. There was a trend for treatment mothers to have lower total Parenting Stress Index scores.
- Treatment and control group mothers were similar with regard to reported use of community services to address mental health or substance use issues or partner violence.

Baseline attributes as moderators of HFAK impact.

- The authors did not find evidence that program outcomes were moderated.
- The authors found that "mild physical assault of the child" was less common among treatment mothers who were multiparous and mothers not in a violent relationship at baseline.

Association of parent risks with parenting behavior

- The authors found positive associations between parental risks that included depressive symptoms, problem substance use, and partner physical assault and measures of parenting.
- The authors found a significant association of "favorable attitudes toward corporal punishment" with severe physical assault, assault on the child's self-esteem, and the frequency of common corporal punishment.

Program efficacy

- The authors found "negligible evidence" of program efficacy in preventing maltreatment or reducing risks, in families enrolled ≥12 months and families enrolled ≥24 months.
- The authors failed to find statistically significant differences in 24 comparisons of child maltreatment, as reported in the first 2 years of life, combined.
- There were no differences between treatment and comparison groups with regard to a number of binary outcomes identified by the authors. That stated, treatment mothers (with enrollment ≥12

	months) were significantly less likely to report mild physical assault (p<.05 and p<.01) and common corporal punishment (p<.05). Treatment mothers ≥12 months enrollment were significantly more likely to report hitting the child with a hard object (p<.05). • Treatment mothers with ≥24 months enrollment were less likely to threaten the child's esteem (p<.05). Treatment mothers with ≥24 months enrollment were more likely to report hitting the child with a hard object (p<.01). • As regards the 11 continous outcomes identified by the authors, there were no statistically significant differences between treatment and control group mothers. Parental risks for child maltreatment. • Treatment mothers with ≥24 months enrollment were less likely to report physical partner violence (when excluding women without a partner, p<.05, and when categorizing the mothers as negative for physical violence, p<.05). • The authors also examined substance use at follow-up and illicit drug use. Both risk were more likely for treatment families, with specific home visitor actions addressing it (substance abuse at follow-up, p<.001, and illicit drug use, p<.05).

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Ownbey, M., Ownbey, J., & Cullen, J. (2011). The effects of a Healthy Families home visitation program on rapid and teen repeat births. Child and Adolescent Social Work Journal, Volume 28, pp. 439-458.**
Population and Sample	The study incorporated 140 treatment mothers (including 90 teen mothers) and 241 comparison group mothers (including 130 teens). The participants were expecting parents or parents with a child under three months of age. There were some significant differences between treatment and comparison group mothers, specifically with regard to average number of risk factors (5.9 for treatment and 5.0 for comparison group mothers, p=.001). However, the two groups did not differ significantly with regard to race/ethnicity or the proportion of teen (or, adolescent) parents.
Methodology	Non-experimental, post-test only with comparison group (no random assignment); Chi-squared tests of homogeneity
Purpose	The prevention of Rapid Repeat Births (RRBs) and Teen Repeat Births (TRBs) is an important indicator of the effectiveness of home visitation programs that serve mothers who are at-risk for child maltreatment. This study examined the effects on RRBs and TRBs of a rural/small town home visitation program based on the Healthy Families America (HFA) model. The study addressed the following hypotheses: • The distribution of RRBs in the treatment group will not differ from the distribution of RRBs in the Comparison group. • The distribution of TRBs in the treatment group will not differ from the distribution of TRBs in the Comparison group. • The distributions of TRBs in the Treatment and Comparison groups will not differ from those that would be expected based on county-wide census and public health data.
Measures & Assessments	• Referral Records • County Birth Records
Study Implementation	• An informal pre-screening checklist was used to generate referrals. Families who received a referral then were screened using the Kempe Family Stress Inventory (KFSI). Families who scored in the at-risk range on the KFSI were enrolled in HFA. Treatment mothers started services either prenatally or shortly after birth. HFA services were provided for at least six months. • Treatment fidelity was assured through the application of HFA standards to staff recruitment, training, supervision, and evaluation. • Supervision included weekly one-on-one reflective supervision and co-visits throughout the program.

	• Home visitation staff performance was evaluated through direct observation and collection of consumer satisfaction surveys. • Intervention integrity was not directly assessed.

Staff Qualifications	• Staf were experienced in human services, working with culturally and ethnically diverse populations, and education ranged from high school graduate through bachelor's degrees, though degree status was not a significant factor in personnel selection; additional training was provided.
	• Practitioners administering the AAPI and ASQ-SE received training in the administration and scoring procedures of the instruments
	• Staff participated in trainings that included:
	  • Connecting with Families: Family Support in Practice, a 6-day training program;
	  • Family-Centered Practice in Family Preservation Programs, a second 6-day training program;
	  • HFA Role-Specific Core Training, a pre-service curriculum that addresses principles of home visitation, family assessment, and/or program management;
	  • HFA-mandated continuing education; and
	  • On-going in-service training on various topics.
	• Newer staff were allowed to "shadow" more experienced staff.

Key Findings	• Relative to the comparison group and the community at large, clients of the HFA program examined in this study exhibited significantly reduced rates of RRB and TRB. • Specifically, rates of RRB were 60% higher in the comparison group and teen mothers in the comparison group were three times more likely to have a second birth during adolescence. • Teen mothers in the treatment group were more than 67% less likely to have a TRB than comparison teen mothers and 63% less likely to have a TRB than teens in the community at large. Rapid Repeat Births • There were statistically significant differences between treatment and comparison groups on Rapid Repeat Births. Eighteen percent of treatment mothers and 30% of comparison mothers had a RRB (p=.0243). Teen Repeat Births • There were statistically significant differences between treatment and comparison groups on Teen Repeat Births. Nine percent of treatment mothers and 27% of comparison mothers had a TRB (p=.0029). • There were statistically significant differences among treatment mothers, comparison group mothers, and the county-wide TRB rate (the latter of which was 24%, p=.0027). This was interpreted to mean that study data did not "conform to county-wide norms", because of the lower TRB rate among treatment mothers.

Citation	**Cullen, J. P., Ownbey, J. B., & Ownbey, M. A. (2010). The effects of the Healthy Families America home visitation program on parenting attitudes and practices and child social and emotional competence. Child and Adolescent Social Work Journal, Volume 27, pp. 335-354.**
Population and Sample	The study was an analysis of clinical data for 64 individual participants (55 families) from a Healthy Families America credentialed program in rural Western North Carolina. The sample was 78% white, 100% under-resourced, 96% English speaking, 73% were teenagers and/or first-time mothers (80%) who were unmarried (91%), 36% had more than one child living in the home, 44% held full or part time jobs, and 56% had less than a high school diploma.
Methodology	One group pretest–posttest design.

Purpose	This study examined the effects of a Healthy Families America (HFA) credentialed home visitation program on the parenting attitudes and practices of a sample of at-risk parents. It also examined the social and emotional competence of children whose parents successfully completed the program. Three hypotheses were addressed:
	  • Graduates of a credentialed HFA program will show no change between pre- and post-test on a standardized measure of positive parenting attitudes and practices.
	  • Compared to the standardization sample, graduates of a credentialed HFA program will perform significantly below the mean on a standardized measure of positive parenting attitudes and practices.
	  • Compared to the standardization sample, there will be no difference in the frequency with which children of graduates of a credentialed HFA program score in the at-risk range on a standardized measure of social and emotional competence.

Measures & Assessments	• Kempe Family Stress Inventory (KFSI) • Adult-Adolescent Parenting Inventory (AAPI-2) • Ages and Stages Questionnaire- Social Emotional (ASQ-SE)

Study Implementation	• An informal pre-screening checklist was used to generate referrals. Families who received a referral then were screened using the Kempe Family Stress Inventory (KFSI). • Participants started the program during their children's prenatal period or shortly after birth and continued in services until graduation from the program. • Services conformed to the HFA Home Visitation Model. • Treatment fidelity was assured through the application of HFA standards to staff recruitment, training, supervision, and evaluation. • Supervision included weekly one-on-one reflective supervision and co-visits throughout the program. • Home visitation staff performance was evaluated through direct observation and collection of consumer satisfaction surveys. • Intervention integrity was not directly assessed.

Staff Qualifications	• Staff were experienced in human services, working with culturally and ethnically diverse populations, and education ranged from high school graduate through bachelor's degrees, though degree status was not a significant factor in personnel selection.
	• Practitioners administering the AAPI and ASQ-SE received training in the administration and scoring procedures of the instruments.
	• Staff were experienced in human services, working with culturally and ethnically diverse populations, and education ranged from high school graduate through bachelor's degrees, though degree status was not a significant factor in personnel selection; additional training was provided.
	• Practitioners administering the AAPI and ASQ-SE received training in the administration and scoring procedures of the instruments
	• All FSW staff participated in trainings that included:
	  • Connecting with Families: Family Support in Practice, a 6-day training program;
	  • Family-Centered Practice in Family Preservation Programs, a second 6-day training program;
	  • HFA Role-Specific Core Training, a pre-service curriculum that addresses principles of home visitation, family assessment, and/or program management;
	  • HFA-mandated continuing education; and
	  • On-going in-service training on various topics.
	• FSW staff were allowed to "shadow" more experienced staff.

Key Findings	Attitudes and Behaviors
	• There were positive changes in each of the AAPI sub-domains (Expectations, Empathy, Corporal Punishment, Family Roles, and Independence; $p<.001$). More specifically:
	  • The average "pre" score for Expectation was 5.25; the average "post" score was 7.7
	  • The average "pre" score for Empathy was 4.14; the average "post" score was 7.6
	  • The average "pre" score for Corporal Punishment was 4.6; the average "post" score was 7.21
	  • The average "pre" score for Family Roles was 4.35; the average "post" score was 8.33
	  • The average "pre" score for Independence was 5.29; the average "post" score was 7.49
	  • The average overall "pre" score was 4.73; the average overall "post" score was 7.67
	• The study authors compared average scores to HFA standard scores and concluded "graduates of the program were no more likely and in, many instances, significantly less likely than randomly selected individuals to espouse parenting attitudes and practices that have been associated with child maltreatment."
	Ages and Stages Questionnaire: Socio-Emotional
	• Data were obtained from 55 children, whose parents graduated from the program.
	• There were no "at-risk" scores; all 55 children were assessed as being within the "normal" range for the instrument. The authors concluded that "when compared to their age peers, children whose families graduated from an HFA credentialed program exhibit higher levels of social and emotional competence as measured by the frequency with which they display social and behavioral challenges."

End Notes

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[iv] Green, B. L., Tarte, J. M., Harrison, P. M., Nygren, M., & Sanders, M. B. (2014). Results from a randomized trial of the Healthy Families Oregon accredited statewide program: Early program impacts on parenting. Children and Youth Services Review, Volume 44, pp. 288-298.

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Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Nurse Family Partnership

Goals

The goals of Nurse-Family Partnership (NFP) are the following: 1) to improve pregnancy outcomes, 2) to improve child health and development, and 3) to improve the economic self-sufficiency of the family (Nurse-Family Partnership website).

Program Features

Providing mothers with education about and support during their pregnancy and childbirth experiences are strategies that reduce the likelihood of pregnancy and birth complications. Children from low income families who experience fewer complications during pregnancy and birth begin life with fewer challenges to overcome. Helping first-time mothers learn good techniques for providing children responsible and competent care helps to shape positive parent-child interactions. Positive parent-child interactions set children on a path toward optimal social-emotional development and positive cognitive outcomes.

In Nurse-Family Partnership, nurses conduct home visits beginning at pregnancy and continuing until the child is 2 years old (Nurse-Family Partnership website). The home-visiting nurse must be trained in how to develop therapeutic relationships and in the content of the home visits. The program is built around 64 home visits, each lasting between 60 and 90 minutes. The mothers are enrolled as early as possible, ideally by the 16th week of pregnancy. Nurses begin weekly home visits as soon as the mother is enrolled and continue for the first six weeks after delivery. Home visits are reduced to every other week until the child is 21 months old and then occur monthly until the child's second birthday.

Nurse Family Partnership Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:**
  - California Evidence-Based Clearinghouse rating of Well-Supported by Research Evidence
  - Home Visiting Evidence of Effectiveness
  - Promising Practices Network rating of Proven
- **Research supports** use with low income, first-time mothers who enroll early in their pregnancy
- **Related Smart Start outcomes:**
  - Increase in parent knowledge
  - Increase in positive parenting practices
  - Parents increase use of services referred to in the community
- **Purveyor training required:** Yes
- **Staff qualifications:** Registered nurse
- **Frequency:** Every week until six weeks after delivery and then every other week until the child is 21 months of age. Then, monthly until child's second birthday.
- **Dosage:** 60-90 minutes per visits
- **Minimal service threshold:** From the time of enrollment through the child's second birthday
- **Suggested Assessments:** Varies
- **Implementation Guidance:** http://www.nursefamilypartnership.org

The focus of the home-visiting content changes over time. During pregnancy, the nurse focuses on helping pregnant women find prenatal care, improve their diet, and reduce the use of cigarettes, alcohol, and illegal substances. Nurses also help the mother prepare emotionally for the arrival of the baby by educating her on the birth process and the immediate challenges of the first few weeks after delivery. They provide individualized parent coaching aimed at

increasing awareness of specific child development milestones and behaviors, and encourage parents to use praise and other nonviolent techniques. Another focus is the promotion of economic self-sufficiency among mothers by encouraging them to develop a vision for their future, stay in school, find employment, and plan future pregnancies.

For more information regarding Nurse-Family Partnership use this link: http://www.nursefamilypartnership.org.

Target Audience

Low income, first-time mothers who enroll early in their pregnancy

Documented Outcomes

	Type of Study	Improved parenting behaviors*	Maternal all-cause mortality rate improved	Fewer visits to emergency department for injuries	Reduced emergency visits for accidents and poisonings	Reduced risk or reports of maltreatment, abuse, and neglect *	Delayed second pregnancy	Reduced preterm births	Increased birth weight	Child preventable-cause mortality rate improved	Improved child development
Olds et al. (2014)	Clinical trial with random assignment to groups		✓							✓	
Olds et al. (1986a)	Experimental, with random assignment to groups							✓	✓		
Olds et al. (1986b)	Experimental, with random assignment to groups	✓		✓	✓	✓					
Zielinski et al. (2009)	Experimental, with random assignment to groups					✓					
Yun et al. (2014)	Quasi-experimental						✓				
Miller (2015)	Meta-analysis			✓	✓	✓	✓	✓	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcomes *Increase in positive parenting practices*

Research Evidence for Nurse Family Partnership

- Nurse Family Partnership program shown sizeable and sustained, though not always replicable, effects on important mother and child outcomes.[i, ii, iii]
- Specific effects replicated in two or more studies included: 1) reduction in measures of child abuse and neglect (including injuries and accidents), 2) reduction in mothers' subsequent births, 3) reduction in prenatal smoking among mothers who smoked at the start of the study, and 4) improvement in cognitive and/or academic outcomes for children born to mothers with low psychological resources (i.e., intelligence, mental health, self-confidence).[iv]
- The program benefitted the neediest families (low-income, unmarried women) by helping to reduce rates of childhood injuries that may be associated with child abuse and neglect and defer subsequent pregnancies and move into the work force.[i, iii]

Review of Experimental and Quasi-Experimental Studies

Citation	**Olds, D. L., Kitzman, H., Knudtson, M. D., Anson, E., Smith, J. A., & Cole, R. (2014). Effect of home visiting by nurses on maternal and child mortality: Results of a 2-decade follow-up of a randomized clinical trial. Pediatrics, 168(9), pp. 800-806.**
Population and Sample	1138 primarily low-income (85.1%) African American (92.1%) women at less than 29 weeks of gestation and with no previous births were randomized to one of 4 groups: • Group 1 (n=166) received transportation for regular prenatal care • Group 2 (n=514) received transportation plus developmental screening for infants and toddlers • Group 3 (n=230) received transportation plus prenatal/postpartum home visiting • Group 4 (n=228) received transportation, screening, and prenatal, postpartum, and infant/toddler home visiting Participants had at least 2 of the following sociodemographic risk characteristics: unmarried, having less than 12 years of education, and unemployed.
Methodology	Clinical trial, with random assignment to groups
Purpose	To determine the effect of prenatal and infant/toddler nurse home visiting on maternal and child mortality during a 2-decade period (1990-2011).
Measures & Assessments	• National Death Index • NFP Enrollment Records
Study Implementation	• Nurse Family Partnership (NF) nurses visited women as follows: a) women in treatment groups 3 and 4 received a mean of 7 prenatal visits, and b) women in treatment 4 received a mean of 26 visits after delivery. The NFP nurses provided information and activities that would improve mothers' prenatal health and help them provide more competent care of their babies after birth. In addition, they worked to help mothers to develop better self-care practices, plan subsequent pregnancies, complete their educations, and find employment. • Outcomes of mother's in the four treatment groups were compared with data from the National Death Index (NDI). • The program provided specific guidelines and activities.
Staff Qualifications	• Nurses
Key Findings	• During the 21-year study, the mean maternal all-cause mortality rate for treatment groups 1 and 2 combined was 3.7%. The mean rate was .4% for treatment group 3 and 2.2 % for treatment group 4. The survival contrast between groups 1 and 2 combined and group 3 was significant (p=.007) but not significant between groups 1 and 2 combined and group 4. • By the time children reached age 20, the child preventable-cause mortality rate for treatment group 2 was 1.6% and for treatment group 4 0.0%. The survival contrast was significant at p=.04.

Citation	**Olds, D. L., Henderson Jr., C. R., Tatelbaum, R., & Chamberlin, R. (1986a). Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. Pediatrics, 77, pp. 16-28**
Population and	400 women enrolled prior to the 30th week of pregnancy were stratified by marital status, race, and

Sample	geographic region and randomly assigned to 4 groups: • Group 1 (n=90) received no services (control group) • Group 2 (n=94) received free transportation for regular prenatal and well-child care at local clinics and physicians' offices • Group 3 (n=100) received same services as group 2 as well as nurse home visitation during pregnancy • Group 4 (n=116) received the same services as group 3 with continued visits until babies were 2 years old
Methodology	Experimental, with random assignment to groups
Purpose	This article reported prenatal outcomes as part of an evaluation of a nurse home visitation program for first-time mothers in the Appalachian region of New York State. Participants in the study were either teenagers, unmarried, or low-income.
Measures & Assessments	• Interviews • Medical Records • Serum cotinine assays
Study Implementation	• During their visits, the nurses provided the following activities: 1) parent education, 2) enhancement of mothers' informal support systems during pregnancy and delivery, and 3) linkage of the mothers with community health and human services (e.g., nutritional supplementation program). An average of 83% of nurses' time was spent on education. • Prenatal education, tailored to families' individual needs, included information about fetal and infant development, diet, signs of pregnancy complications, rest, exercise, personal hygiene related to obstetrical health, and preparation for labor, delivery, and early care of the newborn. Nurses also monitored weight gain and helped to stop the use of cigarettes, alcohol, and drugs. • Interviews were conducted and dietary intake (using 24-hour diet records and 24-hour recalls) was measured prior to group assignment and at 32 weeks of pregnancy. Medical records were reviewed and coded by two trained registered nurses. Serum cotinine assays at 36 weeks of pregnancy for a subsample of 116 women who received care at the health department clinic were done to validate mothers' reports of smoking. • Nurses in the labor and delivery room completed forms indicating whether mothers were accompanied by a support person. • Detailed record-keeping systems and regular case reviews were used to monitor implementation of the home visit protocol.
Staff Qualifications	• Nurses
Key Findings	• Compared with the control group, nurse visited women experienced the following significant outcomes: o became aware of more community services; o attended childbirth classes more frequently; o made more extensive use of WIC; o made greater dietary improvements; o reported that their babies' fathers became more interested in their pregnancies; o were accompanied to the hospital by a support person during labor more frequently; o reported talking more frequently to family members, friends, and service providers about their pregnancies and personal problems; and o had fewer kidney infections. • Young adolescent mothers in the nurse-visited groups gave birth to newborns that were an average of 395 grams heavier than newborns of adolescent mothers in the control group (p=.02) • There was significant and positive difference in preterm delivery for women who smoked in the nurse-visited groups compared with smokers in the control group. • There was no difference between smokers who enrolled in the program early. However, there was a significant and positive difference in birth weight for adolescent mothers who enrolled early in the program when compared with those who enrolled later.

Citation	**Olds, D. L., Henderson Jr., C. R., Chamberlin, R. , & Tatelbaum, R. (1986b). Preventing child abuse and neglect: A randomized trial of nurse home visitation. Pediatrics, 78, pp. 65-78.**
Population and Sample	400 women enrolled prior to the 30th week of pregnancy were stratified by marital status, race, and geographic region and randomly assigned to 4 groups: • Group 1 (n=90) received no services • Group 2 (n=94) received free transportation for regular prenatal and well-child care at local clinics and physicians' offices • Group 3 (n=100) received same services as group 2 as well as nurse home visitation during pregnancy • Group 4 (n=116) received the same services as group 3 with continued visits until babies were 2

	years old
Methodology	Experimental, with random assignment to groups
Purpose	This article reported the effects on child abuse and neglect of a nurse home visitation program for first-time mothers in the Appalachian region of New York State. Participants in the study were either teenagers, unmarried, or low-income.
Measures & Assessments	• Rotter's Locus of Control (variant) • Abuse and Neglect Registries • Caldwell Home Observation checklist and interview • Bayley Mental Development Index • Cattell Scales • Medical Records
Study Implementation	• During prenatal visits, the nurses provided the following activities: 1) parent education, 2) enhancement of mothers' informal support systems in caring for the child, and 3) linkage of the families with community health and human services (e.g., nutritional supplementation program, vocational training, mental health counseling, legal aid, Planned Parenthood). An average of 83% of nurses' time was spent on education. • Nurses sent two reports of their observations of medical, social, and emotional conditions to the children's pediatric health care provider. They also clarified and reinforced physicians' recommendations during home visits with the families. • Home-based education focused on infant development including information about infants' temperament (especially crying behavior), socioemotional and cognitive needs (including responsive care giving and more complex motor, social, and intellectual experiences), and physical health care (including diet and bathing, managing common health problems, routine health care and immunizations). • Babies were brought by their mothers to the project office at ages 6, 12, and 24 months to check their weights and physical measurements. Developmental tests also were administered at 12 and 24 months. • Mothers were interviewed at the time of infant assessments about common difficulties such as feeding and crying and their responses to these problems. At babies' 6-month visits, mothers were administered an infant temperament Q-sort procedures. • Mothers were interviewed in their homes when babies were 10 and 22 months of age and the Caldwell Home Observation checklist and interview procedure were completed. • Workers with the NY State Department of Social Service reviewed records for verified cases of abuse or neglect. With one exception, state social services departments where 15 mothers and children had relocated reviewed their records for abuse and neglect information. One nurse-visited non-risk family with no indication of maltreatment in the local records was omitted due to incomplete data. • Detailed record-keeping systems and regular case reviews were used to monitor implementation of the home visit protocol. • Inter-observer agreement for the Caldwell procedure on individual items was measured and ranged from 82% to 100%.
Staff Qualifications	• Nurses
Key Findings	• <u>Abuse/Neglect:</u> o During children's first 2 years, 4% (n=1, abuse/neglect combination) of highest risk (poor, unmarried teenagers) nurse-visited study participants abused or neglected their children compared with 19% (n=8:neglect=4, neglect/abuse=4) of those in the control group. However, these results were not statistically significance. o The incidence of abuse and neglect increased as risk factors accumulated for the control group but remained relatively low for the nurse-visited group even with higher levels of risk. o Nurse-visited women reported significantly more positive moods for their babies but more frequent occurrences of resisting eating and greater concern in mothers' responses to 6-month olds' behavioral problems. Though not statistically significant, nurse-visited poor unmarried teens tended to report less conflict with and scolding of their babies and less frequent crying that those in the control group. • <u>Play Materials and Parenting Behaviors:</u> o For the group at greatest risk, nurse-visited mothers were observed in their homes to punish and restrict their 10- and 22-month-old children significantly less frequently and provided more appropriate play materials than those in the control group. • <u>Developmental Quotients:</u> o Though not statistically significant, there was trend for 12- and 24-month-old children of highest risk nurse-visited mothers to have higher developmental quotients than those in the control group. • <u>Emergency Room Visits:</u> o During babies' first year, the children of nurse-visited women, especially poor unmarried teens,

	were seen in the emergency room significantly fewer times than those in the control group. A detailed review of medical records showed that the differences were explained by fewer visits for upper respiratory tract infections. o During babies' second year, the children of nurse-visited mothers were seen in the emergency room significantly fewer times and had fewer accidents and poisonings than those in the control group. • Maternal Sense of Control: o Treatment differences in child abuse and neglect was greater at lower levels of maternal sense of control, for poor unmarried nurse-visited teens. o The incidence for maltreatment increased significantly as maternal sense of control declined for the control group but did not lead to an increase for nurse-visited women (but the results for these women were not significant).

Citation	**Zielinski, D. S., Eckenrode, J., & Olds, D. L. (2009). Nurse home visitation and the prevention of child maltreatment: Impact on the timing of official reports. Development and Psychopathology, 21, pp. 441-453.**
Population and Sample	• 400 families randomly assigned to 4 groups: o Comparison Group 1 (n=90) children at ages 12 and 24 months received developmental and sensory screening, with referrals for evaluation or treatment if indicated o Comparison Group 2 (n=94) received the same services as Group 1 with the addition of free transportation for regular prenatal and well-child care through age 2 at local clinics and physicians' offices o Intervention Group 3 (n=100) received same services as group 2 as well as nurse home visitation during pregnancy o Intervention Group 4 (n=116) received the same services as group 3 with continued visits until babies were 2 years old • Study groups included women who had no previous live births, were less than 25 weeks into gestation, and had at least one of the following characteristics: (a) <19 years at registration, (b) single parent, or (c) low socioeconomic status. The final sample was 11% African American and 89% European American.
Methodology	Experimental, with random assignment to groups
Purpose	**To examine the effects of the Nurse Family Partnership (NFP) program on the timing of verified reports of child maltreatment.**
Measures & Assessments	• Child Protective Services (CPS) Records
Study Implementation	• **Because there were no differences between Treatments I and II in their use of prenatal and well-child care (both groups had high rates of completed appointments), these two groups were combined to form a single comparison group.** • **The study examined differences between the full intervention (Treatment IV) and the combined comparison group (Treatment Groups I and II). Treatment Group III (prenatal home-visiting only) was not included in the analyses because few and inconsistent effects were found in previous studies.** • **Nurses were scheduled to visit Intervention Group 4 women once every other week during pregnancy, once a week for the first 6 weeks postpartum, and less often after that until the children reached the age of 2 years. The nurses completed an average of 9 visits during pregnancy and 23 visits between the child's birth until age 2.** • **During home visits, nurses worked with mothers to a) improve prenatal health; b) improve parents; competence in providing early care for their children; and c) help them plan future pregnancies, complete their educations, and find work.**
Staff Qualifications	• Nurses
Key Findings	• **76% of NFP children survived to age 15 with no CPS report compared with 68% of the children in the comparison group.** • **83% of NFP children had no initial reports of neglect by age 15 compared with 73% of comparison children.** • **NFP children showed significantly less risk for initial reports of neglect than comparison children between the ages of 5 and 15, with no more initial reports of neglect after age 8 for the NFP group.** • **Cox models showed that the treatment by time period interaction model and the interaction model with continuous time were both significant. First time reports of neglect for the highest risk NFP children stopped at age 3 but continued for the highest risk comparison children through age 12.** • **81% of NFP children had no report of any maltreatment by the age of 15 compared with 58% of comparison children and 87% of NFP children had no report of neglect compared with 63% of comparison children.**

Citation	**Matone, M., O'Reilly, A., Luan, X. Localio, A. R., & Rubin, D. M. (2012). Emergency department visits and hospitalizations for injuries among infants and children following statewide implementation of a home visitation model. Maternal and Child Health Journal, 16, pp. 1754-1761.**
Population and Sample	• 5,909 women in the Nurse Family Partnership (NFP) group who were received services from 24 NFP sites in Pennsylvania between 2003 and 2007. • 16,794 women in a match (using propensity scores) comparison who did not receive NFP services. • The majority of study participants were white (>75%), unmarried (>=90%), and from urban areas of the state 82%); 42% were 18 years of age or younger.
Methodology	Quasi-experimental
Purpose	To compare the utilization of hospital or emergency rooms for childhood injuries during the first two years of life between Nurse Family Partnership (NFP) program participants and comparison families.
Measures & Assessments	• NFP Enrollment History • Pennsylvania State Birth Records • Pennsylvania State Death Records • Welfare Records and Medicaid Claims
Study Implementation	• The retrospective NFP cohort were selected based on (1) delivery of a first-born infant who was not medically high-risk (i.e., born prior to 25 weeks' gestation, died at birth or within 14 days of birth, infants died from a congenital or perinatal condition); (2) successful linkage to the Medicaid claims of their children following birth; (3) receipt of welfare assistance from the Commonwealth of Pennsylvania within 12 months prior to the birth of their first-born infant. • The matched non-NFP comparison group, identified through birth and death certificate and welfare eligibility data, included women residing in NFP communities and meeting the same inclusion criteria as the NFP cohort. Propensity score analysis was used for matching groups based on baseline characteristics including maternal education and race, marital status, history of gestational diabetes and history of smoking, TANF and food stamp receipt prior to and/or during the first trimester. • Models were stratified based on age (18 years or younger and over 18) and birth cohort (2003-05 and 2006-07). • Medicaid claims for injuries examinations that occurred in hospital or emergency room settings were used as the source of outcome data. • NFP uses a formal protocol for site-level implementation support (e.g., supervisory staff, annual regional and state meetings, continuing education), but evaluation of fidelity has not been incorporated into those protocols.
Staff Qualifications	• Nurses
Key Findings	• Of 6,129 emergency department (ED)injury visits identified for both groups, 1,613 (26%) were for NFP children. The frequency of injury visits per child ranged from 0 to 13. • Compared with the non-NFP group, NFP children were more likely to have at least 1 ED injury visit (NFP=32% vs non-NFP=27%). • Compared with the non-NFP group, NFP children were less likely to have 5 or more ED injury visits (NFP=.1% vs non-NFP=1.0%). • NFP children were significantly more likely to have higher rates of ED injury visits in the first 2 years of life than the comparison group children. However, the difference was largely explained by the significantly higher rate of visits by NFP children for superficial injuries. The visit rates for increasingly serious injuries and suspected child abuse were similar for both groups. • Significant site variation occurred in ED injury visit rates (14.5% to 42.5%) across NFP agencies.

Citation	**Yun, K., Chesnokova, A., Matone, M., Luan, X., Localio, A. R., & Rubin, D. M. (2014). Effect of maternal-child home visitation on pregnancy spacing for first-time Latina mothers. American Journal of Public Health, 104(S1), pp. S152-S158.**
Population and Sample	• NFP group included 1,000 Latina women who: o delivered a first-born, singleton infant from January 1, 2003, through December 31, 2007; o received any form of welfare assistance in the 12 months before and including birth; and o were clients of 1 of 15 Pennsylvania NFP agencies that had served 15 or more Latina women during the study period. • Comparison group included 3,385 Latina women, matched using propensity scores who: o delivered a first-born, singleton infant from January 1, 2003, through December 31, 2007; o received any form of Pennsylvania welfare assistance in the 12 months before and including birth; and o had not participated in Pennsylvania NFP but resided within the service area of a Pennsylvania NFP agency
Methodology	Quasi-experimental
Purpose	This study examined the time to second pregnancy of first-time Latina mothers after participating in

	a Nurse Family Partnership (NFP) home visitation program.
Measures & Assessments	• NFP client data • State Welfare Eligibility Files • State Birth Certificate Files
Study Implementation	• Data were extracted from NFP client data, welfare eligibility files from the Pennsylvania Department of Public Welfare, and birth certificates from the Pennsylvania Department to Public Health. • Nurses visited the NFP group beginning no later than the end of the 28th week of pregnancy and continuing for up to 2 years postpartum.
Staff Qualifications	• Trained registered nurses
Key Findings	• NFP women experienced a 22.9% cumulative incidence of second conception by 18 months compared with non-NFP women who experienced a 25.8% cumulative incidence. The results were not statistically significant. • Program effects appeared largest for women of Mexican heritage and adolescents. Women of Mexican heritage in the NFP group had a 26% decreased risk of second conception at 18 months following their first birth and NFP adolescents had a 20% decreased risk of second conception at 18 months The absolute difference between NFP and and adolescents at 18 months was 4.6%. These results were not statistically significant. • The cumulative incidence of second conception was approximately 45% at 36 months for both groups.

Review of Meta-Analyses

Citation	**Miller, T. R. (2015). Projected outcomes of Nurse-Family Partnership home visitation during 1996–2013, USA. Prevention Science, 16, pp. 765-777.**
Population and Sample	Total participants across all studies: • Nurse-visited prenatal = 1491 • Nurse-visited postnatal = 922 • Comparison group prenatal = 1580 • Comparison group postnatal = 1293
Methodology	Meta-study
Purpose	This article addresses how pre- and post-natal home visits by registered nurses as part of Nurse Family Partnership (NFP) programs may affect the lives of low-income, first-time mothers and their babies. NFP has been evaluated in six randomized trials as well as several limited analyses, with findings on 21 outcomes reviewed and effects calculated on three others. This article also reports outcome data from the NFP national data system and communications to fill data gaps on some trials.
Measures & Assessments	Varied across studies
Study Implementation	• Thirty-nine evaluation reports were identified, including 23 on three randomized trials by the NFP model developers. Studies conducted by program developers used experimental designs and replication studies used quasi-experimental designs with imperfect comparison group matching. • Effectiveness estimates for 21 outcomes were extracted from the reports and the NFP National Service Office's reporting system. • Methods used for estimating program effectiveness were mixed.
Staff Qualifications	Varied across studies
Key Findings	• <u>Prenatal Health</u> o Cotinine levels in the blood indicated that NFP mothers smoked 24.2% less tobacco during their pregnancy. o Pregnancy-Induced hypertension declined by 31.3% for treatment groups. • <u>Pregnancy Outcomes</u> o Preterm births (less than 37 weeks) were reduced by 14.7% for treatment groups. o 0.035 fewer subsequent preterm births for treatment groups. o Reduced infant deaths by 45.4% for treatment groups. • <u>Parent Health Behaviors</u> o 31.2% fewer closely spaced second births within 24 months for treatment groups; in years 3–12 post-partum, birth rate unchanged. o 30.7% reduction in abortions through child age 3 for treatment groups. o 11.2% (7.6 percentage point) increase in mothers who tried breast-feeding for treatment groups. • <u>Violence, Abuse, and Neglect</u> o 16.1% reduction in intimate partner violence through child age 4 for treatment groups. o Estimated reduction in child maltreatment by 31.0% at ages 4 through 15 for treatment groups.

- Child Health and Safety
  - Estimated reduction in language delay by 39.1%, reducing need for preschool or school-based remedial services for treatment groups.
  - Through age 2, NFP babies have 32.6% fewer injuries treated in emergency departments (EDs) or admitted to hospital.
  - NFP participation is associated with a 13.0% (9.1 percentage point) increase in probability that children covered by Medicaid will have complete immunizations at age 2.
  - Estimated reduction in youth arrests by 44.6% at ages 11 through 19, with reduced arrests of girls predominating and arrest probabilities equalizing by age 19 for treatment groups.
  - Estimated reduction in alcohol, tobacco, and marijuana use by 53.2% at age 12 until at least age 15 for treatment groups.
- Socio-Economic
  - Estimated reduction in TANF payments by 5.6% for 12 years post-partum. Savings result from reduced subsequent births and altered earning patterns that reduce TANF eligibility and payments per eligible family for treatment groups.
  - Estimated reduction in food stamp payments by 9.6% for at least 12 years post-partum. Savings result from reduced subsequent births and altered earning patterns that reduce food stamp eligibility and payments per eligible family for treatment groups.
  - Estimated reduction in person-months on Medicaid by 7.6% for at least 15 years post-partum due to reduced second births and fewer subsequent children for treatment groups.
  - Estimated reduction in the present value of Medicaid spending per child recipient by 8.5% from birth through age 18 (bootstrap-estimated 95% CI 4.5%, 12.5%) through health improvements for treatment groups.
- An estimated 4.85% of the second babies who would have been born within two years of the first birth would have used subsidized child care funded by the Child Care Development Block Grant for treatment groups.

Review of Descriptive and Non-Experimental Studies

None

End Notes

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[i] Olds, D. L. (1999). The nurse home visitation program. Future of Children, 9(1), 190-191.

[ii] Olds, D. (2010). The Nurse Family Partnership: From trials to practice. In A. J. Reynolds, A. J. Rolnick, M. M. Englund & J. A. Temple (Eds.), Childhood Programs and Practices in the First Decade of Life. New York: Cambridge University Press.

[iii] Miller, T. R. (2015). Projected outcomes of Nurse-Family Partnership home visitation during 1996–2013, USA. Prevention Science, 16, pp. 765-777.

[iv] Advisory Panel. (2008). Evidence Summary for the Nurse Family Partnership. Department of Education. Coalition for Evidence Based Policy: Washington, DC. Updated March 2012.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Outdoor Learning Environment (OLE)

Goals

The goals of Outdoor Learning Environments (OLE) are 1) to decrease childhood obesity, 2) to increase the time that children spend outdoors, 3) to increase the level of childhood physical activity, and 4) to improve the quality of outdoor environmental diversity (source: naturalearning.org).

Outdoor Learning Environment Snapshot

- **EC Profile Indicator**: H60 - Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports use** with early childhood professionals and children in child care
- **Related Smart Start outcomes:**
  - Increase in the children's practice of healthy behaviors
- **Purveyor training required:** Yes
- **Suggested Assessments:** Preschool Outdoor Environment Measurement Scale (POEMS)
- **Implementation Guidance:** http://naturalearning.org/content/projects

Program Features

There are several key steps in the development of outdoor learning environments.

The first activity is to train teachers how to use the outdoors to promote physical activity and healthy nutrition.

Second, provide redesign assistance of outdoor play and learning environments that includes preschool staff/volunteers and helps modify these environments to support children's daily nutritional and physical activity needs. Designs should recognize that infants and toddlers have their own separate outdoor learning environment from preschool age children. Spaces should be designed to meet the developmental needs and abilities of each age group.

Third, centers need resources to buy or receive donated plants, tools, and materials to build the OLE. Lastly, volunteers and/or contractors are used to build the actual OLE.

Strong OLE's have a community engagement component which recognizes the project as a vehicle for community empowerment and knowledge transfer, which, in turn, drives the project execution. External professionals are seen as partners in the process and provide technical support and knowledge. Centers receive assistance with design of the outdoor learning environment. Typical improvements include wheeled toy pathways, water and sand play, multipurpose lawns, outdoor classrooms, shade trees, shrubs, permanent edible landscapes, and designated vegetable gardens.

The Natural Learning Initiative (NLI) housed at NC State University provides technical assistance for development of outdoor learning environments. When NLI works with a center, they begin with an assessment of the outdoor learning environment using the Preschool Outdoor Evaluation Measurement Scale (POEMS). Teachers and parents are asked to complete a short survey about what they like and dislike about the outdoor space. Center personnel then attend a full-day workshop where they review their POEMS data, discuss their site, and learn about the process for designing a new outdoor learning environment. A design team discusses the design plans and steps for implementation

For more information regarding outdoor learning environments use this link: http://naturalearning.org/ content/projects

Target Audience

Early care professionals and children in child care

Documented Outcomes

	Type of Study	Outcomes
		Increase in children's physical activity*
Cosco et. al. (2014).[i]	Non-experimental	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with the Smart Start outcome *Increase in children's practice of healthy behaviors*

Research Evidence

- The evidence suggests that the layout of an outdoor site in a childcare center along with teacher training may support an increase in children's physical activity.

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Cosco, N., G., Moore, R. C., & Smith, W. R. (2014). Childcare outdoor renovation as a built environment health promotion strategy: Evaluating the preventing obesity by design intervention. American Journal of health Promotion, 28(3), pp. S27-S32.**
Population and Sample	The study worked with 10 North Carolina county Smart Start Partnerships. The partnerships chose three childcare centers each from a pool of centers participating in childcare quality enhancement programs across the state. The evaluation included 27 centers.
Methodology	Non-experimental; pre/post intervention
Purpose	To evaluate the effectiveness of Preventing Obesity by Design (POD), a childcare center outdoor renovation intervention. POD is based on research that shows (1) children's physical activity is motivated by diverse outdoor environments, (2) active preschoolers retain higher levels of physical activity as school-aged children, (3) the preschool outdoors is a determinant of preschool physical activity, and (4) gardens that support children's engagement with vegetables and fruits and frequency of their consumption are associated with acceptance of diverse tastes as a positive strategy to support healthy eating
Measures &	• Behavior mapping

Assessments	• Preschool Outdoor Environment Measurement Scale (POEMS) • Center Director Interview
Study Implementation	• The POD team worked directly with local early education technical assistance professionals and providers, using a train-the-trainers approach to transfer knowledge about designing and managing outdoor environments to support physical activity, increase food awareness, and encourage healthy eating.
Staff Qualifications	• Not addressed
Key Findings	• All POEMS ratings were higher post renovation. Physical Environment and Teacher/ Caregiver Role domains were positively associated with preschool activity. These domains assess environmental conditions and teacher expertise in outdoor play and learning, respectively. • Trained teachers allowed children to play freely without interruptions and did not intervene as often. • Changes in the built environment influence children's activity and pathway layout is associated with increased preschool physical activity. • Findings indicate that social interactions in preschool outdoor learning environments were associated with the level of children's activity. • Any type of teacher interaction (including positive) decreased the amount of children's physical activity, as children stop what they are doing when an adult addresses them, engages in a conversation, or coordinates play activities. Therefore, the absence of teacher in the observation zone was associated with increased physical activity. • Lack of interactions with other children was also associated with increased activity possibly owing to the inability of coders to identify play partners when the activity was fast. • Behavior mapping showed that site layout attributes, including looped pathways, coupled with teacher training may support increased physical activity. • Teacher interaction was associated with decreased children's physical activity. Absence of teacher or lack of child/child interaction was associated with increased physical activity. • After renovation, 68% of center directors reported positive changes in children's behavior and 40% mentioned edible plant installations as greatest success.

End Notes

[i] Cosco, N., G., Moore, R. C., & Smith, W. R. (2014). Childcare outdoor renovation as a built environment health promotion strategy: Evaluating the preventing obesity by design intervention. American Journal of health Promotion, 28(3), pp. S27-S32.

Additional Resources

Boldemann, C., Blennow, M., Dal, H., Martensson, F., Raustrop, A., Yuen, K., & Wester, U. (2006). Impact of preschool environment upon children's physical activity and sun exposure. Preventive Medicine, 42(4), pp. 301-308.

Boldemann, C., Dal, H., & Wester, U. (2004). Swedish preschool children's UVR exposure: a comparison between two outdoor environments. Photodermatology, Photoimmunology & Photomedicine, 20(1), pp. 2-8.

Fjortoft, I. (2001). The natural environment as a playground for children: The impact of outdoor play activities in pre-primary school children. Early Childhood Education Journal, 29, pp. 111-117.

Grahn, P., Martensson, F., Lindblad, B., Nilsson, P., & Ekman, A. (1997). Outdoors at a day care centre, Alnarp, Sweden. MOVIUM, Stad & Land 145, Swedish Agricultural University,Alnarp, Sweden, pp. 4-115.

Martensson, F., Boldemann, C., Soderstrom, M. Blennow, M., Englund, J. E., & Grahn, P. (2009). Outdoor environmental assessment of attention promoting settings for preschool children. Health &

Place, 15, pp. 1149-1157.

Soderstrom, M., & Blennow, M. (1998). Children in outdoor day care centers have lower absence due to sickness. Lakartidningen, 95, pp. 1670-1672.

Soderstrom, M., Martensson, F., Grahn, P., & Blennow, M. (2004). Outdoor environment in child day care and its influence on outdoor stay and play. Ugeskrift for Laeger. 166(36), pp. 3089-3092.

The Natural Learning Initiative (NLI). (2012). Impact of Preventing Obesity by Design POD. College of Design, NC State University: Raleigh, NC.

The Natural Learning Initiative. (2012). Preventing Obesity by Design. Available from: http://naturalearning.org/content/projects.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Technical Assistance using the Pyramid Model

Goals

The goals of the Pyramid Model are to provide early care and education professionals: 1) the information and 2) skills to support the social-emotional competence in young children.

Program Features

The Center for Social and Emotional Foundations for Early Learning (CSEFEL) designed the Pyramid Model to prevent and address challenging behaviors of young children in group child care settings. The Pyramid Model builds upon a tiered mental health approach to providing universal supports to all children to promote wellness, targeted services to those who need more support, and intensive services to those who need them.

The tiered approach is depicted as a pyramid with:

- The foundation for all of the practices in the pyramid is the systems and policies necessary to ensure a workforce able to adopt and sustain these evidence-based practices.
- Universal supports for all children through nurturing and responsive relationships and high-quality environments.
- Prevention which represents practices that are targeted social-emotional strategies to prevent problems.
- Intervention which is comprised of practices related to individualized intensive interventions.[i]

Pyramid Model Snapshot

- **EC Profile Indicator:** PLA40 - Average Star Rating for Children in 1-5 Star Care and Percent of Children in 4 and 5 star care or PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
- **Research supports** use with early care and education professionals
- **Related Smart Start outcomes:**
  - Improved teacher/child interaction
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Staff qualifications:** North Carolina TA Level 11 and TA Endorsement
- **Suggested Assessments:**
  - Teaching Pyramid Observation Tool (TPOT)
  - The Pyramid Infant-Toddler Observation Scale (TPITOS)
- **Implementation Guidance:** http://csefel.vanderbilt.edu.

Several of the developers of the Pyramid Model for Supporting Social-Emotional Competence in Infants and Young Children have designed techniques to enhance teachers' use of Pyramid strategies in early childhood classrooms. These technical assistance strategies include high-quality workshops, on-site coaching, and data collection.[ii] Technical assistance is provided to ensure that the Pyramid Model practices are implemented with fidelity.

For more information regarding the Pyramid Model use these links: http://www.challengingbehavior.org and http://csefel.vanderbilt.edu.

Target Audience

Early care and education professionals

Documented Outcomes

		Child Outcomes				Teacher Outcomes		
	Type of Study	Social skills scores*	Problem behavior scores*	Child reading and language skills	Improved teaching practices/ use of the Pyramid Model	Percentage of quality indicators used	Rate of trials attempted	Rate of procedurally correct trials
Hemmeter et.al. (2011)	Experimental with random assignment	✓	✓					
McLean et.al. (2011)[iii]	Experimental with random assignment			✓		✓	✓	✓
Hemmeter et.al. (2015)[iv]	Non-experimental				✓			

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for the Pyramid Model

- Children of teachers implementing the model had fewer problem behaviors and more positive social skills.[v]
- Coaching is associated with improved teacher practices.

Review of Experimental and Quasi-Experimental Studies

Citation	**Hemmeter, M.L., Fox, L., & Snyder, P. (2011). Professional development related to the teaching pyramid model for addressing the social emotional development and challenging behavior of young children. Presentation made at the 3rd conference of the International Society on Early Intervention, New York, NY.**
Population and Sample	• 20 treatment teachers • 20 control group teachers • 2-3 children from each classroom
Methodology	Experimental, with random assignment
Purpose	The presentation summarized findings from a study of the effect of Pyramid Model on child social/emotional development.
Measures & Assessments	• Early Childhood Environment Rating Scale • Teaching Pyramid Observation Tool (TPOT) • Target Child Observation System • Social Skills Intervention System
Study Implementation	• Intervention teachers received 3 days of training (19.5 hours); implementation guides and materials; and weekly observation, coaching sessions, and email feedback. • Control teachers received training at the end of the study. • There were 2-3 target children in each classroom. Target children were identified using the Caregiver Teacher Report Form from the Child Behavior Checklist.
Staff Qualifications	• Not addressed
Key Findings	Target Children • The study team found that there were differences between treatment and control group students with regard to social skills scores, wherein the treatment group adjusted mean score was 88.6 and the control group adjusted mean score was 84 (Cohen's d=.41, p=.069). • The study team found that there were differences in mean problem behavior scores, wherein treatment group students had an adjusted mean score of 108.7 and the control group had an adjusted mean score of 115.5 (Cohen's d=-.52, p=.016). • The study team also found "statistically significant and noteworthy differences in frequency of positive social interactions for interventions classrooms at wave 4," wherein wave 4 was

	the final wave of data collection. Non-Target Children • The study team found that there were differences between treatment and control group students with regard to social skills scores, wherein the treatment group adjusted mean score was 103.8 and the control group adjusted mean score was 96.4 (Cohen's d=.46, p=.009). • The study team found that there were lower mean problem behavior scores, wherein treatment group students had an adjusted mean score of 95.14 and the control group had an adjusted mean score of 99.2.

Citation	**McLean, M., Snyder, P., Sandall, S., and Hemmter, M.L. (2011). Professional Development in Embedded Instruction. Presentation for the annual meeting of the American Education Research Association, April 2011, New Orleans Louisiana.**
Population and Sample	The study incorporated 36 teachers at three preschool sites, with 11 to 13 teachers per site. There were 106 children across the three sites. This included two to three "target" children with disabilities, in each classroom. All children in the study had an Individualized Education Program (IEP).
Methodology	Experimental, with random assignment of teachers
Purpose	The study targeted several questions: (1) What is the relationship between exposure to the professional development intervention and teachers' frequent and accurate use of embedded-instruction practices? In answering this question, the study team focused on (a) developing quality learning targets (LTRS); (b) implementing planned learning opportunities (EIOS); and (c) delivering complete learning trials (EIOS). (2) Do scores on standardized measures of key preschool indicators (pre-academic, literacy, language, and social-emotional behavior) differ among children whose teachers were involved in each of the three experimental professional development conditions? (3) What are teachers' perspectives about embedded instruction and the professional development they received?
Measures & Assessments	• Test of Early Reading Ability—Third Edition (TERA-3) • Preschool Language Scale-Fourth Edition (PLS-4)
Study Implementation	• Embedded instruction was described as a *"multi-component approach to provide intentional and systematic instruction on priority learning targets during typically occurring activities, routines, and transitions to support child engagement and learning."* • The study incorporated three study conditions: (1) Tools for Teachers workshops plus on-site coaching (2) Tools for Teachers workshops plus self-coaching (3) Wait-list control group • Teachers in both of the experimental conditions received 16.5 hours of workshops, implementation guides and materials, and a digital video camera. • On-site coaching consisted of observation, debrief, and email feedback, provided over a mean of 16 sessions. • Wait-list comparison group teachers received workshops, implementation guides, a digital video camera, and access to the web site after the study ended. • Implementation fidelity was facilitated with workshop implementation guides and tracked with a workshop fidelity checklist. The study team also examined the instructional strategies used by the trainer and compared time allocated to time spent. • Proximal outcomes were measured at five time periods: before workshops, after workshops, in the 2nd month of coaching, in the 4th month of coaching, and after the intervention. • Distal outcomes were measured at two time periods: before workshops and after the intervention
Staff Qualifications	• Qualifications for coaching staff were not addressed
Key Findings	• The study team found significant treatment effects when comparing teachers in the coaching versus teachers in the control group. More specifically: o The adjusted mean score for percentage of quality indicators (LTRS) was 70.29 for the coaching group and 56.95 for the control group (Cohen's d=1.32, p<.05). o The adjusted mean score for rate of trials attempted (EIOS) was .55 for the coaching group and .24 for the control group (Cohen's d=1.123, p<.05). o The adjusted mean score for rate of procedurally correct trials (EIOS) was .38 for the coaching group and .09 for the control group (Cohen's d=2.86, p<.05).

- The study team found significant treatment effects when comparing teachers in the self-coaching group versus teachers in the control group. More specifically:
  - The adjusted mean score for percentage of quality indicators (LTRS) was 71.26 for the coaching group and 56.95 for the control group (Cohen's d=1.42, p<.05).
- The study team found significant treatment effects when comparing teachers in the coaching group versus teachers in the self-coaching group. More specifically:
  - The adjusted mean score for rate of trials attempted (EIOS) was .55 for the coaching group and .23 for the self-coaching group (Cohen's d=1.24, p<.05).
  - The adjusted mean score for rate of procedurally correct trials (EIOS) was .38 for the coaching group and .13 for the self-coaching group (Cohen's d=2.54, p<.05).
- The study team found significant treatment effects when comparing the self-coaching and control group teachers. More specifically:
  - The adjusted mean score for the alphabet subscale of the TERA-3 was 8.87 for children in classrooms with teachers conducting self-coaching and 7.54 for children in control classrooms (Cohen's d=.46, p<.05).
  - The adjusted mean score for the meaning subscale of the TERA-3 was 6.59 for children in classrooms with teachers conducting self-coaching and 5.16 for children in control classrooms (Cohen's d=.76, p<.05).
  - The adjusted mean score for the auditory subscale of the PLS-4 was 79 for children in classrooms with teachers conducting self-coaching and 73.3 for children in control classrooms (Cohen's d=.34, p<.05).
- The study team found significant treatment effects when comparing the coaching and control group teachers. More specifically:
  - The adjusted mean score for the meaning subscale of the TERA-3 was 6.56 for children in classrooms with teachers receiving coaching and 5.16 for children in control classrooms (Cohen's d=.74, p<.05).

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Hemmeter, M. L., Hardy, J. K., Schnitz, A. G., Adams, J. M., & Kinder, K. A. (2015). Effects of Training and Coaching With Performance Feedback on Teachers' Use of Pyramid Model Practices. Topics in Early Childhood Special Education, 35(3), pp. 144–156.**
Population and Sample	The study incorporated three teachers from an urban school district. The teachers had been control group members in a prior study. The study took place in blended preschool classrooms in three elementary schools. All classrooms had between 14 and 16 children, about half who had disabilities, and all classrooms had a lead teacher and an assistant teacher. Each teacher had 2 to 4 children with persistent, ongoing challenging behavior and a high percentage of children receiving free or reduced price lunch (87.5%–93.8%).
Methodology	Non-experimental, gains within treatment group Multiple probe design across sets of practices, replicated across teachers
Purpose	The study's goal was to assess the impact of coaching and performance feedback on implementation of the Pyramid Model practices. The study also sought to assess how well the targeted professional practices were generalized and maintained. The following research questions were addressed: Research Question 1: Is training and coaching effective for increasing teachers' use of practices related to the *Pyramid Model*? Research Question 2: Do teachers generalize the use of coached practices to activities other than those in which they were coached? Research Question 3: Do teachers maintain practices after coaching on those practices end? Research Question 4: Does implementing the *Pyramid Model* practices with fidelity decrease classroom-wide instances of challenging behavior? Research Question 5: Does implementation of the *Pyramid Model* overall improve when teachers receive

	training and coaching on specific *Pyramid Model* practices? Research Question 6: What are teachers' perspectives of the coaching process, coaching relationship, and sustainability of the *Pyramid Model* practices?
Measures & Assessments	• Pyramid Model checklists • Class-Wide Challenging Behavior Observation Tool • Teaching Pyramid Observation Tool (TPOT)
Study Implementation	• Coaching in the Pyramid Model wherein there was a baseline phase (the coach did not provide any feedback) and an intervention phase (the coach provided coaching and performance feedback focused on a specific practice). The intervention required the teachers to become proficient; coaching was provided until the teacher could demonstrate the desired professional practice to specifications. The coaching strategies included: (a) providing materials, (b) modeling, (c) helping in the classroom, (d) problem-solving, (e) reflective conversation, (f) environmental arrangement, (g) side-by-side verbal or gestural support, (h) goal setting and planning, and (i) graphing. • Observations took place in the classrooms during the regular school day. Coaching sessions took place in the classroom, during naptime or after school. • The primary behaviors of interest were the teacher's use of specific practices associated with the *Pyramid Model*. These behaviors were measured through the use of researcher-designed checklists that were based on an earlier version of the TPOT. Nine checklists were developed, and each checklist contained 7 to 10 indicators related to the practice, with precise criteria for receiving credit for each indicator. These data were collected approximately 1 to 2 times per week. During each observation, the coach collected data on the teacher's current set of targeted practices. In addition, the coach collected intermittent probe data on the other sets of targeted practices during at least 30% of data collection observations. • A different data collector observed and collected data periodically throughout the intervention phase for each targeted practice. The teacher was unaware of the purpose of these observations, and the coach was not present during these observations. These data will hereafter be referred to as alternate observer checks. In addition, inter-observer agreement (IOA) data were collected on at least 33% of the observation sessions to ensure that the coach's data were reliable. • During the study, IOA data were collected for all teacher, classroom, and child measures. At least 30% of observations using each measure were conducted with a primary and reliability data collector. The percentage agreement between the two data collectors was calculated using a point-by-point formula: • The number of agreements divided by the number of agreements plus disagreements was multiplied by 100. • Procedural fidelity data were collected on at least 20% of each type of coaching session for each coach (i.e., goal setting, training and action planning, debriefing, email, closing). All coaching sessions were audio recorded, and all coaching emails were saved. Coaching sessions and emails were randomly selected to be reviewed by a procedural fidelity data collector. The data collector used a checklist when listening to the audio recordings and viewing the emails to determine if the coach followed the protocol for each type of session. Procedural fidelity percentages were calculated by dividing the number of items present by the number of items possible and multiplying by 100. • In addition, to ensure procedural fidelity was completed reliably, another data collector independently completed the procedural fidelity checklists for at least 20% of all sessions that were reviewed for procedural fidelity. IOA between the two procedural fidelity data collectors was calculated using point-by-point agreement.
Staff Qualifications	Before the study began, data collectors were trained on each tool and practiced using each tool in non-participating classrooms. They were required to be reliable on each tool prior to collecting data for the study. For teacher checklists, each data collector was required to complete two observations (paired with two different observers) at 80% reliability for each checklist to be considered reliable. To be considered reliable on classroom and child measures (i.e., TPOT and CCBOT), each data collector had to complete three observations with an already trained data collector, with at least 80% agreement on the measure being used.
Key Findings	• An intensive and individualized coaching model (coaching provided at least 2-3 times per week in person or by email) is effective at improving teacher use of targeted Pyramid Model practices. • Teachers did not uniformly translate targeted practices into areas in which they had not received specific support. • Teachers can maintain targeted practices after receiving coaching; check-ins and reminders may facilitate maintenance of desired practices. • Group coaching also may be a viable model for improving teacher practices.

End Notes

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[i] Center on the Social and Emotional Foundations for Early Learning. (n. d.). Center on the Social and Emotional Foundations for Early Learning (CSEFEL). Retrieved from: http://csefel.vanderbilt. edu/.

[ii] Snyder, P., Hemmeter, M. L., & Fox, L. (2011). Coaching to support fidelity of implementation of evidence-based practices in inclusive early childhood settings. Presentation made at the 3rd conference of the International Society on Early Intervention, New York, NY.

[iii] McLean, M., Snyder, P., Sandall, S., and Hemmter, M.L. (2011). Professional Development in Embedded Instruction. Presentation for the annual meeting of the American Education Research Association, April 2011, New Orleans Louisiana.

[iv] Hemmeter, M. L., Hardy, J. K., Schnitz, A. G., Adams, J. M., & Kinder, K. A. (2015). Effects of Training and Coaching With Performance Feedback on Teachers' Use of Pyramid Model Practices. Topics in Early Childhood Special Education, 35(3), pp. 144–156.

[v] Hemmeter, M.L., Fox, L., & Snyder, P. (2011). Professional development related to the teaching pyramid model for addressing the social emotional development and challenging behavior of young children. Presentation made at the 3rd conference of the International Society on Early Intervention, New York, NY.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Reach Out and Read

Goals

The goals of Reach Out and Read (ROR) are to: 1) promote early literacy to young children and their parents and 2) improve school readiness (*source: ROR website*).

Program Features

Reach Out and Read works through medical provider offices to promote early literacy and school readiness with the distribution of new books to children starting at the six-month checkup, and by talking with parents about the importance of reading aloud to their children (*source: ROR website*). Reach Out and Read utilizes the relationship between parents and medical providers to encourage the development of critical early reading skills in young children.

A Reach Out and Read site is a healthcare facility that provides primary pediatric care. An interested medical practice applies to participate through the Reach Out and Read organization. Medical providers must then participate in the ROR training about the importance of reading aloud and age-appropriate tips about reading strategies. Members of the medical staff provide every child a new book to take home. The medical provider then talks to the parent and child about the importance of reading and reading strategies. The waiting room has displays, books, and information about Reach Out and Read. When possible, sites are encouraged to have volunteers in the waiting room to read to children and to model the appropriate reading techniques. The pediatric care sites report regularly on their progress to the ROR National Center and their ROR Region/Coalition.

For more information regarding Reach Out and Read use this link: http://www.reachoutandread.org.

Reach Out and Read Snapshot

- **EC Profile Indicator:** FS 20 Percent of Parents/Guardians Who Report Reading to Their Children Daily
- **Clearinghouse Rating:** None
- **Research supports** use with children 6 months to 5 years of age and their parents, with special emphasis on children growing up in low-income communities
- **Related Smart Start outcomes:**
  - Increase in frequency of parent and child shared reading
  - Increase in the adult's use of recommended reading strategies
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Smart Start information or guidance:** Yes, see LP Central
- **Frequency:** During well-child visits from 6 months through 5 years of age, trained medical providers speak with parents about the importance of reading aloud and provide a new, developmentally appropriate book to the child to take home
- **Suggested Assessments:** ROR Parent Survey
- **Implementation Guidance:** http://www.reachoutandread.org; LP Central

Target Audience

Children 6 months to 5 years of age and their parents, with special emphasis on children growing up in low-income communities

Documented Outcomes

	Type of Study	Increase in frequency of parent and child shared reading*	Increase in the adult's use of recommended reading strategies**	Improved language development for children***
Kumar et al. (2016)[i]	Experimental, with random assignment	✓		
Needlman, R. & Silverstein, M. (2004)[ii]	Literature review and synthesis (including 3 controlled trials)	✓		✓
Rikin et al. (2015)[iii]	Non-experimental, with a cross-sectional design	✓		
Needleman et.al. (2005)[iv]	Non-experimental, with a cross-sectional design	✓	✓	
Mendelsohn et.al. (2001)[v]	Non-experimental with comparison groups	✓	✓	✓
Sharif et.al. (2002)[vi]	Non-experimental, with a comparison group	✓	✓	✓
High et.al. (1998)[vii]	Non-experimental, with a cross-sectional design	✓	✓	
Silverstein et.al. (2002)[viii]	Non-experimental, with a comparison group	✓	✓	
Weitzman et.al. (2004)[ix]	Quasi-experimental, with a cross-sectional design	✓	✓	
Theriot et.al. (2003)[x]	Pre-post	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.
*Aligned with Smart Start outcome *Increase in frequency of parent and child shared reading*
**Aligned with Smart Start outcome *Increase in the adult's use of recommended reading strategies*
***Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for Reach Out and Read

- Several research reviews show that Reach Out and Read (ROR) has a positive impact on child language outcomes, including receptive and expressive vocabulary, as measured by standardized assessment tools.[xi, xii, xiii, xiv, xv]
- The majority of studies showed that positive effects were most significant for high-risk children and low- income families, [iv] but there were also significant effects for families in general, including multilingual families.[ii]
- Evidence suggests that programs like ROR greatly improve positive effects for family and child literacy outcomes by providing parent training in appropriate shared-reading techniques.[xvi]

Review of Experimental and Quasi-Experimental Studies

Citation	**Kumar, M. M., Cowan, H. R., Erdman, L., Kaufman, M., & Hick, K. M. (2016). Reach Out and Read is feasible and effective for adolescent mothers: A pilot study. Maternal Child Health Journal, 20(3), pp. 630-638.**
Population and Sample	• 30 adolescent mothers (average age of 17.4) with children ages 6 to 20 months (average age of 9.9 months) o Intervention = 20 o Control = 20

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Methodology	Experimental, with random assignment
Purpose	This was a pilot to study the feasibility and effectiveness of Reach Out and Read for teen parents and their children. Participating families were clients at a teen-tot clinic in downtown Toronto.
Measures & Assessments	• Parent survey • Beck Depression Inventory-Revised (BDI-IA)
Study Implementation	• At well-child visits to the teen-tot clinic, eligible mothers were approached in the waiting room for recruitment. Upon written consent, a research assistant verbally administered a baseline questionnaire, a 3-question study questionnaire, and the BDI-IA. Participants were then randomized into intervention and control groups. • At each of three consecutive well child visits, the intervention group received three components of ROR: (1) child was given a developmentally appropriate book by a staff clinician; (2) the clinician briefly provided guidance for the mother on shared book reading techniques and the benefits of reading aloud to children; and (3) volunteer student librarians from the University of Toronto modeled shared book reading with families in the examination rooms, provided counseling and troubleshooting with mothers about reading techniques, informed mothers about local library services and literacy support programs, and signed up the child for a public library card. • Following the third visit, families in both groups again completed the study questionnaire and the BDI-IA. After final data collection, control families received three free children's books, reading guidance from a clinician, a public library card in the child's name, and a visit from a volunteer student librarian.
Staff Qualifications	• Not addressed
Key Findings	• By the end of the study, intervention mothers were significantly more likely to report reading as one of the child's favorite activities and had significantly lower depression scores. Intervention mothers also were more likely, though not significantly so, to report a) reading at least 3 days per week, b) more average days of reading per week, c) that reading was one of the mother's favorite activities with her child. Mothers also were less likely to have a clinically significant maternal depression score. • Although control group mothers reported reading more per week, on average, than intervention mothers at the start of the study, their average frequency of reading decreased while increasing for the intervention group. • Intervention group mothers improved and control group mothers worsened on the BDI-IA measure.

Citation	**Weitzman, C.C., Roy, L., Walls, T., and Tomlin, R. (2004). More Evidence for Reach Out and Read: A Home-Based Study. Pediatrics Vol. 113 No. 5, 1248-1253.**
Population and Sample	The study incorporated 137 families, 100 of whom completed home visits. Participating families had a child that was between 18 and 30 months at the time of the enrollment interview. The other eligibility criterion was *"the adult who accompanied the child to the clinic was the primary caregiver and could speak English well enough to participate in the initial interview and consent to a subsequent home visit."* Families were excluded from the study if 1) the child was born at <34 weeks of gestational; 2) the child had a known handicapping condition that affected development and may have affected a child's or a parent's reading behaviors; 3) the child had been hospitalized >14 days since birth; or 4) family members had a documented history in the medical record of substance abuse, criminal behavior, or significant mental illness.
Methodology	Quasi-experimental cross-sectional design without comparison group
Purpose	The study assessed family home literacy environments and created a child's home literacy profile. The study examined the quality of the home environment and tested the hypothesis *"that a significant relationship exists between the frequency of ROR encounters and a child's home literacy profile, even after accounting for important potential confounders such as the quality of the home environment."*
Measures & Assessments	• Parent interview • Home Observation for Measurement of the Environment (HOME) • Slosson Oral Reading Test Revised (SORT-R) • Counts of number of children's books (ROR and non-ROR) and adult reading materials present in the home • Review of child medical records • Child Home Literacy Index (CHLI)
Study Implementation	• The study team noted discrepancies in data between sources of reporting were relatively common. • Observations of adult reading materials in the home were conducted during the home visit.
Staff Qualifications	Not addressed

Key Findings	Parent Literacy • The study team noted the following, about the observations of adult reading materials in the home: *"In 97% of homes, there were no newspapers visible, in 80% no magazines for adult readers, and in 78% no books designed for adults. Only 10% of parents reported that they ever read for their own personal pleasure."* • The study team noted that the mean SORT-R score was 182.3 (and that a perfect score is 200 and the national mean score for young adults is 183). Quality of the HOME Environment • The study team noted that the mean total HOME score was 33.7 (and that scores of >38 are associated with a good developmental outcome, and scores of <28 are associated with poor developmental outcomes). Compliance with Well-Child Care • The study team reported that 15 of the 100 families were non-compliant with medical care. Child Home Literacy Index (CHLI) • The study team noted that the mean CHLI score was 4.9. The team also reported that "Parents reported reading to their child in 93% of families, but only 22% of families reported having a regular bedtime routine that included books. In addition, only 35% of families identified reading as a favorite activity of their child, but >50% of children own at least 10 books." Relationship Between Number of ROR Encounters and CHLI • The study team found that (a) frequency of ROR encounters (p=.005); (b) modified HOME scores (p<.05); and (c) educational level of the mother (p<.05) all were significantly related to CHLI score. • The study team used hierarchical linear regression analyses and found that a model that included age of the child, educational level of the mother, SORT-R score as a measure of parental literacy, modified HOME score as a measure of the quality of the home nurturing environment, compliance with well-child care, and the number of ROR encounters explained about 19% of variance in the child's home literacy profile. Further, parent education, HOME score, and number of ROR encounters, each predicted a significant amount of variance. More specifically, the number of ROR encounters accounts for about 5% of variance in child home literacy profile, after controlling for other confounding variables.

Review of Meta-Synthesis

Citation	**Needlman, R., & Silverstein, M. (2004). Pediatric interventions to support reading aloud: How good is the evidence? Journal of Developmental and Behavioral Pediatrics, 25, pp. 352-363.**
Population and Sample	12 published studies evaluating Reach Out and Read (ROR) and variations of ROR
Methodology	Literature review and synthesis, including 3 controlled trials
Purpose	This study examined the theoretical assumptions, methodological rigor and findings of published Reach Out and Read studies, and areas for future research.
Measures & Assessments	• Varied across study
Study Implementation	• Studies were identified for review were limited to infants and preschool children and focused on ROR specifically or programs modeled after ROR. • Outcome measures from the studies were grouped into two categories: (a) self-reported parent attitudes and behaviors and (b) reported or observed indices of child language development.
Staff Qualifications	• Not addressed
Key Findings	• The review notes that findings are predominantly, but not uniformly, positive for parent attitudes towards reading aloud and frequency of reading aloud. • The studies in general report significant associations between ROR and improved language development. • The association between Reach Out and Read and increased book ownership is a less-consistent association. • The studies reviewed over-represent foreign-born and Spanish-speaking parents. African-American and white families are under-represented in published studies. • The key findings noted by the study team included:

	○ Four times (odds ratio) increase in having "literacy orientation" among parents given books. ○ Approximately four times (odds ratio) increase in having "child centered literacy orientation" in the intervention group. ○ 10 times (odds ratio) increase in parents reading aloud > or = 3 nights per week; trend for increased receptive vocabulary among intervention children > 18 months old. ○ 40% increase in receptive (parent-reported) vocabulary; 80% increase in expressive, among children > 18 months old. ○ 2 times increase in proportion listing reading as favorite activity and increase doctor "helpfulness" and parent "receptiveness." ○ 3.6 times (odds ratio) increase in likelihood of book sharing at least 3 times per week. ○ Adjusted 8.6 points higher receptive vocabulary, 4.3 points higher expressive on standardized tests. ○ Receptive vocabulary 7.2 points higher on standardized test. ○ 2.4 times increase in proportion listing reading aloud as a favorite activity; 1.7 times increase in proportion practicing regular bedtime reading; similar rises in English and non-English groups. ○ Receptive and expressive language scores correlated with number of books given by clinic multiplied by the number purchased by parents. • The study team noted that there were no significant differences associated with the intervention in one of the studies. • Consistent statistically significant between-group differences in the predicted direction were found for: ○ Child-Centered Literacy Orientation (CCLO); two studies ○ Communicative Development Inventory (modified) receptive; two studies ○ Receptive One-Word Picture Vocabulary Test; three studies • For other outcomes of interest, some studies had statistically significant between-group differences in the predicted direction while others had a lack of statistically significant differences.

Review of Descriptive and Non-Experimental Studies

Citation	**Rikin, S., Glatt, K., Simpson, P., Cao, Y, Anene-Maidoh, O, & Willis, E. (2015). Factors associated with increased reading frequency in children exposed to Reach Out and Read. Academic Pediatrics, 1, pp. 651–657.**
Population and Sample	• Convenience sample visiting 8 Reach Out and Read (ROR) sites in Milwaukee ○ 256 caregivers (over the age of 18 and with healthy children between 6 and 59 months of age) ○ 68% Black, 38% Latino; 96% English, 32% Spanish; 73% graduated from high school
Methodology	Non-experimental, with a cross-sectional design
Purpose	The study investigated whether exposure to Reach Out and Read was associated with the frequency of shared reading.
Measures & Assessments	• Parent questionnaire adapted from the Before-and-After-Books and Reading survey
Study Implementation	• Caregivers visiting the clinic sites for routine health care were approached for participation in the study. Children with birth weights less than 2500 g or severe neurodevelopmental disability were excluded and no incentives were offered. • Study participants were asked to complete a questionnaire asking about 1) demographic characteristics of the caregiver and child; 2) exposure to ROR (i.e., number of books received from pediatricians and age of child when a book was first received from a pediatrician); 3) caregiver literacy factors (caregiver interest in reading, how caregiver prepares child for bed, number of books in the child's household); and 4) frequency of reading (days/week), which was used as the outcome variable.
Staff Qualifications	• Not addressed
Key Findings	• Caregivers who received 4 or more books from the pediatrician reported reading to children significantly more frequently than caregivers who received fewer than 4 books. • Caregivers who reported reading to children daily were more likely to have 40 or more children's books at home.

Citation	**Needleman, R., Toker, K.H., Dreyer, B.P., Klass, P., and Mendelsohn, A.L. (2005). Effectiveness of a primary care intervention to support reading aloud: A multicenter evaluation. Ambulatory Pediatrics, 5, 209-215.**
Population and	The study was conducted at 19 sites located in 10 states. The study incorporated 1647 parents,

Sample	730 of whom were in the treatment group and 917 who were in the comparison group. Treatment and comparison groups were similar with regard to age, gender, birth weight, respondent's relationship to child, ethnicity, language, and parental education. Treatment data were collected, on average, 17.8 months after the Reach Out and Read (ROR) program was implemented at a site. Children were aged 6 to 72 months. Children with several neurodevelopmental disabilities were excluded.
Methodology	Non-experimental with comparison groups; cross-sectional design; convenience samples
Purpose	The study examined ROR pogram influence on parent attitudes and behaviors related to reading aloud. The study addressed two questions: (1) Has program effectiveness been preserved in the process of program expansion?, and (2) Is the program equally effective across divides of geography, ethnicity, and child age?
Measures & Assessments	• Structured questionnaires and interviews
Study Implementation	• The study was implemented at sites that met ROR National Center standards for clinician training and program infrastructure.
Staff Qualifications	• The study was implemented as required by site staff. • Study interviewers were clinicians or assistants. Interviewers were trained in survey administration.
Key Findings	<u>Parent-reported literacy-promoting attitudes and practices</u> • The study team found treatment effects related to: o Identification of books as a favorite activity (Odds Ratio 1.4) o Reading aloud thought of as leading to school success (Odds Ratio 1.5) o Use of books at bedtime (Odds Ratio 1.5) o All three of the above outcomes (Odds Ratio 1.5) o Ever reading to the child (Odds Ratio 1.9) o Reading aloud three or more days per week (Odds Ratio 1.4) • The study team found a significant difference between treatment and comparison group parents on the average number of days per week of reading aloud, wherein the treatment group reported a mean of 4.7 and the comparison group reported a mean of 4.4. • The study team failed to find a significant difference between treatment and comparison groups on the reported ownership of five or more books for the child (Odds Ratio 1.3) and ownership of 10 or more books for the child (Odds Ratio 1.2). <u>Covariates</u> • The study team adjusted analyses for child gender, child age, ethnicity, language spoken in the home, attendance at one or more well-child visits in the past year, and study site. • After adjustments, the association of ROR and book ownership reached significance. • The study team also adjusted for parental education, when available. The team reported that study results remained similar, with the exception of "ever read to child" and "school success." <u>Subgroup analysis</u> • The stud team found that the program was associated with hypothesized, positive, outcomes regardless of child age, sex, or geographic region. • When the study team considered parental education and ethnicity, the team found that the program was associated with higher summary scores for those parents who had less than a 12th-grade education. Further, higher summary scores were identified for African-American and Latino families. The study team noted that the program appeared to be associated with higher summary scores for white families with less than 12 years of education.

Citation	**Mendelson, A.L., Mogilner, L.N., Dreyer, B.P., Forman, J.A., Weinstein, S.C., Broderick, M., Cheng, K.J., Magloire, T., Moore, T., and Napier, C. (2001). The impact of a clinic-based literacy intervention on language development in inner-city preschool children.**
Population and Sample	The study incorporated 138 families: 55 in the treatment group and 83 in the comparison group. Complete data were available for 122 of enrolled families (49 in the treatment group and 73 in the comparison group). These families were very similar on most variables with no statistically significant differences noted. Enrolled families had a child aged 2 to 5.9 years old, who was not yet attending kindergarten. Other selected criteria included *"gestational age 34 weeks or more, normal birth history, no known neurodevelopmental disability (eg, visual or hearing impairment, static encephalopathy), no severe chronic disease (e.g., cardiac disease, human immunodeficiency virus infection), and receipt of well-child care at the institution; family either Latino or black ethnicity with either English, Spanish or bilingual English-Spanish as the primary language(s) spoken in the home; and primary caretaker available for interview on day of presentation."*
Methodology	Non-experimental with comparison groups; convenience samples

Purpose	The study examined the effects of the Reach Out and Read (ROR) program on child language outcomes.
Measures & Assessments	• Parent interview • READ Subscale of StimQ. • Receptive One-Word Picture Vocabulary Test • Expressive One-Word Picture Vocabulary Test
Study Implementation	• The study was conducted at inner-city general pediatric clinics, which serve a poor and under-educated populations. Many of the population served are Latino immigrants. • The ROR program had been in place at the treatment clinic for three years. The comparison clinic had a similar intervention, which started three months prior to the study. • The treatment intervention was based on the ROR program and consisted of: (1) While families waited to see their pediatrician, volunteers and/or staff members sat with children on large playmats and modeled reading activities. (2) While families waited to see their pediatrician, volunteers and/or staff members approached families and discussed the importance of reading. (3) Pediatricians counseled families about the importance and fun of reading. (4) Pediatricians distributed developmentally appropriate books to families at each American Academy of Pediatrics (AAP)-recommended well-child visit. • Study data were collected by six research assistants who were trained and achieved reliability for all measures. Study directors conducted periodic observations of research assistants to *"ensure continued reliability of data collection."*
Staff Qualifications	• The study team reported that *"All pediatric clinic providers, including pediatric house staff, attendings, and nurse practitioners, were trained and participated in the program."* • Training consisted of one-hour seminars that "provided background about parent-child interaction, language and literacy development, selection of developmentally appropriate books for children of different ages and developmental levels, and strategies for the incorporation of anticipatory guidance about literacy into the delivery of well-child care." • Training seminars were repeated for incoming house staff, annually. Further, all clinic providers received annual follow-up sessions.
Key Findings	<u>Direct Outcomes</u> • The study team found that treatment families received a mean of four books. Comparison groups families received a mean of .5 books ($p<.001$). • The study team found that treatment families reported their doctors discussed reading with them 3.0 times, on average, compared to comparison families, who reported their doctors discussed reading with them 1.7 times, on average ($p=.03$). • The study team reported a mean of 13.1 total literacy promoting contacts at the treatment site and 2.3 contacts at the comparison site ($p<.001$). <u>Frequency of reading</u> • The study team reported that frequency of reading in the treatment group was approximately one day per week higher than in the comparison group ($p=.04$). • The study team reported that treatment group families reported *"they had in their homes 5 more children's books that they read to their children and had higher overall reading activities"* than comparison group families; these differences were not statistically significant. • The study team reported that total literacy-promoting contacts was statistically and significantly related to overall reading activities ($p=.03$). <u>Receptive Vocabulary</u> • The study team found that receptive vocabulary scores were 9.7 points higher in the treatment group than in the comparison group ($p<.001$). <u>Expressive Vocabulary</u> • The study team found that expressive vocabulary scores were 2.7 points higher in the treatment group but that the findings were not statistically significant. <u>Latino families</u> • When the study team restricted analyses to examine Latino families ($n=86$), the team found receptive vocabulary scores were 10.5 points higher in the treatment group than in the comparison group ($p<.001$) and expressive vocabulary scores were 5.3 points higher in the treatment group than in the comparison group ($p=.04$). <u>Adjusted analyses</u>

	• The study team conducted adjusted analyses to control for 10 potentially confounding variables (child's age, gestational age, birth rank, attendance in preschool/day care, ethnicity; mother's education, country of origin, reading problem, family's language spoken in the home, and homelessness). The team found "families attending the intervention clinic had statistically significantly higher receptive and expressive language scores." More specifically, the adjusted mean receptive language score in the treatment group was 93.9, compared to 85.2 for the comparison group (p=.002). The adjusted mean expressive language score in the treatment group was 85.2, compared to 80.9 in the comparison group (p=.048). The team noted that "The effect of the intervention was equivalent to a 6-month improvement in receptive language and a three-month improvement in expressive language." • Backward stepwise regression analyses indicated that the treatment group had an adjusted mean receptive language score that was nine points higher than comparison families (p=.001) and an adjusted mean expressive language score that was 4.5 points higher than comparison families (p=.036). • The study team found that each literacy-promoting contact was associated with an adjusted mean .4-point increase in receptive score (p=.02) and an adjusted mean .2-point increase in expressive score, which was not statistically significant.

Citation	**Sharif, I., Reiber, S., and Ozuah, P.O. (2002). Exposure to Reach Out and Read and vocabulary outcomes in inner city preschools. Journal of the National Medical Association. Vol. 94, No. 3, 171-177.**
Population and Sample	The study incorporated 200 participants, 100 in the treatment group and 100 in a comparison group. There were no major differences between the groups at the time of enrollment. Families had a child between the ages of 2 and 5.9 years old, who was not enrolled in kindergarten. Eighty percent of the treatment group reported English as the language usually spoken at home, compared to 67% of the comparison group (p=.05). Other selection criteria included *"no known cognitive impairment; child has lived with the caretaker continuously for more than one year; caretaker identifies the health center as the "usual" site for the child's check-ups for at least one year; and the caretaker is fluent in either English or Spanish."*
Methodology	Non-experimental cross-sectional design with comparison group
Purpose	The study assessed the association of participation in ROR and child vocabulary. The study also measured the effect of ROR on home reading activities, using standardized measures.
Measures & Assessments	• Expressive and Receptive One Word Picture • Vocabulary Tests • Home Literacy Orientation (created for the study) • STIMQ-READ subscale
Study Implementation	• The study incorporated two pediatric clinics. For participants at the treatment clinic, the ROR program had been implemented for three years at the time of the study. Participants at the comparison clinic had no ROR exposure. • The study team also noted that the program's "volunteer reader" component was only sporadically implemented.
Staff Qualifications	• The study team noted that *"The ROR intervention was administered by 7 attending pediatricians and 12 pediatric residents; all had attended a ROR provider training. Providers counseled parents about reading to children and dispensed an age-appropriate book at each health maintenance visit."*
Key Findings	<u>Receptive Vocabulary</u> • The study team reported that treatment children had a higher mean standard score (mean=81.5) than comparison group children (mean=74.3)(p=.005). • When analyzing only English-speakers, the study team reported that treatment group children had higher mean standard scores (mean=83.2) than comparison group children (mean=75.3)(p=.01). <u>Expressive Vocabulary</u> • The study team reported that treatment children had a higher mean standard score (mean=79.5) than comparison group children (mean=77.5). The difference in means was not statistically significant. <u>Home Literacy Orientation Scale</u> • The study team reported that treatment participants had higher scores (mean=4.3) than comparison group participants (mean=3.3)(p=.002). • The study team reported that treatment participants were more likely to report: o Reading/books were one of the child's three favorite activities (21% in the treatment group versus 11% in the comparison group; p = 0.05) o Someone else in the home reads to the child (80% in the treatment group versus 63% in the comparison group; p = 0.01)

	○ The caretaker reads for herself (73% in the treatment group versus 53% in the comparison group; p = 0.003) STIMQ-READ • The study team reported that 5% of treatment participants reported that they never read to their child, compared to 15% of the comparison group participants (p=.03). • The study team reported that treatment participants scored higher on the composite score of the STIMQ-READ subscale (mean=12.6) than comparison group participants (mean=11.0), but these findings were not statistically significant. • The study team reported that treatment participants reported having more children's books in the home (mean subset score=2.63) than comparison group participants (mean=2.14)(p=.01).

Citation	**High, P., Hopmann, M., LaGasse, L., and Linn, H. (1998). Evaluation of a clinic-based program to promote book sharing and bedtime routines among low-income urban families with young children. Arch Pediatr Adolesc Med, 152, 459-465.**
Population and Sample	The study incorporated 100 families in the treatment group and 51 families in the comparison group. The study team noted that treatment group families *"were known to have received at least 2 books at well-child visits as part of the program, and their last visit was at least 1 month before the interview."* Participants had a child who was aged 12 to 38 months old and had attended their previous two well-child visits in the clinic. Additional eligibility criteria included *"birth weight of at least 2.27 kg, hospitalization for fewer than 14 days since birth, and the absence of major congenital anomalies, sensory deficits, or developmental delays."* The study team noted that the two groups were similar with regard to demographic characteristics, with two exceptions: children were significantly younger and parental education was significantly higher in the treatment group.
Methodology	Non-experimental cross-sectional design with comparison group
Purpose	The study assessed the relation of an anticipatory guidance program for low-income families to child- and family- literacy outcomes. The study tested the hypotheses: • The provision of children's books and educational materials by primary care providers at well-child visits would increase parental reports of enjoying books with their young children, and, specifically, that the amount of book sharing at bedtime would increase. • Regular bedtime routines with book sharing would lead to more children falling asleep independently and would decrease the occurrence of frequent night waking, prolonged bedtime struggles, and, possibly, parent-child co-sleeping. The study also assessed the influences of family cultural background, language, education, and reading habits and the child's age on emergent literacy activities.
Measures & Assessments	• Parent interview
Study Implementation	• The study noted that, between October 15, 1994, and September 15, 1995, the program *"distributed more than 1200 children's books to patients at all scheduled 6-, 9-, 12-, 15-, 18-, 24-, 30-, and 36-month well-child visits."* • Primary care providers also *"gave parents educational materials specific to the age of the child at each well-child visit that detailed why, how, and when to share books with their children."* • Program staff were asked to mention 1 or 2 points from the education materials, when they provided the materials and books to parents.
Staff Qualifications	• The program was implemented by 68 pediatric residents and 3 nurse practitioners. • The study team noted that residents received training on a number of topics including: literacy promotion in young children, the use of children's books as developmental assessment tools, the prevention of sleep disturbances in infants and toddlers, and language promotion in infancy. • The study team reported that residents received a mean of 2.2 hours of training (out of a possible 4 hours of training).
Key Findings	Child-Centered Literacy Orientation (CCLO) • The study team found that treatment participants had significantly more positive literacy-related responses than comparison group participants, for all three CCLO component questions as well as the composite CCLO variable. More specifically: ○ Four parents (8%) in the comparison group and 21 (21%) of treatment parents reported that one of their child's three favorite things to do was share books ○ Eleven (22%) comparison group and 42 (42%) treatment parents reported that one of their three favorite things to do with their child was share books ○ Ten (20%) comparison group and 35 (35%) treatment parents reported sharing books at bedtime six or seven nights per week.

- The composite variable, CCLO, was present in significantly more treatment families than comparison group families.

- The study team conducted analyses to control for parental education, ethnicity, and frequency of reading books, as well as the sex and age of the children. The team found that *"CCLO was more likely to be present in treatment than comparison group families with an OR of 4.7"* (p<.001; R2=0.17). Further, *"the only additional factor found to be independently associated with the presence of CCLO was parents who read books themselves at least a few times a week"* (OR, 2.7; p=.009).

CCLO in child and parent subgroups

- The study team examined potentially mediating factors as well as parental education and child age, and found *"the presence of CCLO was associated with the intervention in the subgroups of older and younger children and in parental subgroups with and without a high school education. We also found CCLO to be significantly associated with the intervention when parents were single or separated, but not when they were married or living with a partner. Significant effects of the intervention were found in the Hispanic and non-Hispanic white subgroups, but not in the smallest ethnic subgroup, African Americans."*
- The study team also found that CCLO was *"associated with the intervention in subgroups composed of families receiving any 1 of the 4 indicators of low-income status: Medicaid, Aid to Families With Dependent Children, food stamps, or support from the Women, Infants, and Children program."*

Book sharing at bedtime

- The study team found that treatment parents reported sharing books at bedtime more (3.9±2.6 nights per week) than comparison group parents (2.5±2.7 nights per week)(p=.002). Through multiple linear regression, the study team found that the treatment was associated with book sharing at bedtime (p=.05; R^2=0.19). The team also reported that parents reporting that they read books themselves at least a few times a week also was associated with book sharing at bedtime (p<.001).

Potential sleep problems

- The study team failed to find significant differences between treatment and comparison groups in *"prolonged bedtime struggles, parent-child co-sleeping, frequent night waking, or how children fell asleep."* The study team noted that *"these behaviors were not found to be associated with the frequency of bedtime book sharing or the presence of bedtime routines."*

Anticipatory guidance

- The study team found that treatment participants reported receiving more anticipatory guidance than comparison group participants on the following topics:
  - Safety (p=.03)
  - Sleep behavior (p=.02),
  - How to share books with their child (p<.001)
- The study team failed to find significant differences between treatment and comparison groups for anticipatory guidance about the child's interests or bedtime routines.

Citation	**Silverstein, M., Iverson, L., and Lozano, P. (2002). An English-language clinic-based literacy program is effective for a multilingual population. Pediatrics Vol. 109 No. 5, 1-6.**
Population and Sample	The study incorporated 95 children in baseline and post-intervention groups. Ten of the 95 baseline participant were disqualified. The baseline and treatment groups were similar in demographic and most linguistic characteristics. There were some differences between groups in the English-speaking sub-group of families (baseline parents completed more grades of school and more treatment children attended day care on a regular basis). Participating families had a child aged 6 months to 5½ years old. The other eligibility criterion for the treatment group was that the child "must have been seen for well-child care at Harborview Children's Clinic at least once previously." Only one child was sampled in each participating family.
Methodology	Non-experimental cross-sectional design with comparison group
Purpose	The study assessed the influence of language and culture on the effects of Reach Out and Read at a clinic in Seattle.
Measures & Assessments	• Standardized questionnaire administered face-to-face with participants
Study Implementation	• The program was modeled after Reach Out and Read and included three components: (1) Children and families were exposed to waiting room volunteers modeling age-appropriate reading in English. (2) During health supervision visits, families were given age-appropriate literacy counseling by their primary provider as part of the anticipatory guidance aspect of the visit.

	(3) At the end of the clinic visit, the child was given an unused, age-appropriate book written in English. • Reach Out and Read was implemented at the clinic as part of a quality improvement effect, rather than as a research study.
Staff Qualifications	• Health providers included four nurse practitioners, three part-time attending primary care physicians, and 14 continuity clinic pediatric residents. • All providers at the clinic participated in a 45-minute training session to learn age-appropriate literacy counseling.
Key Findings	<u>Composite Data</u> • The study team noted the following differences between treatment and baseline groups: o Caregiver's reports of reading as one of the child's favorite activities (11% vs 26%; p= .007) o Reading as one of the caregiver's own favorite activities to do with the child (19% vs 40%; p= .002) o The number of families that read to their child at least once a week was increased in the treatment group (85%) compared to the baseline group, (72%; p=.02.) o Incorporating reading into a bedtime ritual at least once a week was significantly more common in the treatment group (72%) than in the baseline group (42% ; p=.0004). o The proportion of families in the treatment group possessing over 10 children's books at home (63%) was greater than that in the baseline group (49%), but this difference was not statistically significant. • The study team failed to find significant differences between the treatment and baseline groups with regard to possession and usage of a library card, school preparation activities, or types of toys present in the home. <u>English-Speaking Subset</u> • Among primary English-speaking participants, the study team noted: o The number of respondents to report reading as one of the child's favorite activities increased significantly between the baseline and treatment groups (7% vs 30%; p= .02). o The number of caregivers to report reading as one of their own favorite activities to do with the child increased significantly from the baseline to treatment group (33% vs 58%; p= .05). o The number of families that incorporated reading into the child's bedtime routine at least once a week increased significantly in the treatment group (63% vs 93%; p= .003). o The number of families that read to their child at least once a week at times other than bedtime did not show a difference; there was little room for improvement from the high baseline value. o The number of primary English-speaking families to have over 10 children's books in the home was similar in the baseline and postintervention groups. o Adjustments to control for day care attendance and parental education level did not substantially change the results. <u>Non–English-Speaking Subset</u> • Among the primary non-English-speaking participants, the study team noted: o Each outcome measure among the primary non–English-speaking families in both the baseline and treatment cohorts reflected a substantially lower literacy orientation. o The number of non–English speaking caregivers to report reading as one their favorite activities to do with their child increased from 11% in baseline group to 27% in treatment group, p= .03. o The number of non–English-speaking families to report reading as one of the child's favorite activities increased (13% vs. 24%); the difference between baseline and treatment groups was not statistically significant. o The number of families that incorporated reading into the child's bedtime routine at least once a week increased (36% in the baseline group vs. 56% in the treatment group; p= .04) o The number of families that read to their child at least once a week at times other than bedtime increased (60% in the baseline group vs. 76% in the treatment group; p= .07). o The number of non–English-speaking families to have over 10 children's books in the home increased from 31% in the baseline group to 49% in the treatment group (p= .05). o In families in which some English was spoken, the effects of the program were mildly accentuated with regard to reading as the parent's favorite activity, weekly bedtime reading, and weekly general reading. However, reading as the child's favorite activity and number of books in the home lost significance when this sub-group was examined. o Adjustments to control for day care attendance, time spent in the United States, parental education level and location, and presence of English as a second language did not substantially change the results.

Citation	**Theriot, J.A., Franco, S.M., Sisson, B.A., Metcalf, S.C., Kennedy, M.A., and Bada, H.S. (2003). The impact of early literacy guidance on language skills of 3-year-olds. Clin Pediatr. 42:165-172**
Population and Sample	The study enrolled 64 children whose parents agreed to participate (out of 123 children who were eligible). The study incorporated children aged 33 to 39 months with no documented developmental delays or sensory impairments. The study team noted that half of the participants also were enrolled, for various amounts of time, in child care. Of these, 90% were read to while at child care.
Methodology	Non-experimental
Purpose	The study assessed the effects of an early literacy program modeled after Reach Out and Read (ROR). The study tested the hypothesis that *"early and repeated guidance of parents at well-child visits on early literacy and providing them with the tool to practice it will have a positive impact on language development, increasing scores on language testing."*
Measures & Assessments	• Peabody Picture Vocabulary Test III-Revised (PPVT-III), Form B • Expressive One Word Picture Vocabulary Test-Revised (EOWPVT-R)
Study Implementation	• The program was modeled after ROR and included: o Early literacy promotion in the anticipatory guidance given at well-child visits (WCV). o An age-appropriate book was handed out by the physician for the parent to take home, after each visit. The book was wrapped with printed information on age-appropriate literacy development, which was similar to the information shared by the physician during the WCV. o The physician shared suggestions for how, when, and where to share the book with their children. o Volunteers were present in the waiting room and provided additional opportunities for parents to observe interactive reading. • Program staff tracked the distribution of books.
Staff Qualifications	• The program conducted annual training for physicians on early literacy development and on advocacy of early literacy practices such as book sharing and reading aloud to children. • Physicians were asked to document early literacy promotion in *"age-specific structured encounter forms."*
Key Findings	• The study team reported that: o All families reported reading to children at home, at least once a week. o 58% of families identified reading as an activity mother and child most enjoyed doing together. o 85% of families could recall the title of the child's favorite book. o A majority of families reported purchasing books for their children (mean of 30 books per child). o Each child received an average of five books. o Each child attended an average of six WCV, in which early literacy anticipatory guidance was provided. o Potential confounding factors that included maternal age and education level, the number of children and adults in the home, gestational age, and attendance in child care did not significantly affect receptive or expressive language scores. <u>Receptive Language</u> • The study team reported that the mean standard score on the PPVT-III was 82 and that scores were higher with more books purchased for the child (p=.046). Using multivariate analysis, the team found that scores also were higher with more anticipatory guidance visits (AGV) X the number of books purchased by the parent (r^2=0.025, p=.0006). • The study team reported similar findings when only African-American children were analyzed (r^2=0.227, p=.0002). • The study team noted that *"Whether the number of books purchased is 10 or 20, there is no significant impact on the PPVT-III scores when there is no AGV. Scores increase, however, with increasing visits, and the number of books purchased further influenced improvement in the language scores."* <u>Expressive Language</u> • The study team reported that the mean standard EOWPVT score was 88 and that white children sored higher than African-American children (although this was not statistically significant). • Using multivariate analyses, the study team found that *"expressive language scores were predicted by race (p<0.03); and number of WCV with books given x number of books purchased (p<.001)"* (r^2=0.18, p<.001 for the model). • The study team noted that *"the number of WCV with AG and book given significantly predicted the scores of both expressive and receptive language tests."*

End Notes

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Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Triple P

Level 1

Levels 2, 3, 4, 5

Goals

The goals of the Triple P – Positive Parenting Program are the following: 1) to prevent behavioral, emotional, and developmental problems in children, 2) to enhance the knowledge, skills, and confidence of parents, and 3) to reduce the use of corporal punishment (Triple P America, n.d.).

Program Features

The Triple P uses a multi-level parenting and family support strategy (Triple P America, n.d.). The program targets the developmental periods of infancy, toddlerhood, pre-school, elementary school, and adolescence. Within each developmental period, the intervention varies from being very broad (targeting an entire population) to quite narrow (targeting only high-risk children). Triple P incorporates five levels of intervention of increasing strength for parents (Triple P America, n.d.). Triple P includes universal and group parent education, as well as home-visiting strategies. Although it is included under Parent Education, the model also includes practices generally reviewed in t-he Home-Visiting Programs section.

- Level 1 is a form of universal prevention that delivers information on parenting skills to interested parents using print and electronic media.
- Level 2 involves brief, individual or seminar-based consultation with parents and caregivers. These interventions provide topic-specific guidance to parents of children with mild behavior difficulties with the aid of parenting tip sheets and videotapes that demonstrate specific parenting strategies.
- Level 3 is a four-session intervention targeting children with mild to moderate behavior difficulties and includes active skills training for parents.

Triple P Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:**
  - California Evidence-Based Clearinghouse Rating of 2 (supported by research evidence) for the Triple P system and 1 (well-supported by research evidence) for Triple P Level 4
  - SAMHSA National Registry of Evidence-Based Programs and Practices
  - Promising Practices Network rating of Promising
- **Research supports** use with parents of children ages birth through preschool
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Suggested Assessments:**
  Level 4 - Triple P Parenting Scale
  Level 3 - Triple P Parenting Experience Survey
  Level 2, 3, 4 – Triple P Caregiver Satisfaction Questionnaire
- **Implementation Guidance:** http://www.triplep- america.com.

- Level 4 interventions are more intensive and are conducted with individual parents, groups of parents, or by guiding parents who are using a Triple P self-help parenting book. Level4
- interventions last from 8 to 10 sessions and are for parents of children with more severe behavioral difficulties.
- Level 5 is for parents and caregivers experiencing relationship conflict, parental depression, or high levels of stress. These parents often benefit from a more intensive family intervention program.

For more information regarding Triple P – Positive Parenting Program use this link: http://www.triplep- america.com.

Target Audience

For the first intervention level, all parents of children birth through preschool are the target audience. For the other intervention levels, parents of children birth through preschool with behavioral, emotional, and developmental problems are the target audience.

Documented Outcomes

	Type of Study	Parent Outcomes					Child Outcomes	
		Parenting practices*	Parenting satisfaction and efficacy	Parental adjustment	Parental relationship	Parent observational data	Social, emotional, and behavioral outcomes**	Child observational data
Sanders et. al. (2014)[i]	Meta-analyses	✓	✓	✓	✓	Long-term only	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in positive parenting practices*
**Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

In addition, each level has been liked to specific outcomes:

	Parent Outcomes				Child Outcomes	
	Parenting practices*	Parenting satisfaction and efficacy	Parental adjustment	Parental relationship	Social, emotional, and behavioral outcomes**	Child observational data
Level 1		✓			✓	
Level 2	✓	✓	✓	✓	✓	✓
Level 3	✓	✓	✓	✓	✓	
Level 4	✓	✓	✓	✓	✓	✓
Level 5	✓	✓	✓	✓	✓	✓

Research Evidence for Triple P

- This program has been linked to positive changes in parenting skills, child problem behaviors, and parental well-being.

Review of Experimental and Quasi-Experimental Studies

See Meta-Analyses

Review of Meta-Analyses

Citation	**Sanders, M. R., Kirby, J. N., Tellegen, C. L., & Day, J. J. (2014). The Triple P-Positive Parenting Program: A systematic review and meta-analysis of a multi-level system of parenting support. Clinical Psychology Review, 34, pp. 337–357.**
Population and Sample	101 experimental, quasi-experimental, and non-experimental studies
Methodology	Meta-analysis
Purpose	This systematic review and meta-analysis examined the effects of the multilevel Triple P-Positive Parenting Program system on a broad range of child, parent and family outcomes. Multiple search strategies identified 116 eligible studies conducted over a 33-year period, with 101 studies comprising 16,099 families analyzed quantitatively. Moderator analyses were conducted using structural equation modeling. Risk of bias within and across studies was assessed.
Measures & Assessments	• Varied across studies
Study Implementation	• A search of the research literature was conducted to obtain relevant studies. • Researchers extracted data (means, standard deviations, sample sizes for each group at pre- and post-intervention, and at the longest follow up time point); study characteristics (Triple P levels, trial design (RCT, uncontrolled, cluster randomized, quasi-experimental), groups included in the trial, variant of Triple P (e.g., Group Triple P), sample criteria, measurement time points, sample size, study approach (universal, targeted, or treatment), child age and age range, percentage of boys, level of developer involvement, country in which the study was conducted, attrition rates at post-intervention, number of fathers included, parent and child outcome measures); and moderator analyses (target child developmental disability if present, pre-intervention scores on child measures, whether study was published or not, delivery format, program variant, length of longest follow up period, and coding information for rating on the Downs and Black scale). • Effect sizes were calculated.
Staff Qualifications	• Not addressed
Key Findings	<u>Qualitative results</u> • Early studies found that parents could "generalize" their skills for managing child behavior in one setting, to another setting. • Early studies assessed the program across a range of issues ("children with oppositional defiant disorder, conduct disorder, children with chronic headaches, children with persistent sleeping difficulties, children with a developmental disability, and children who were frequently stealing and lying") and found positive results. • A quasi-experimental study of Level 4 Group Triple P found that participating parents reported "significantly fewer conduct problems (d= 0.83), less dysfunctional parenting (d= 1.08), and lower levels of parental distress (d = 0.38) and marital conflict (d = 0.19)" than comparison parents, at post-intervention and at follow-up one and two years after the intervention. • The Every Family study, which incorporated different levels of Triple P in 10 catchment areas (over a two year period), was associated with parents who reported "greater reductions in behavioral and emotional problems in children (22% reduction), coercive parenting (32% reduction), and parental depression and stress (26% reduction)" than parents who lived in catchment areas where Triple P was not available.

- In South Carolina, 18 counties were randomly assigned to Triple P (while other counties had a "care-as-usual" approach). The Triple P counties, after intervention, "observed significantly lower rates of founded cases of child maltreatment (d= 1.09; 16% lower than comparison counties, slowing the growth of cases), hospitalizations and injuries due to maltreatment (d = 1.14; 22% lower than comparison counties), and out-of-home placements due to maltreatment (d = 1.22; 17% lower than comparison counties."

Quantitative Results

Short-Term Results

- The study team found a significant, medium effect size for child-level social, emotional, and behavioral (SEB) outcomes (d=.473, p<.001); for parenting practices (d=.578, p<.001); for parenting satisfaction and efficacy (d=.519; p<.001); and for child observational data (d=.501, p<.001).
- There was a small-to-medium effect size for parental adjustment (d=.340, p<.001).
- There was a small effect size for parental relationship (d=.225, p<.001).
- There was "no significant overall effect size" for parent observational data (d=.026).

Individual Triple P Levels

- There were significant effect sizes for Levels 2 to 5, on all outcomes except parent observational data and Level 3 child observational data.
- There were significant effect sizes for Level 1 on SEB outcomes and parenting satisfaction and efficacy.

Long-Term Results

- There was an overall medium effect size for SEB outcomes (d=.525, p<.001); parenting practices (d=.498, p<.001; parenting satisfaction and efficacy (d=.551, p<.001); parental adjustment (d=.481, p<.001); and child observational data (d=.400, p=.009).
- There was an overall significant small effect size for parental relationship (d=.230, p<.001) and parent observational data (d=.249, p=.013).

Moderators

- The study team examined 15 moderator variables, across the five outcomes. The team found that "While most of the variables acted as a significant moderator in the data for at least one of the outcomes, there were no consistent moderators across all outcomes. The moderators that contributed unique effects after controlling for other significant moderators varied across outcomes and were: study power, study approach, Triple P level, and severity of initial child problems."

Review of Descriptive and Non-Experimental Studies

None

End Notes

[i] Sanders, M. R., Kirby, J. N., Tellegen, C. L., & Day, J. J. (2014). The Triple P-Positive Parenting Program: A systematic review and meta-analysis of a multi-level system of parenting support. Clinical Psychology Review, 34, pp. 337–357.

Additional Resources

Nowak, C., & Heinrichs, N. (2008). A comprehensive meta-analysis of Triple P-Positive Parenting Program using hierarchical linear modeling: Effectiveness and moderating variables. Clinical Child and Family Psychology Review, 11, pp. 114-144.

Triple P America. (n. d.). [Website]. Retrieved from http://www.triplep-america.com.

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Published: July 2018

FAMILY SUPPORT

North Carolina Department of Public Health Adolescent Parenting Program

Goals

The North Carolina Division of Public Health (DPH) sponsors the Adolescent Parenting Program which strives to improve the well-being of adolescent parents and their children. DPH indicates that program goals are to (a) increase self-sufficiency (by delaying additional pregnancies and increasing high school graduation rates or achievement of the GED) and (b) improve child welfare and school readiness (by improving positive parenting and ensuring children have a medical home and safe home environment). (http://www.teenpregnancy.ncdhhs.gov/app.htm)

Similarly, the evaluation team at UNC-Greensboro led by Dr. Kenneth Gruber (2012)[i], indicates there are four primary outcomes:

(a) delaying a subsequent pregnancy until beyond adolescence;

(b) graduating from high school or earning a GED;

(c) successfully transitioning to adulthood through achievements such as enrolling in postsecondary education, receiving vocational training, being employed at a livable wage, and living in safe and stable housing environment; and

(d) increasing the incidence of appropriate discipline, nurturing behavior, and assurance that the children are well cared for.

NC DPH Adolescent Parenting Program Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:** None
- **Research supports** use of the program with adolescent or teen-aged, first-time, mothers
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
  - Children on track for typical development
- **Purveyor training required:** Yes
- **Smart Start information or guidance:** No
- **Staff qualifications:** Four-year or higher degree in social work or a related field
- **Frequency:** Monthly
- **Minimal service threshold:** Prenatal period
- **Implementation Guidance:** http://www.teenpregnancy.ncdhhs.gov/app.htm

Program Features

The program provides support to first-time pregnant and parenting teens through a range of services that include home visitation, group education, parenting education, referrals, case management, and peer connections. Participants in the program receive monthly home visits using either the Partners for a Healthy Baby or Parents as Teachers home-visiting curriculum. Participants also receive minimum of 24 hours of annual peer group education.

Each program requires at least one full-time program coordinator to serve a caseload of 15-25 teens. Program coordinators may vary as to degree achievement (with most program coordinators having at least a four-year degree in social work or a related field). Sangalang (2006)[ii] noted that trained program coordinators provide services, with 18 hours of program-specific training required each year. Program coordinators must also be trained in the selected home visiting curriculum.

Target Audience

First-time teen parents, typically 12 to 19 years old.

Documented Outcomes

	Type of Study	Birth Outcomes		Parent Outcomes				
		Improved Birth weight*	Longer Gestational age*	Higher Mother's Education	Delayed Second Pregnancy	More Stable Home Environment**	Increased Financial security	Increased Healthy behaviors
Gruber (2012)	Non-experimental with a retrospective comparison of program and non-program participants			✓	✓	✓	✓	✓
Sangalang et al (2006)	Non-experimental with a retrospective comparison of program and non-program participants	✓	✓		✓			

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome: *More children on track for typical and/or enhanced development*
**Aligned with Smart Start outcome: *Increase in positive parenting practices*

Research Evidence for NC DPH Adolescent Parenting Program

- The program is associated with positive parent and birth outcomes.
- The model studied is specific to programs operating through North Carolina's Department of Public Health.
- A variety of parenting curricula may be used.

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Gruber, K. J. (2012). A comparative assessment of early adult life status of graduates of the North Carolina Adolescent Parenting Program. Journal of Child and Adolescent Psychiatric Nursing, 25, pp. 75–83.**
Population and Sample	The study, which focused on Greensboro's program operated through the YWCA, involved 15 program graduates and 20 comparison individuals who did not participate in the program. To be eligible, participants had to meet several criteria, which included: (a) Blue Medicaid eligibility, (b) be enrolled in high school or in a GED program within 90 days, (c) have a one child under 3 years of age (if parenting), and (d) consent to voluntary participation.
Methodology	Non-experimental with a retrospective comparison of program and non-program participants
Purpose	The study examined the current status of program participants, with comparisons to individuals (i.e., teen parents) who did not participate in the program.
Measures & Assessments	• Surveys/ Young Female Parent Life Status Assessment Form • Parenting Sense of Competence Scale • Parenting Opinions Questionnaire (modified)
Study Implementation	Survey-based interviews were conducted with program graduates as well as individuals who were of comparable age, and were "friends of acquaintances" of the study participants. Both program and comparison individuals were teen mothers. The program sample consisted of teen mothers who graduated from the Greensboro YWCA Adolescent Parenting Program between 2004 and 2008; 27 women comprised the recruitment population. The comparison sample consisted of teen mothers who were "friends or acquaintances" of the program graduates; comparison mothers were over 18 and had children of about the same age as the program graduate.
Implementation Fidelity	• Data were collected by "experienced staff members" from the YWCA; the staff members did not have prior contact with any study participants. • Survey-based interviews were conducted with participants which lasted 1 to 1.5 hours • Study participants were given a $25 gift card for participating in the study
Staff Qualifications	• Staff qualifications for providing the program were not addressed.
Key Findings	Education • At the time of data collection, 100% (15 of 15) program graduates had completed high school. Forty percent of comparison parents had not completed high school. • At the time of data collection, 60% of program graduates were either enrolled in a community college or in a four-year college. Additionally, 20% of program graduates reported that they were planning to take college courses. In comparison, 30% of comparison parents were enrolled in a community college or a four-year college while an additional 10% reported that they were planned to take courses. Number of Children

- In comparison to program graduates, more than twice as many comparison mothers reported having more than one child and two reported having a second child while still a teen.

Relationship or Family Status

- The majority (87%) of program graduates reported that they either lived on their own and with a husband or boyfriend. In comparison, 55% of comparison mothers reported that they either lived on their own and with a husband or boyfriend.
- Twenty-seven percent of program graduates reported that they lived with a family member. In comparison, 60% of comparison mothers reported that they lived with a family member in the past 12 months.
- Program graduates and comparison mothers reported similar levels of satisfaction with living arrangements.
- Program graduates and comparison mothers reported similar levels of mobility in the prior 12 months and were similar in the plans to move residences in the next six months.

Financial Security

- Seventy-three percent of program graduates reported that they paid for their housing, compared to 25% of comparison mothers.
- Sixty-seven percent of program graduates reported that they paid for their utilities, compared to 20% of comparison mothers.
- Sixty-seven percent of program graduates reported being employed, compared to 30% of comparison mothers.
- Eighty percent of program graduates reported that they had employment "at least some of the time in the past 12 months," compared to 67% of comparison mothers.
- Of the participants who were not employed, three of five program graduates reported that they were "actively looking for employment," compared to nine of 14 comparison mothers.
- Program graduates and comparison mothers reported similar "primary sources of financial support," which included "self" and "significant others and/or family."
- Ninety-three percent of program graduates reported use of food stamps, compared to 65% of comparison mothers.
- Thirty-three percent of program graduates reported use of Temporary Assistance for Needy Families/Work First, compared to 15% of comparison mothers
- Twenty-seven percent of program graduates reported involvement with the Family Life Council, compared to 5% of comparison mothers
- Forty percent of program graduates reported participating in YWCA parenting programs, compared to 5% of comparison mothers

Healthy Behaviors

- Thirteen percent of program graduates reported smoking, compared to 45% of comparison mothers
- Thirteen percent of program graduates reported drinking alcohol, compared to 55% of comparison mothers
- Thirty-three percent of program graduates reported "having friends with police arrest records," compared to 55% of comparison mothers

Spirituality

- Forty-seven percent of program graduates reported "attending weekly religious services" compared to 85% of comparison mothers

Parenting

- Program graduates and comparison mothers had similar means on parenting measures. Further, there were low scores on the Support of/Affection to Parents subscale.

Citation	**Sangalang, B. B., Barth, R. P., & Painter, J. S. (2006). First-birth outcomes and timing of second births: A statewide case management program for adolescent mothers. Health & Social Work, 31(1), pp. 54-63.**
Population and Sample	The study involved 1,260 participants in the NC APP program, who also were first-time adolescent/teen parents. Program mothers were compared to 1,260 adolescent/teen parents who also were first-time parents but who were not participating in the APP program.
Methodology	Non-experimental with a retrospective comparison of program and non-program participants
Purpose	The study examined whether or not program participants exhibited better outcomes, when compared to adolescent or teen-aged first-time, mothers who were not program participants. Outcomes of

	interest included (a) use of prenatal care; (b) birth weight; (c) gestational age; and (d) delay of second birth.
Measures & Assessments	Adequacy of Prenatal Care Utilization (APNCU) Index
Study Implementation	Program records were used to generate information on adolescent/teen mothers who participated in the program from 1991 to 1998. The comparison group of adolescent/teen mothers was a random selection from birth records, matched to program participants on (a) county of residence and (b) mother's age at first birth. The study only examined singleton births.
Staff Qualifications	• The study indicated that program coordinators could have undergraduate degrees in fields that included social work, psychology, or sociology. • All program coordinators had to complete 18 hours of "in-service" training, annually. • Some program coordinators had graduate degrees in social work (or a related field).
Key Findings	Prenatal Care • Program participants and comparison mothers were similar on measures of prenatal care, with no significant differences found in each group's use of prenatal care. • The authors reported that approximately half of each group received "adequate" prenatal care. Birth Weight and Gestational Age • A relatively high percentage (90.6%) program participants gave birth to babies with "normal" birth weight, compared to 86.1% of comparison mothers. • A relatively high percentage (84.4%) program participants gave birth to babies born at full-term, compared to 77.4% of comparison mothers. Program Effects • The study conducted analyses that controlled for maternal characteristics. Findings from logistical regression analyses that included controls did not indicate a significant association between program participation and use of prenatal care. However, factors such as maternal age, race, and marital status were significantly associated with use of prenatal care. • Program participation was significantly associated with baby birth weight, even after controlling for maternal characteristics. More specifically, "the odds of an APP participant giving birth to a normal weight baby were 1.67 times that of a non-APP participant." Further, two maternal characteristics (age and smoking) were significantly associated with birth weight. • Program participation was significantly associated with baby gestational age, even after controlling for maternal characteristics. More specifically, "APP participants were 1.69 times more likely than non-APP participants to give birth to a full-term baby." Further, the maternal characteristics (a) age, (b) marital status, and (c) smoking were significantly associated with baby gestational age. • Program participants and comparison mothers were similar in the percent of each group that only had one birth (during the period of time examined by the study). • Program participants and comparison mothers were similar in the percent of mothers (62%) who did not have a second birth during the period of time examined by the study. • Program participants (ages 12 to 16; 69.4%) had longer times between births than comparison mothers (67.1%) in the same age group. • Program participants (ages 12 to 16; 88%) had not had a second birth two years after their first birth, compared to 85% of comparison mothers in the same age group. • Program participants (ages 12 to 16; 66%) had not had a second birth four years after their first birth, compared to 60% of comparison mothers in the same age group. • Program participants and comparison mothers who were in the 17 to 19 age group when they had their first child, were similar on a measure of delayed second birth. • Cox regression estimates suggested that program participants (in the 12 to 16 age group) were 20 percent less likely to have a second birth than comparison mothers, which was a significant difference between program participants and comparison mothers. • Race was significantly associated with "time until the second birth."

End Notes

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[i] Gruber, K. J. (2012). A comparative assessment of early adult life status of graduates of the North Carolina Adolescent Parenting Program. Journal of Child and Adolescent Psychiatric Nursing, 25, pp. 75–83.

[ii] Sangalang, B. B., Barth, R. P., & Painter, J. S. (2006). First-birth outcomes and timing of second births: A statewide case management program for adolescent mothers. Health & Social Work, 31(1), pp. 54-63.

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Published: July 2018

Attachment and Biobehavioral Catch-up (ABC)

Goals

The Attachment and Biobehavioral Catch-up (ABC) intervention targeting caregivers of infants 6 months to 2 years old who have experienced early maltreatment, and/or disruptions in care that lead to behaviors that push caregivers away.

Children who have experienced early adversity especially need nurturing care and often behave in ways that push caregivers away. Parents may also behave in frightening ways that serve to dysregulate children's behavior. The ABC intervention is based in attachment theory and stress neurobiology. Three key components of the program are designed to help parents to: 1) provide nurturing care even if children fail to elicit it, do not appear to need it, and/or it does not come naturally to parents; 2) follow their child's lead and provide a responsive predictable environment that enhances young children's behavioral and regulatory capabilities; and 3) decrease behaviors that could be overwhelming or frightening to a young child and increase a sense of security.

Attachment and Biobehavioral Catch-Up (ABC) Snapshot

- **EC Profile Indicator:** FS30 -Rate of investigated reports of child abuse/neglect per 1000 children ages 0-5
- **Clearinghouse rating:** Rating of 1 (Well-Supported by Research Evidence) from the California Evidence-Based Clearinghouse for Child Welfare
- **Research supports** use with foster care families caring for infants or toddlers or high-risk mothers with infants or toddlers
- **Related Smart Start outcomes:**
  - Improvements in parent knowledge
  - Increase in positive parenting practices
- **Training required:** Yes
- **Staff qualifications:** University of Delaware assesses aptitude of each potential candidate before acceptance
- **Frequency:** Weekly
- **Dosage:** 10 weeks of 1-hour weekly sessions
- **Minimal service threshold:** 10 weeks of 1-hour weekly sessions
- **Suggested Assessments:** Questionnaire about Children's Crying

Program Features

The ABC Intervention is a training program for caregivers of infants and young children, including high-risk birth parents and caregivers of young children in foster care, kinship care (such as a grandparent raising a grandchild), and adoptive care. The program as originally designed starts with children as young as 6 months of age and goes up to 24 months. Developers are beginning to test its use with young children age 2 and older.

The intervention includes 10 structured sessions held in the home weekly for approximately 60 minutes each. Sessions incorporate the use of video for providing immediate feedback and homework. Caregivers and the identified child must be present for all sessions, although others are welcome to attend. Although a manual guides session content, a parent coach observes the parent's interactions with his or her child and provides support and "in the moment" feedback that targets caregiver behaviors of nurturance and non-frightening behaviors. Potential parent coaches first participate in a half-hour screening to determine their suitability for training. If they pass the screening, coaches attend 2 to 3 days of training and a year of supervision (1.5 hours weekly, including group supervision and individual supervision with "in the moment" commenting) to

become a Certified Parent Coach.

The goals of ABC are to:

- Increase caregiver nurturance, sensitivity, and pleasure
- Decrease caregiver frightening behaviors
- Increase child attachment security and decrease disorganized attachment
- Increase child behavioral and biological regulation

ABC is rated a 1 on the California Evidence-Based Clearinghouse for Child Welfare scientific rating scale, indicating that it is a program with the strongest research evidence among those rated. The California Clearinghouse independently reviews and disseminates information about evidence-based treatment for child welfare.

Evidence for ABC is focused on its use with two specific populations including foster parents of young children and high risk mothers with young children.

ABC Target Audience: Foster Parents with Young Children

Documented Outcomes

	Type of Study	Parent		Child		
		Decreased Avoidance*	Increased Maternal Sensitivity*	Improved Task Achievement	Enhanced Theory of Mind Function	Decreased Cortisol production
Dozier et.al. (2009)[i]	Experimental	✓				
Lewis-Morrarty et.al. (2012)[ii]	Experimental			✓	✓	
Dozier et.al. (2006)[iii]	Experimental					✓
Dozier et.al. (2008)[iv]	Experimental					✓
Bick and Dozier (2013)[v]	Experimental		✓			

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in positive parenting practices.*

Research Evidence for ABC when targeted to Foster Parents of Young Children

- The program addresses three issues that may be present in foster care families caring for infants and toddlers: (a) the ability of the children to regulate behavior and physiology; (b) infant-toddler behaviors that create barriers to nurturance (or, the occurrence of attachment disorganization); and (c) the ability of foster parents to provide nurturance.
- Studies have established the ABC program can effectively mitigate some, if not all, of these issues.

Review of Experimental and Quasi-Experimental Studies

Citation	**Dozier, M., Lindhiem, O., Lewis, E., Bick, J., Bernard, K., & Peloso, E. (2009). Effects of a foster parent training program on young children's attachment behaviors: Preliminary evidence from a randomized clinical trial. Child and Adolescent Social Work Journal, 26(4), pp. 321-332.**
Population and Sample	The study incorporated 46 children who received either Attachment and Biobehavioral Catch-up (ABC) or Developmental Education for Families (DEF). At the time of post-assessment, children ranged from 3.6 to 39.4 months in age. Half of the child sample was boys; 63% of the sample was African-American (followed by 26% non-Hispanic White, 3% Hispanic, and 7% biracial). The two groups did not differ with regard to child age, gender, ethnicity, parental income, or education.
Methodology	Experimental with random assignment
Purpose	The study was designed to assess the effectiveness of ABC. Study findings represent the first follow-up period, which occurred 1 month after the program's completion and post-assessments. The study team compared ABC to DEF, both of which consist of 10 individually-administered sessions; sessions were completed, approximately, weekly.
Measures & Assessments	• Parent Attachment Diaries
Study Implementation	• The program's structured training manuals were used to inform weekly training sessions, which lasted for 1 hour each for a total of 10 weeks. • Trainings occurred within foster parent homes. • The study team removed DEF components that involved parental sensitivity to child cues, to "distinguish it from the experimental (ABC) intervention." • All sessions were videotaped to allow assessments of fidelity to the training manual.
Staff Qualifications	• Professional social workers or psychologists with at least 5 years of clinical experience.
Key Findings	Avoidance • There were significant differences between treatment and comparison groups on measures of avoidance ($p<.05$). Specifically, ABC parents exhibited less avoidance than DEF parents. Security • The study team failed to find statistically significant differences between treatment and comparison groups of measures of security.

Citation	**Lewis-Morrarty, E., Dozier, M., Bernard, K., Terracciano, S. M., & Moore, S. V. (2012). Cognitive flexibility and theory of mind outcomes among foster children: Preschool follow-up results of a randomized clinical trial. Journal of Adolescent Health, 51, pp. S17-S22.**
Population and Sample	The study incorporated 61 children, ages 4 to 6 years. Study children were foster children, 37 of whom were involved in the foster care system before age 3. The study randomly assigned the children when they were younger than 20 months of age, to either Attachment and Biobehavioral Catch-up (ABC; n=17) or a control intervention group (n=20). There also were comparison children (n=24) who had no experience in foster care. All parents in the study were female. Study families had a mean family income of $78,425. Of the 37 foster care children, 35 were adopted or reunited with birth parents, at a mean age of 19.9 months. Children in foster care were younger than study children who were not in foster care ($p<.00$). In addition, there were significant differences in gender and ethnicity ($p<.01$ and $p<.00$, respectively). There also were significant differences in parent education and family income ($p<.00$), wherein parents of children who were not in foster care had more education and earned a higher annual income, compared to ABC and foster care parents. In addition, ABC parents earned a higher annual income than foster care parents ($p<.01$). Finally, ABC and foster participants were significantly different from non-foster care participants on a prenatal risk index ($p<.00$), wherein foster care children were more likely to have experienced exposure to drugs and alcohol, prenatally, compared to non-foster group children.
Methodology	Experimental with random assignment to one of two intervention groups and a third comparison group
Purpose	The study was designed to assess the status of children whose parents participated in an earlier, randomized, study of ABC, which occurred when the children were infants and toddlers.
Measures & Assessments	• Dimensional Change Card Sort • Penny-Hiding Game • Prenatal Risk Indices (parent report)

	• Peabody Picture Vocabulary Test, third edition (PPVT-III) • Brief Symptom Inventory • Life Experiences Scale
Study Implementation	• The first set of assessments included collection of consent, background information, the Prenatal Risk Indices, the Brief Symptom Inventory, and the Life Experiences Scale. • The study team collected child-level data using the Penny-Hiding Game and the PPVT. • At a subsequent data collection, the study team collected the Dimensional Change Card Sort • There were annual assessments with foster children until they turned 6 years of age.
Staff Qualifications	• Not addressed
Key Findings	Tasks • The study team found a significant main group effect (p<.008), wherein foster care children performed worse on tasks, overall, than ABC and non-foster care children. • There was a significant interaction between task type and group (p<.03), wherein foster care children scored lower on the post-switch card sort, compared to both ABC and non-foster care children. Note, a significant interaction was not found on the pre-switch card sort. • ABC children scored significantly higher than foster care children on the post-switch card sort (p<.00), with a large effect size of d=1.06. • There were not significant differences between ABC children and children in the non-foster care group on the post-switch card sort. • There were significant differences between children in the non-foster care group and children in the foster care group (p<.00), where foster care children scored lower than non-foster care children on the post-switch card sort. The effect size was large (d=1.12). Theory of Mind • There was a significant main group effect (p<.01), wherein ABC children scored higher than foster care children on the Theory of Mind task (p<.01), with an effect size of d=1.08. • There were not significant differences between ABC children and non-foster care children on Theory of Mind scores. • Foster care children scored marginally lower than non-foster care children on Theory of Mind scores. • Independent variables associated with Theory of Mind accounted for 17.4% of score variance, compared to 13% of variance accounted for by group. • The study team found that prenatal risk factor scores were not significantly associated with measures of cognitive flexibility or Theory of Mind. ABC children exhibited stronger cognitive flexibility and Theory of Mind scores, compared to foster care children in the control group intervention. ABC children were not significantly different from non-foster care children on cognitive flexibility and Theory of Mind scores.

Citation	**Dozier, M., Peloso, E., Lindhiem, O., Gordon, M. K., Manni, M., Sepulveda, S., Ackerman, J., Bernier, A., & Levine, S. (2006). Developing evidence-based interventions for foster children: An example of a randomized clinical trial with infants and toddlers. Journal of Social Issues, 62(4), pp. 767-785.**
Population and Sample	The study incorporated 60 foster care children, who ranged in age from 3.6 to 39.4 months, who completed either Attachment and Biobehavioral Catch-up (ABC) or Developmental Education for Families (DEF). The study also included 104 children who were not in the foster care system, who ranged in age from 20 to 60 months. There were no significant differences among ABC and DEF groups with regard to child age, gender, or ethnicity.
Methodology	Experimental with random assignment to one of two intervention groups and a third comparison group
Purpose	The study examined the effectiveness of ABC for working with young children involved in the foster care system. ABC was designed to address child regulatory capabilities while DEF was designed to address cognitive and linguistic development.
Measures & Assessments	• Salimetrics, Inc. High Sensitivity Salivary Cortisol Enzyme Immunoassay Kit • Parent's Daily Report (PDR/IT), infant-toddler and preschool versions
Study Implementation	• There was random assignment of foster care parents to ABC or DEF. • Both ABC and DEF interventions consisted of 1 hour weekly training sessions that occurred for 10 weeks. The programs were provided in the home. • The DEF intervention did not include components related to parent sensitivity to child cues. • All sessions were video-recorded to allow assessments of fidelity to a structured training manual. • To the extent possible, the format, duration, and frequency of the interventions were similar for both interventions

Staff Qualifications	• Parent trainers for both interventions were professional social workers or psychologists with at least 5 years of clinical experience
Key Findings	Cortisol Production • There were significant differences between the ABC and DEF groups on cortisol production (p<.002), wherein DEF children exhibited higher cortisol values than ABC children. • There were significant differences between the control intervention group and ABC and DEF groups (p<.001). There were not significant differences between the experimental intervention group and the typically developing group, wherein there were similar results for the experimental intervention group and typically developing children. Behavioral Problems • ABC parents reported significantly fewer behavioral problems for toddlers, compared to infants (p<.05). This was not the case for DEF parents. • The study team did not find the intervention group main effect to be statistically significant and there were not significant differences when only toddler-age children were examined.

Citation	**Dozier, M. Peloso, E., Lewis, E., Laurenceau, J., & Levine, S. (2008). Effects of an attachment-based intervention on the cortisol production of infants and toddlers in foster care. Development and Psychopathology, 20, pp. 845-859.**
Population and Sample	The study incorporated 93 foster care children who were randomly assigned to either Attachment and Biobehavioral Catch-up (ABC; n=46) or Developmental Education for Families (DEF; n=47). The study also incorporated 48 children who had no foster care system experience. Children in the study ranged in age from 15 to 24 months. There was a significant difference among groups on gender. Further, the ABC and DEF groups had more children from under-represented minority groups than the comparison group of non-foster care children.
Methodology	Experimental with random assignment to one of two intervention groups and a third comparison group
Purpose	The study examined the effectiveness of ABC, on outcomes related to hypothalamus–pituitary–adrenal (HPA) functioning. More specifically, the study assessed the extent to which participation in ABC helped to normalize HPA functioning in foster care children. ABC was designed to address child regulatory capabilities while DEF was designed to address cognitive and linguistic development.
Measures & Assessments	• Salimetrics, Inc. High Sensitivity Salivary Cortisol Enzyme Immunoassay Kit
Study Implementation	• Both the ABC and DEF interventions had 1-hour weekly training sessions, which lasted for 10 weeks. • The programs were provided in the home. • The DEF intervention did not include components related to parent sensitivity to child cues. • After completing the interventions, all children participated in the Strange Situation, which was designed to address infant attachment. • All sessions were videotaped, allowing assessments of fidelity to the manual.
Staff Qualifications	• For both interventions, parent trainers had bachelor's or master's degrees in psychology or social work and at least 5 years' clinical experience.
Key Findings	Cortisol Production • ABC and comparison group children exhibited lower cortisol levels upon beginning the study, compared to children in the DEF group. Cortisol levels in ABC and comparison group children were not significantly different. • The study team failed to find a significant increase in cortisol in any of the three groups, after the Strange Situation. All three groups exhibited negative changes in slopes. The slope for ABC children was not significantly different from zero. The slopes for DEF and comparison children were significantly different from zero (p<.05). There were not significant differences among groups with regard to slope. • ABC children exhibited lower cortisol levels upon arriving for the Strange Situation, compared to children in the DEF group. Comparison children, with no foster care experience, exhibited lower levels of cortisol than DEF foster care children. Cortisol levels in comparison children were not significantly different from ABC foster care children.

Citation	**Bick, J., & Dozier, M. (2013). The effectiveness of an attachment-based intervention in promoting foster mothers' sensitivity toward foster infants. Infant Mental Health Journal, 34(2), pp. 95-103.**
Population and	The study incorporated 96 foster mother and infant dyads, wherein the infants ranged in age from 1 to

Sample	22 months. The dyads were randomly assigned to either Attachment and Biobehavioral Catch-up (ABC; n=44) or Developmental Education for Families (DEF; n=52). The demographic breakdown in foster mothers was: 43% African American, 46% White non-Hispanic, 7% Hispanic, and 4% biracial. The median family income was $50,000. As regards family structure: 68% of the foster mothers were married, 21% were single, 7% were divorced, and 4% were widowed. As regards education: 19% had not completed high school, 41% had completed high school, 24% had completed an associate's or trade degree, 12% had completed college, and 4% had completed post-college graduate education. There were no differences among foster children with regard to age, duration of foster care placement, prior number of foster care placements, or foster parent age.
Methodology	Experimental with random assignment to one of two interventions
Purpose	The study examined the effectiveness of ABC with regard to maternal sensitivity. The ABC program was designed to "promote sensitive caregiving behavior."
Measures & Assessments	• 5-point Likert observation scale of maternal sensitivity • To receive a score of "5" on maternal sensitivity, mothers had to "appropriately and consistently adjust their behavior to respond to their infant's cues for the duration of the interaction."
Study Implementation	• Both the ABC and DEF interventions had 1-hour weekly training sessions, which lasted for 10 weeks. • The programs were provided in the home. • The DEF intervention did not include components related to parent sensitivity to child cues. • Maternal sensitivity first was assessed 1 week prior to the beginning of the groups. • Post-assessments varied by child age at the time the intervention groups were completed and occurred at: 30 days after the completion of the intervention program (all children); at 12 or 24 months of age for comparison to a normative group of children (54 children who were 9.5 months old or younger when they completed the sessions received both the 12 month and 24 month assessments; 42 children who were older than 9.5 months when they completed the sessions received the 24 month assessment). • Maternal sensitivity was assessed at 30-days, 12 months, and 24 months after completion of the sessions. • Parent trainers' fidelity to the treatment program was examined on a weekly basis during a group supervision meeting. • Clinical supervisors viewed video recordings of previous intervention sessions and monitored parent trainers' adherence to intervention manual.
Staff Qualifications	• Parent trainers who had extensive experience working with parents and infants delivered intervention sessions for both programs.
Key Findings	• ABC foster mothers exhibited greater increases in maternal sensitivity scores, compared to DEF foster mothers ($p<.05$). • After controlling for co-variates, there were not differences between ABC and DEF foster mothers' starting values. • There were significant associations between foster mother education level and the duration of current placement, with pre-intervention maternal sensitivity. There were not significant associations of these factors with change in maternal sensitivity scores. • After controlling for child age, duration of placement, and foster mother educational level, the type of intervention predicted the degree of change in maternal sensitivity score. • There was not significant variation in foster mother maternal sensitivity intercept estimates and change in maternal sensitivity scores. • The final model, which included the intervention groups and covariates, explained a significant amount of variance in maternal sensitivity scores (10.5%).

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

None

ABC Target Audience: High Risk Mothers or Home Environments with Young Children

Documented Outcomes:

	Type of Study	Parent		Child		
		Increased Maternal Sensitivity	Decreased Maternal Intrusiveness	Decreased Disorganized Attachments	Increased Secure Attachments	Increased Negative Affect Regulation
Yarger et.al. (2016)[vi]	Experimental	✓	✓			
Bernard et.al. (2012)[vii]	Experimental			✓	✓	
Lind et.al. (2014)[viii]	Experimental					✓
Berlin et.al. (2014)[ix]	Experimental	✓				

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

Research Evidence for ABC when targeted to High Risk Mothers or Home Environments

- The program is associated with outcomes such as enhanced maternal sensitivity in mothers and reduction in problematic behaviors or enhanced attachments in children.

Review of Experimental and Quasi-Experimental Studies

Citation	**Yarger, H. A., Hoye, J. R., & Dozier, M. (2016). Trajectories of change in Attachment and Biobehavioral Catch-up among high-risk mothers: A randomized clinical trial. Infant Mental Health Journal, 37(5), pp. 525-536.**
Population and Sample	The study incorporated 24 mothers and their biological children who ranged in age from 6 to 20 months. Participants were randomly assigned to either Attachment and Biobehavioral Catch-up (ABC; n=13) or Developmental Education for Families (DEF; n=11). Several participants did not qualify to participate due to household incomes greater than $35,000 or status on parenting behavior criteria.
Methodology	Experimental with random assignment, short-term longitudinal design
Purpose	The study examined the relation of ABC and changes in maternal sensitivity and intrusiveness. The study also examined the "rate and shape" of change in parenting behaviors among parents in the study. Of note, the study authors described ABC's goals as "to teach parents to provide nurturance to their children when they are distressed; respond in sensitive, contingent ways when children are not distressed; delight in their children; and behave in non-frightening ways." Similarly, the study authors described the DEF intervention as "adapted from previous interventions shown to improve children's gross and fine motor skills, cognition, and language abilities."
Measures & Assessments	• Demographic questionnaire • Video-recorded observations of parents playing with their children, coded using an adapted version of the Observational Record of the Caregiving Environment (ORCE)

Study Implementation	• Eligible participants had unsubstantiated reports of neglect in the state of Delaware. Eligible participants also included incomes of less than $35,000 and low levels of sensitive behaviors or high levels of intrusive behaviors. • Both the ABC and DEF interventions had 1-hour weekly training sessions, which lasted for 10 weeks. • The programs were provided in the home. • The program is manualized intervention and all sessions were video-recorded for fidelity checks.
Staff Qualifications	• Experienced interventionists
Key Findings	• Groups did not differ significantly on baseline levels of sensitivity or intrusiveness. Maternal Sensitivity • There was a significant difference between ABC and DEF mothers on measures of maternal sensitivity, with ABC mothers assessed as "significantly more sensitive" than DEF mothers. ABC mothers also exhibited a steeper rate of change in maternal sensitivity (.97 unit increase in sensitivity across 10 sessions), compared to DEF mothers (.26 increase in sensitivity across 10 sessions), p=.04, effect size of d=.70. • There was a steeper increase in sensitivity during the first half of the intervention, compared to the second half. Intrusiveness • There was a significant difference between ABC and DEF mothers on measures of intrusiveness, with ABC mothers assessed as "less intrusive" than DEF mothers. ABC mothers exhibited a 1.22 unit decrease in intrusiveness across 10 sessions, compared to a .26 unit decrease in DEF mothers, across 10 sessions (p=.02, d=-.81). • There was a steeper decline in intrusiveness during the first half of the intervention, compared to the second half.

Citation	**Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. (2012). Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. Child Development, 83(2), pp. 623-636.**
Population and Sample	The study incorporated 120 children who ranged in age from 1.7 to 21.4 months and 113 parents. Participants were randomly assigned to either Attachment and Biobehavioral Catch-up (ABC; n=60) or Developmental Education for Families (DEF; n=60). The target population represents children considered at risk for maltreatment, based upon the family's involvement with CPS. All participating parents were enrolled in a program designed to "divert" children from foster care. Sixty-eight percent of the parents did not complete high school. There were no group differences with regard to parent age, parent education, or parent minority status. Among children, there were no significant group differences with regard to child age at enrollment, age at participation in Strange Situation, gender, or minority status.
Methodology	Experimental with random assignment to one of two interventions
Purpose	The study examined the effectiveness of ABC on child likeliness of developing organized attachments, when compared to children participating in DEF.
Measures & Assessments	• Strange Situation
Study Implementation	• Both the ABC and DEF interventions had 1-hour weekly training sessions, which lasted for 10 weeks. • The programs were provided in the home. • Parents and children received the Strange Situation approximately 1 month after the intervention was completed (or, later for children who were too young at 1 month post-treatment to participate in Strange Situation). • All sessions were video-recorded to allow assessments of fidelity to a structured training manual.
Staff Qualifications	• For both interventions, parent trainers had experience with children and strong interpersonal skills.
Key Findings	Disorganized Attachments • There were significant differences between ABC children and DEF children on measures of disorganized attachments, wherein ABC children exhibited lower rates of disorganized attachments. Specifically, 32% of ABC children exhibited disorganized attachments, compared to 57% of DEF children (p<.01), effect size of d = .52. Secure Attachments • There were significant differences between ABC children and DEF children on measures of secure attachments, wherein ABC children exhibited higher rates of secure attachments. Specifically, 52% of ABC children exhibited secure attachments, compared to 33% of DEF children (p<.05), effect size of d =

	.38. • Findings regarding attachment disorganization remained statistically significant after the study team excluded from analyses children who were older than 24 months at the time of the Strange Situation ($p<.05$; $d = .47$). • Findings regarding attachment security did not remain statistically significant after the study team excluded from analyses children who were older than 24 months at the time of the Strange Situation. • Findings regarding attachment disorganization and attachment security remained statistically significant after the study team excluded from analyses the second child (from those seven parents who had two children enrolled in the study) at $p<.01$ and $p<.05$, respectively (and $d = .57$ and $d = .44$, respectively).

Citation	**Lind, T., Bernard, K., Ross, E., & Dozier, M. (2014). Intervention effects on negative affect of CPS-referred children: Results of a randomized clinical trial. Child Abuse & Neglect, 38, pp. 1459-1467.**
Population and Sample	The study incorporated 117 children under the age of 2 years and 112 caregivers who had been reported to Child Protective Services (CPS). Participants were randomly assigned to Attachment and Biobehavioral Catch-up (ABC; n=56) or Developmental Education for Families (DEF; n=61). There were not significant differences between groups with regard to child age at enrolment, child age at Tool Task, child gender, or child minority status. There were not significant differences between groups with regard to parent age, parent education, or parent minority status.
Methodology	Experimental with random assignment to one of two interventions; Intent-to-Treat
Purpose	This study investigated the effectiveness of ABC with regard to child expression of negative affect in a challenging task.
Measures & Assessments	• Tool Task
Study Implementation	• Both the ABC and DEF interventions had 1-hour weekly training sessions, which lasted for 10 weeks. • The programs were provided in the home. • The DEF intervention did not include components related to parent sensitivity to child cues. • The Tool Task assessment was conducted with children 1 to 27.2 months following completion of the program. • Child outcome data were collected when children were approximately 24- to 36-months old. Post-intervention data collections occurred at two time points. A total of 183 children were involved in study follow-up; 117 participated in the assessment of negative affect regulation.
Staff Qualifications	• Parent coaches for both interventions were a mix of bachelor- and master's-level and received similar supervision.
Key Findings	Negative Affect Regulation • There were significant differences between ABC and DEF children on negative affect expression, wherein ABC children exhibited lower levels of negative affect expression ($p<.05$, Cohen's $d = .42$), compared to DEF children. ABC children exhibited lower levels of anger ($p<.05$, Cohen's $d = .40$), lower levels of anger toward parent ($p<.05$, Cohen's $d = .43$), and lower levels of global anger/ sadness ($p<.05$, Cohen's $d = .44$), compared to DEF children.

Citation	**Berlin, L. J., Shanahan, M., & Carmody, K. A. (2014). Promoting supportive parenting in new mothers with substance-use problems: A pilot randomized trial of residential treatment plus an attachment-based parenting program. Infant Mental Health, 35(1), pp. 81-85.**
Population and Sample	The study incorporated 21 mothers and their infants living in one of two residential substance-abuse treatment facilities for at least 2 months. Participants were randomly assigned to Attachment and Biobehavioral Catch-up (ABC; n=11) or a control group (n=10). As regard participant characteristics: 86% of mothers were white; 86% had at least a high school diploma or GED; 86% were single, divorced, or widowed; 91% were receiving public assistance; 76% had previously received inpatient substance abuse treatment; and 52% had previously received mental health treatment. Participating children ranged from 1 to 21 months of age; 62% were male. The ABC children were significant older than the control children. Seventy-six percent of participants (or, 8 in each group) completed their interventions and post-intervention observation.
Methodology	Experimental with random assignment to treatment and control groups

Purpose	The study was a pilot randomized trial to assess the implementation and results of supplemental residential substance-abuse treatment. The study focused on new mothers.
Measures & Assessments	• Childhood Trauma Questionnaire (CTQ) • Center for Epidemiologic Studies Depression Scale (CES-D) • Generalized Anxiety Disorder 7-Item Scale (GAD-7) • Maternal Behavior Q-Sort (MBQS)
Study Implementation	• The CTQ, CES-D, and GAD-7 were administered along with a pre-intervention interview. • The ABC program consisted of weekly, 1-hour sessions that lasted for 10 weeks. Services were provided within the parents' homes. • The control program consisted of 10-sessions in which the study clinicians delivered less or non-intensive services and "made general inquiries about the mothers' and infants' well-being and gave mothers a developmentally appropriate book for their child." • Two parenting coaches were involved and were trained by the program developer. • Post-intervention assessments, including the MBQS, were completed within two weeks of the program's completion.
Staff Qualifications	• Not addressed
Key Findings	Observed Sensitive Parenting Behavior • There were not significant group differences on measures of observed sensitive parenting behavior, although findings favored the ABC parents (d = .67). • The program effect was maintained across child ages. • The mean ABC score (M = .51) was three times higher than the control group mean score (M = .17). • The mean score for the ABC group (M = .51) was lower than a sample of low-risk mother (M = .73)

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

None

End Notes

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[i] Dozier, M., Lindhiem, O., Lewis, E., Bick, J., Bernard, K., & Peloso, E. (2009). Effects of a foster parent training program on young children's attachment behaviors: Preliminary evidence from a randomized clinical trial. Child and Adolescent Social Work Journal, 26(4), pp. 321-332.

[ii] Lewis-Morrarty, E., Dozier, M., Bernard, K., Terracciano, S. M., & Moore, S. V. (2012). Cognitive flexibility and theory of mind outcomes among foster children: Preschool follow-up results of a randomized clinical trial. Journal of Adolescent Health, 51, pp. S17-S22.

[iii] Dozier, M., Peloso, E., Lindhiem, O., Gordon, M. K., Manni, M., Sepulveda, S., Ackerman, J., Bernier, A., & Levine, S. (2006). Developing evidence-based interventions for foster children: An example of a randomized clinical trial with infants and toddlers. Journal of Social Issues, 62(4), pp. 767-785.

[iv] Dozier, M. Peloso, E., Lewis, E., Laurenceau, J., & Levine, S. (2008). Effects of an attachment-based intervention on the cortisol production of infants and toddlers in foster care. Development and Psychopathology, 20, pp. 845-859.

[v] Bick, J., & Dozier, M. (2013). The effectiveness of an attachment-based intervention in promoting foster mothers' sensitivity toward foster infants. Infant Mental Health Journal, 34(2), pp. 95-103.

[vi] Yarger, H. A., Hoye, J. R., & Dozier, M. (2016). Trajectories of change in Attachment and Biobehavioral Catch-up among high-risk mothers: A randomized clinical trial. Infant Mental Health Journal, 37(5), pp. 525-536.

[vii] Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. (2012). Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. Child Development, 83(2), pp. 623-636.

[viii] Lind, T., Bernard, K., Ross, E., & Dozier, M. (2014). Intervention effects on negative affect of CPS-referred children: Results of a randomized clinical trial. Child Abuse & Neglect, 38, pp. 1459-1467.

[ix] Berlin, L. J., Shanahan, M., & Carmody, K. A. (2014). Promoting supportive parenting in new mothers with substance-use problems: A pilot randomized trial of residential treatment plus an attachment-based parenting program. Infant Mental Health, 35(1), pp. 81-85.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Circle of Parents®

Goals:

The goals of Circle of Parents are to: 1) prevent child abuse and neglect and 2) strengthen families.[i]

Circle of Parents Snapshot

- **EC Profile Indicator:** Rate of investigated reports of child abuse/neglect per 1000 children ages 0-5
- **Clearinghouse rating:** None
- **Research supports** use with all parents although the program targets parents at risk of abuse or neglect.
- **Related Smart Start outcomes:**
  - Increase in parent knowledge
  - Increase in positive parenting practices
  - Increase in parent's social support
- **Purveyor training required:** Yes, for the group facilitator and parent leader
- **Dosage:**
  - Not less than once a month
  - On average, groups meet weekly for 2 hours
- **Suggested Assessments:** Protective Factors Survey

Program Features:

Parenting young children can offer many challenges. Giving parents the opportunity to engage in parenting groups with others who face similar challenges can provide emotional support and opportunities to learn new parenting skills. When parents hold the leadership roles in these groups, they gain new skills and confidence in themselves that are likely to have a positive influence on their understanding of and interactions with their children.

Circle of Parents (originally Parents Anonymous)[ii] is a confidential support group for parents at risk of child abuse or neglect. The focus of the program is prevention.[i] Meetings are conducted weekly, are free of charge, and foster an open exchange of ideas, support, information, and resources. Instead of formal training or advising, these parents engage in shared leadership of the meetings, helping support each other, and brainstorming solutions to parenting challenges.[i]

Children's programs are offered as part of Circle of Parents programming. Children's programs provide an additional incentive for parents to attend Circle of Parents meetings by providing an entertaining and educational place for their children. Children's programs are staffed by child care workers who have been screened and trained by individual programs.

The Circle of Parents support groups belong to the parents who attend. These parents are encouraged to take ownership of the group by, for example, setting goals for the group. Group members work with professionals to build successful partnerships and share responsibility for the group.

For more information regarding Circle of Parents use this link: http://www.circleofparents.org/.

Target Audience:

Open to all parents but targets parents at risk of abuse or neglect

Documented Outcomes

	Type of Study	Parent Outcomes						
		Enhanced self-management skills	Increased awareness of community resources	Improved self-reported family functioning and resiliency	Increased social and/or emotional support**	Increased concrete support**	Improved nurturing and attachment**	Increased knowledge about parenting and child development*
Harman & Blair (2015)	Non-experimental, gains within treatment group; retrospective pre-post assessment			✓	✓	✓	✓	✓
Circle of Parents National Evaluation (2011)	Non-experimental, retrospective pre-post			✓	✓	✓	✓	✓
Falconer et.al. (2011)	Non-experimental, retrospective pre-post			✓	✓		✓	
Falconer et al. (2008)	Non-experimental, methodology varied across the four states	✓	✓					✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcomes *Increase in parent knowledge*
**Aligned with Smart Start outcomes *Increase in positive parenting practices*

Research Evidence for Circle of Parents

- Parents report less parenting distress, less parenting rigidity, less psychological aggression.
- Parents report better self-management skills, more appropriate expectations for their children, and increased awareness and use of support systems.
- Improvements in parental outcomes grew with the number of sessions attended.

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Harman, A. E., & Blair, R. L. (2015). Circle of Parents: North Carolina Outcomes Evaluation.**
Population and Sample	The study included data from 41 program groups, and 360 participants (custodial or prenatal parents or supportive adults helping parent a child): 63% of participants were married or partnered, 60% Caucasian, 87% female, 60 % had children age 7 or younger, 57% had family incomes of $24,999 or less.
Methodology	Non-experimental, with gains within treatment group analyses; retrospective pre-post assessment
Purpose	The study was an outcomes evaluation of the North Carolina Circle of Parents program, which is supported by Prevent Child Abuse NC.
Measures & Assessments	• Protective Factors Survey
Study Implementation	• Group facilitators were trained to administer the Protective Factors Survey in the spring of 2015. Facilitators also were give a script to use in explaining the purpose and process of the evaluation. All participants present at group meetings were asked to complete the survey, but participation was voluntary. • The survey was retrospective and included scales for both "Before" and "Now" responses for each question.
Staff Qualifications	• Not addressed
Key Findings	• There were significant increases in participant-reported measures of family functioning and resiliency, social/emotional support, concrete support, and nurturing and attachment. • There were significant increases in several measures of child development and knowledge about parenting, such as parent knowledge of how to help a child learn, parent praise for a child for behaving well, and parent self-control when disciplining the child.

Citation	**Circle of Parents National Evaluation. (2011). Retrieved from: http://www.circleofparents.org/downloads/Circle%20of%20Parents%20National%20Evaluation.pdf**
Population and Sample	Over 300 surveys from program groups in ten states (Milwaukee, Illinois, Colorado, Connecticut, Kansas, Massachusetts, Minnesota, Vermont, Washington, Florida).
Methodology	Non-experimental; retrospective pre-post questionnaire
Purpose	The study was an evaluation of Circle of Parents in 10 states. The study also validated the use of retrospective pre-post surveys as a means of collecting outcome data.
Measures & Assessments	• Protective Factors Survey
Study Implementation	• There were two administrations of the survey during program meetings at each site: o 1) pre-program responses were collected at the second or third parent group session for new participants.

	○ 2) post-program responses were collected at least 6 sessions after than the first administration of the survey. The second administration of the survey also included a set of retrospective "pre/post" responses for comparison with the conventional pre and post survey.
Staff Qualifications	• Not addressed
Key Findings	• Paired T-tests showed that there were significant and positive findings using both conventional and retrospective survey formats for ○ family functioning and resiliency, ○ social support, ○ 3 of 4 measures of nurturing and attachment, and ○ child development and parenting knowledge. • Only the conventional pre/post survey format found significant and positive changes in the domain of concrete support.

Citation	**Falconer, M.K. (2011). Florida Circle of Parents evaluation report for 2010-2011. The Ounce of Prevention Fund of Florida.**
Population and Sample	The study involved data from 26 individuals across five program groups. 62% of participants were married or partnered, 69% Caucasian, 86% female, 42% had family incomes of $25,000 or less.
Methodology	Non-experimental; retrospective pre-post questionnaire
Purpose	The study was the 2010-2011 evaluation of Florida's Circle of Parents initiative, operating in 41 separate programs.
Measures & Assessments	• Protective Factors Survey, retrospective format • Guided Group Interviews
Study Implementation	• A retrospective form of the Protective Factors Survey was administered to participants, which was followed by two guided group interviews with 16 participants. The interviews focused on interpretations and perceptions of each statement or item on the survey, but not on their actual responses. • Participation in both data collection methods was voluntary.
Staff Qualifications	• Not addressed
Key Findings	• There was statistically significant improvement for: ○ 3 of 5 measures of family functioning and resiliency, ○ 3 of 3 measures of social support, and ○ 2 of 4 measures of nurturing and attachment. • Findings from two group interviews with participating parents confirmed that parents were accessing and internalizing the concepts promoted and taught in the Circle of Parents groups. Examples included "descriptions of listening to each other, a crisis, disciplining a child, and being close to a child," "behavior that was desirable and not desirable," and "pulling together as a family, talking to others, comfort seeking assistance for food and shelter, praising a child, and helping a child learn." • Across both methods (survey and group interview) of data collection, the strongest evidence of improvement after participation in the program was for social support.

Citation	**Falconer, M. K., Haskett, M. E., McDaniels, L., Dirkes, T., & Siegel, E. C. (2008). Evaluation of support groups for child abuse prevention: Outcomes of four state evaluations. Social Work with Groups, 31, pp. 165-182.**
Population and Sample	Program participant numbers and demographics varied across states: 89-564 participants who were 77-92% female, 18.5-51% white. The percent of program participants that had experienced within-family abuse or violence ranged from 37% to 74%.
Methodology	Non-experimental; the nature of the survey and evaluation methodology varied across the four states.
Purpose	The study was an evaluation of Circle of Parents programs in Florida, Washington, North Carolina, and Minnesota.
Measures & Assessments	• Surveys
Study Implementation	All sites used a voluntary self-report survey but the surveys and administration methodology varied across states. Some states used the retrospective pretest method, two states awarded gift cards or other incentives, and anonymity was maintained in three states with confidentiality secured in all four states.
Staff Qualifications	• No specific qualifications required
Key Findings	• Four outcome areas were identified: parenting skills, self-management skills, quality of parent-child interactions, and support system awareness and use. The study authors reported that

outcome findings were consistent and positive in each of the four outcome areas and across the states that collected data for the outcome areas.

- The study also identified "number of sessions attended" as a [possibly] important of program results.

End Notes

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[i] Circle of Parents Overview. (n.d.). Circle of Parents. [Website]. Retrieved from: http://www.circleofparents.org/

[ii] National Council on Crime and Delinquency, Outcome evaluation of parents anonymous. 2007, Author: Oakland, CA.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Family Connects

Goals

According to Family Connects, the program's goals are to:

1. *Connect with every mother - along with the father and other family members - in their home after the birth of a newborn. The nurse home visits are designed to share in the joy of a new baby, assess unique family risks, and respond to immediate needs for support and guidance.*
2. *Offer supportive guidance to families in several factors, responding specifically to questions about newborn care.*
3. *Link families to community services based on their individual needs and preferences.*
4. *Help new parents connect with their infant, providing them with the confidence and support needed to sustain infant and parent health, child development and overall family well-being.*

(source: http://www.familyconnects.org/about/)

Family Connects Snapshot

- **EC Profile Indicator:** FS 30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse rating:** None
- **Research supports** use with all parents of newborns
- **Related Smart Start outcomes:**
  - Increase in parents use of services
- **Training required:** Yes
- **Staff qualifications:** Registered public health nurse
- **Dosage:** Between four and seven intervention contacts with or on behalf of family
- **Suggested Assessments:**
  - Family Support Matrix
- **Implementation Guidance:** http://www.familyconnects.org/about/

Program Features

The Family Connects model includes between four and seven intervention contacts with or on behalf of families with newborns[i]. The contacts include (1) the "initial family contact," which occurs shortly after the birth (and may be conducted in the hospital or by telephone), (2) the "integrated home visit," which is conducted by a registered public health nurse, (3) one-to-two follow-up visits, conducted by a nurse and as deemed necessary; (4) one-to-two contacts between the nurse and community service providers as needed; and (5) telephone follow-up with the family afer the conclusion of all home visits.

Home visits are conducted by nurses who provide families with "developmentally-informed gift bags," which contain items that parents of newborns need (e.g., diapers). The nurse home visitors use motivational interviewing techniques to work with parents of newborns,

delivering the interventions and assessments considered necessary for that family. The program uses the 12-factor Family Support Matrix as a general guide to well-being.

While the approach is standardized, the program also is designed to respond to each family's unique needs. The greater the needs, the more home visits the family receives.

Target Audience

All parents of newborns

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Documented Outcomes

	Type of Study	Parent Outcomes		Child Outcomes				
		Community Connections*	Father Involvement	Infant Emergency Medical Care	12-Month Total Emergency Care	12-Month Hospital Overnights	12-Month Emergency Department Visits	6- to 12-Month Emergency Medical Care
Dodge et.al. (2013)[ii]	Experimental			✓	✓	✓	✓	✓
Goodman et.al. (2016)[iii]	Non-experimental with comparison groups	✓	✓	✓				

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Parents increase use of services referred to in the community*

Research Evidence for Family Connects

- The program is associated with positive parent and child outcomes such as use of community connections, father involvement, infant emergency medical care, and child-level emergency health care outcomes throughout the first year of life.

Review of Experimental and Quasi-Experimental Studies

Citation	**Dodge, K. A., Goodman, W. B., Murphy, R. A., O'Donnell, K., & Sato, J. (2013). Randomized controlled trial of universal postnatal nurse home visiting: Impact on emergency care. Pediatrics, 132(2), pp. S140-S146.**
Population and Sample	The study included 4,777 live births in Durham North Carolina, randomly assigned to treatment and control groups. Families in the treatment group were offered between 3 and 7 contacts in the 3 to 12 weeks after birth. A sub-sample of 549 families was used to analyze program impact.
Methodology	Experimental; randomized controlled trial
Purpose	The study assessed the effectiveness of the Durham Connects (DC) program in reducing the use of emergency medical care for children aged birth through one. Durham Connects provides brief, universal, home visitation services by a nurse to mothers after they give birth. The nurses used the home visit as an opportunity to screen children for risks, provide brief interventions, as needed, and refer families to community resources, as needed, including more intensive services. The study had two goals: Evaluate impact of random assignment to DC on preventing emergency medical care (emergency department [ED] visits and hospital overnights) at infant age 12 months, well after the nurse home visitor had ended contact with the family. Evaluate whether the impact of the DC program held across diverse types of families.
Measures & Assessments	Infant Emergency Medical Care/ Hospital Records
Study Implementation	A nurse conducts home visits with the newborn's parents, during which the nurse provides "educational interventions," and assess health and psychosocial risk. Altogether, families receive between four and seven contacts, including the one-to-three home visits provided in the home, one-to-two contacts between a nurse and community service agencies, and a follow-up contact that occurs one month after a referral. Risk assessments are conducted in four domains: parenting/childcare (childcare plans, parent–infant relationship, and management of infant crying), family violence/ safety (material supports, family violence, past maltreatment), parent mental health/wellbeing (depression/anxiety, substance abuse, emotional support), and health care (parent health, infant health, and health care plan). The study team used a random subsample of 549 families in an intent-to-treat analysis of program impact.
Staff Qualifications	Registered public health nurses
Key Findings	Infant Emergency Medical Care The study team found that, between the time of birth and age 12 months, the treatment group families had 50% less infant emergency medical care, compared to control group families (effect size = .28 , $p < .001$). Between 6 and 12 months of age, treatment families had 31% less infant emergency care than control group families (effect size = .14, $p < .03$). The study team found that treatment families had 85% fewer hospital overnights, compared to control group families (effect size = .27, $p < .001$). Treatment families also had 18% fewer Emergency Department visits, compared to control group families (not statistically significantly different). The study team found that the program was impactful for every subgroup. 12-Month Total Emergency Care The study team found a significant interaction effect ($p<.001$) for infants with 1 or more birth risks (effect size = .51, $p<.001$). However, the team also found the program had a significant impact on infants with no birth risks (effect size = .19, $p<.001$). The study team found a significant interaction effect ($p<.001$) such that there were larger effects for families

	that either had Medicaid or no insurance (effect size = .27, p<.001). However, the team also found the program had a significant impact on families with private insurance (effect size = .22, p<.001). The study team found a significant interaction effect (p<.001) associated with minority status. Families considered non-minorities had larger effect sizes (effect size = .36, p<.001) than families considered minorities (effect size = .23, p<.001). The study team found a significant interaction effect associated with gender, such that there was a larger effect on boys (effect size = .34, p<.001) than on girls, for whom there still was a significant impact (effect size = .23, p<.001). 12-Month Hospital Overnights The study team found a significant impact for all subgroups. However, there were larger impacts for: Single-parent families (effect size = .34, p<.001), compared to two parent families (effect size = .22, p<.001). Boys (effect size = .37, p<.001), compared to girls (effect size = .14, p<.001). 12-Month Emergency Department Visits The study team found a significant impact for non-minority families (effect size = .18, p<.02). The study team did not find a significant impact for minority families. 6- to 12-Month Emergency Medical Care The study team found a significant impact for families that had private health insurance (effect size = .18, p<.001). The study team did not find a significant impact for families that used Medicaid or had no insurance. The study team found a significant impact for non-minority families (effect size = .24, p<.001). The study team did not find a significant impact for minority families. The study team found a significant impact for two-parent families (effect size = .17, p<.002). The study team did not find a significant impact for single-parent families.

Citation	**Goodman, W.B., Christopoulos, C., and Quinn, J. (2016). Evaluation of the Family Connects Northeast Program in the North Carolina Race to the Top Early Learning Transformation Zone: Final Report. Prepared for the Center for Child & Family Health and the North Carolina Department of Health and Human Services.**
Population and Sample	The study included 1427 mothers (and 1453 infants) who gave birth in four North Carolina counties between February 1, 2014 and December 31, 2015. The study also included 1242 mothers (and 1264 infants) who were eligible to participate in an evaluation survey and 517 mothers (528 infants) who completed an evaluation survey.
Methodology	Natural comparison design, or the examination of outcomes for infants born before the program's implementation with outcomes for infants born during the program's implementation
Purpose	The study assessed program impact in four North Carolina counties. The study's goals were to: Examine Family Connects implementation (including program uptake, fidelity of nurse home visits, reliability in assessing family risk, and successful nurse referrals to community resources). Examine associations between program eligibility and (1) family connections to community supports and services; (2) parenting and child care; (3) mother and infant health and well-being; and (5) mother and infant utilization of emergency medical care.
Measures & Assessments	The study incorporated survey questionnaires that assessed: Community Service Utilization. Mother parenting beliefs and behaviors, including the Infant Intentionality Questionnaire. Father involvement. Child care. Mother social support, which included a modified, 12-item version of the Social Provision Scale. Mother mental health, which included the 10-item Edinburgh Postnatal Depression Scale and the Generalized Anxiety Disorder-7 questionnaire. Mother and infant health. Mother and infant emergency medical care.
Study Implementation	The study team assessed program implementation over a 17-month period (September 1, 2014 – December 31, 2015) The study team also assessed short-term program impact for infants between 4-8 eight months old.

	To address possible bias, "all intervention group families participating in the impact evaluation were recruited without regard for Family Connects (*FC*) participation status." Further, the study team used a "blinded" design such that "families were not aware that the primary goal of the survey was to examine *FC* impact on child and family wellbeing, and interviewers did not know which families actually completed the *FC* program." Fidelity of implementation was assessed in multiple ways, including: Scheduling and home visiting completion rates; Fidelity in adhering to the FC manualized protocol; Reliability in assessing family risk on the 12-factor Family Support Matrix; and Successful family connections from nurse referrals to community resources and supports. The impact evaluation included treatment (September 1, 2014 – December 31, 2015 births) and comparison group (February 1, 2014 – July 31, 2014 births) families from four North Carolina counties.
Staff Qualifications	Home visits were provided by registered public health nurses.
Key Findings	Community Connections The study team found that treatment families accessed significantly more total community resources since birth, compared to comparison group families (effect size = .07, p<.01). While treatment families reported more frequent use of community resources, the differences between treatment and comparison group families were not statistically significant. The study team did not find statistically significant differences between treatment and comparison group families in the number of community resources currently being utilized, or the relative helpfulness of the resources. Mother Parenting Beliefs and Behaviors The study team did not find statistically significant differences between treatment and comparison group families for mother-reported, positive parenting behaviors or for negative parenting behaviors. The study team did not find statistically significant differences between treatment and comparison group families for mother negative intentionality beliefs about infant behaviors. Father Involvement The study team found significant differences between treatment and comparison group families on measures of mother-reported father involvement that included: Father-infant relationship quality (effect size = .27, p<.05) Father help with family work (effect size = .33, p<.05) The study team did not find statistically significant differences between treatment and comparison group families for father financial support for the infant. Child Care The study team did not find statistically significant differences between treatment and comparison group families for utilization of non-parental child care. For those mothers who reported using regulated child care, the study team did not find statistically significant differences between treatment and comparison group families on the quality of child care, for those mothers who reported using regulated child care. Both groups used high-quality child care. Mother Mental Health and Social Support The study team did not find statistically significant differences between treatment and comparison group families for overall rates of social, although the rates were higher in treatment mothers (p<.05). The study team found that treatment mothers were 18% less likely than comparison mothers to report possible clinical depression; this difference, however, was not statistically significant. The study team did not find statistically significant differences between treatment and comparison group families for mother-reported possible clinical anxiety. Mother Health and Health Care The study team did not find statistically significant differences between treatment and comparison group families for mothers' 6-week postpartum check-up completion rates. The 6-week postpartum check-up completion rates were above 90% for each group. The study team found that treatment group mothers were 16% less likely to report that they, or their partner, were currently using contraception/birth control (p<.01).

Infant Health and Health Care

The study team did not find statistically significant differences between treatment and comparison group families for the rates with which infants slept on their backs and the rates with which infant immunizations were up-to-date.

Treatment group infants were 40% less likely to be exposed to household smoking and 40% more likely to be breastfeeding at the time of the interview. However, differences between the groups were not statistically significant.

For those infants younger than age 6 months, the study team did not find statistically significant differences between treatment and comparison group families for infant sleep position and breastfeeding, although infants in treatment families were 15% more likely to sleep on their back and 38% more likely to be currently breastfeeding.

Mother and Infant Emergency Medical Care

The study team found significant differences between treatment and comparison group families on mother self-report of emergency medical care since infant birth, with treatment mothers reporting 37% more urgent care or emergency room visits than comparison mothers ($p<.05$).

The study team found that treatment mothers reported 77% fewer hospital overnight stays since discharge from the initial birthing hospital stay, relative to comparison mothers ($p<.01$).

The study team did not find statistically significant differences between treatment and comparison group families for mothers' total emergency medical care utilization.

The study team found significant differences between treatment and comparison group families on mother's report of infant emergency medical care. More specifically, treatment mothers reported that their infants utilized 25% less total emergency medical care since initial hospital discharge than the comparison group (effect size = .18, $p<.01$) and 24% fewer urgent care or emergency room visits than the comparison group (effect size = .18, $p<.01$).

The study team did not find statistically significant differences between treatment and comparison group families for hospital overnight stays, although treatment mothers reported 31% fewer hospital overnight stays.

End Notes

[i] Goodman, W.B., Christopoulos, C., and Quinn, J. (2016). Evaluation of the Family Connects Northeast Program in the North Carolina Race to the Top Early Learning Transformation Zone: Final Report. Prepared for the Center for Child & Family Health and the North Carolina Department of Health and Human Services.

[ii] Dodge, K. A., Goodman, W. B., Murphy, R. A., O'Donnell, K., & Sato, J. (2013). Randomized controlled trial of universal postnatal nurse home visiting: Impact on emergency care. Pediatrics, 132(2), pp. S140-S146.

[iii] Goodman, W.B., Christopoulos, C., and Quinn, J. (2016). Evaluation of the Family Connects Northeast Program in the North Carolina Race to the Top Early Learning Transformation Zone: Final Report. Prepared for the Center for Child & Family Health and the North Carolina Department of Health and Human Services.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Healthy Families America

Goals

The goals of Healthy Families America (HFA) are to: (1) to build and sustain community partnerships to systematically engage overburdened families in home-visiting services prenatally or at birth, (2) cultivate and strengthen nurturing parent-child relationships, (3) promote healthy childhood growth and development, and (4) enhance family functioning by reducing risk and building protective factors.[i]

Program Features

In order for children to grow, develop, and reach their individual potential, they need a stable, secure, responsive, and supportive home environment. When families are faced with multiple challenges, such as previous experiences of abuse or neglect, current substance abuse and mental health issues, or violent surroundings, they often are not able to provide an environment that is supportive of positive outcomes for children. Programs that provide families who are at risk with long-term guidance about positive parenting, child health, and child development are likely to help prevent child abuse, neglect, and other poor childhood outcomes.

Healthy Families America is a home-visiting program developed to work with families who may have histories of trauma, intimate partner violence, mental health issues, and/or substance abuse issues. HFA has defined three critical elements of the program. The first critical element involves entrance into the program including the following:

- initiation of services prenatally or at the birth of the baby,
- use of a standardized assessment tool to systematically identify families who are most in need of services, and
- offer voluntary services that use positive outreach efforts to build family trust.

The second critical element focuses on service content and includes the following components:

- services are provided over the long term (three to five years) using well-defined criteria for increasing or decreasing frequency of services,

Healthy Families America Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:**
  - Promising Practices Network rated Healthy Families New York as Proven
  - Home Visiting Evidence of Effectiveness Review – Meets DHHS Criteria
  - California Evidence-Based Clearinghouse rated HFA as Well Supported by Research Evidence for child well-being but Evidence Fails to Demonstrate Effect for prevention of child abuse and neglect
- **Research supports** use with parents with children ages birth through five; children at risk for abuse, maltreatment, or neglect
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
- **Purveyor training required:** Yes
- **Frequency:** Weekly during first six months then monthly
- **Minimal service threshold:** The HFA minimum engagement criteria is defined as participation in 75% or more of scheduled home visits over the first 6 months of intervention.
- **Suggested Assessments:**
  - Adult-Adolescent Parenting Inventory-2 (AAPI-2)
  - Parenting Stress Index
  - HOME
- **Implementation Guidance:** http://www. healthyfamiliesamerica.org

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- services should be culturally competent and materials must reflect the diversity of those being served,
- comprehensive services should support the parent as well as parent-child interaction and child development,
- families are linked to a medical provider and any additional services as needed, and
- staff should have limited caseloads (10 to15 families).

The third critical element focuses on staff characteristics and includes the following:

- service providers are selected based on their ability to establish a trusting relationship with families,
- service providers receive intensive training specific to their role, and
- staff receive ongoing, effective supervision.

Certified Healthy Families America should implement the following 12 critical elements (as noted by Frankel et.al. 2000[ii]):

(1) Intervening early to facilitate warm, secure and nurturing child/caregiver relationships.

(2) Using standardized assessments to identify families who are most in need of services.

(3) Relying on voluntary participation and trust-building to engage and retain families.

(4) Offering intensive services entailing weekly home visits for minimally the first 6 months after the birth of the baby and then tapering off to a leaner schedule and lasting for a period of 3–5 years.

(5) Assuring that services are respectful of differences in cultural values and tradition.

(6) Focusing services on three areas: (a) Stress reduction; (b) Positive parent–child interaction; and, (c) Stimulating child social, cognitive, and physical development.

(7) Linking all families to appropriate services in the community.

(8) Maintaining limited caseloads so that practitioners can devote sufficient time to meeting the unique and varying needs of each family.

(9) Selecting service providers based primarily upon personal qualities, openness to cultural diversity, and skills for performing key job functions.

(10) Giving home visitors a sound professional framework that includes knowledge of cultural differences, infant and child development, mandated reporting, domestic violence, mental health conditions, substance abuse issues, and community resources.

(11) Providing home visitors with intensive training specific to their role, including principles of (a) family assessment and home visitation, (b) preventive health care and home safety, (c) trust building with consumers, (d) individualized family support plans, (e) behavioral observation, (f) basic teaching skills, and (g) crisis intervention skills.

(12) Providing home visitors with ongoing, effective supervision.

For more information regarding Healthy Families America use this link: http://www.healthyfamiliesamerica.org.

Target Audience

Families with infants (prenatal to shortly after birth) who are at risk for adverse childhood experiences, including child maltreatment

Documented Outcomes

	Type of Study	Parent-reported parent or family outcomes											Child socio-emotional development
		Reduction in parenting stress	Educational attainment; participation in school or training	Use of contraception; avoidance of second pregnancy	Shared reading	Use of developmentally supportive activities	Developmental screenings	Use of aggressive or harsh discipline; Abusive or neglectful parenting*	Use of safety practices	Use of parenting resources	Reduction in alcohol or substance use	Attitudes and behaviors	
Jacobs et.al. (2015)[iii]	Experimental	✓	✓	✓				✓			✓		
Green et.al. (2014)[iv]	Experimental				✓	✓	✓						
LeCroy & Krysik (2011)[v]	Experimental		✓					✓	✓	✓	✓		
Dumont et.al. (2008)[vi]	Experimental							✓					
Ownbey et.al. (2011)[vii]	Non-experimental with comparison groups			✓									
Cullen et.al. (2010)[viii]	Non-experimental; one group pretest–posttest design											✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Improved parenting practices*

Research Evidence for Healthy Families America

- Parent outcomes range from reduction in stress, to changes in attitudes, and improved parenting behaviors. Some parents change personal behaviors such as participation in school or training programs, use of contraceptives, and use of alcohol.
- One study has documented positive child socio-emotional outcomes.

Review of Experimental and Quasi-Experimental Studies

Citation	**Jacobs, F., Easterbrooks, A., & Mistry, J. (2015). The Massachusetts Healthy Families Evaluation-2 (MHFE-2): A randomized, controlled trial of a statewide home visiting program for young parents. Final Report to the Children's Trust of Massachusetts, Tufts Interdisciplinary Evaluation Research (TIER).**
Population and Sample	The study incorporated 684 Massachusetts mothers who were randomly assigned to a treatment group (n=417) that received Home Visiting Services; HVS) or a control group (n=267; Referral and Information Only; RIO).
Methodology	Experimental; Intent-to-Treat
Purpose	The study was a statewide evaluation of Healthy Families Massachusetts (HFM). The study was a longitudinal evaluation, with a focus on adolescent parents. The study's five research questions were: 1. How do those mothers enrolled in HFM utilize program services? 2. To what extent do programs operate, and do participants utilize services, as intended by the 3. HFM model? 4. Is program dosage associated with outcomes? 5. What is the nature of the home visitor-mother relationship? 6. Does participation in HFM yield positive effects in the five HFM goal areas? The five goal areas were: • Prevent child abuse and neglect by supporting positive, effective parenting, • Optimal health, growth, and development in infancy and early childhood, • Encourage educational attainment, job, and life skills among parents, • Prevent repeat pregnancies during the teen years, and • Promote parental health and well-being.
Measures & Assessments	• Parenting Stress Index • Phone Interview • In-Person Interview • Public Agency Data (Department of Children and Families, Elementary and Secondary Education, Public Health, Transitional Assistance) • Participant Data System • Census Data
Study Implementation	• Eligible participants were at least 16 years old and female who also (a) provided informed consent to participate in the study; (b) had not received HFM services in the past; and (c) spoke either English or Spanish. Participants were randomly assigned to treatment or control groups. • Participants received three semi-structured phone interviews at: one month after enrollment, 12 months after enrollment, and 24 months after enrollment. Interviews were conducted in the home. Participants also received written questionnaires and the study team conducted observations of the mother-child interactions. • Data extracts retrieved from public agencies were used to assess outcomes. • There were 10 implementation fidelity measures, which were developed for the study and based upon Healthy Families American program elements: 1. 60% of referrals made during prenatal period, first contact with 80% new participants either prenatally or within 2 weeks of birth, 2. contacts made with 100% of new participants within 10 days of referral, 3. first home visit completed with 100% of participants within 20 days of referral, 4. 90% of eligible parents accept services, 5. participants receive at least 18 visits per year enrolled, 6. 75% of participants receive at 75% of their visits according to their service level,

	7. 100% of participants receive at least 18 months of services, 8. 85% of home visitors receive weekly supervision lasting 1.5 hours (program-level only), 9. 100% of participants receive weekly home visits for at least 6 months following the birth of their baby/enrollment if enrolled postpartum (individual-level only), 10. 100% of participant receives at least one home visit. • Program-level and individual participant-level fidelity was tracked for the study. Overall, program fidelity averaged a score of .74 (range of .71 to .80) on a scale of 0 to 1, where 1 indicates highest possible model fidelity. As regards individual participant fidelity, 85% of 433 treatment mothers had data on all indicators and 12% were missing data on one indicator (3% were missing data on two-three indicators). Overall, participants met about half of the individual participant implementation indicators.
Staff Qualifications	• Paraprofessionals, trained in the program
Key Findings	Prevention of Abuse and Neglect • There was no program impact related to the reduction of the rate of child maltreatment, in either the treatment or control group. • In families in which there was substantiated maltreatment reports, in the treatment group, 90% of mothers were identified as the person committing the offense, compared to 60% of control group mothers. • One possible explanation is that the presence of the HFM home visitor contributed to more observance of the home environment, or "increased surveillance," which might be linked to a higher rate of treatment mothers being identified. Parenting Stress • At Time 2 (12 months post-enrollment) and Time 3 (24 months post-enrollment), treatment mothers reported less parenting stress as measured by the Difficult Child (Time 2) and Parental Distress (Time 3) subscales of the Parenting Stress Index. Treatment mothers scored, on average, 23 points on the Difficult Child and 28 points on the Parental Distress subscales, compared to 24 points and 30 points, respectively, for control mothers. • Effect sizes were .22 for the Difficult Child and .25 for the Parental Distress subscales. • At T2, 24% of treatment mothers reported the use of harsh discipline, compared to 30% of control group mothers. Optimal Health, Growth, and Development in Infancy and Early Childhood • There were no significant program effects identified on measures of child behavior, English language skills, child responsiveness, or infant (baby) health. Encourage Educational Attainment, Job, and Life Skills Among Parents • A significant program effect was identified for mother's educational attainment. Treatment mothers were more likely to finish at least one year of college by T3, compared to control group mothers (Odds Ratio = 1.92, p=.007) • By T3, 17% of treatment mothers completed at least one year of college, compared to 10% of control group mothers. Prevent Repeat Pregnancies During the Teen Years • A significant program effect was identified for use of condoms. • At T2, 25% of treatment mothers reported using condoms, compared to 18% of control group mothers. Promote Parental Health and Well-Being • Twenty-five percent of treatment mothers reported engaging in three or more risky behaviors, compared to 36% of control group mothers. • Eleven percent of treatment mothers reported using marijuana, compared to 20% of control group mothers. • Thirty-nine percent of treatment mothers reported perpetrating acts of intimate partner violence more than once in the past year, compared to 51% of control group mothers. • Thirty-six percent of treatment mothers were victims of domestic violence, compared to 39% of control group mothers.

Citation	**Green, B. L., Tarte, J. M., Harrison, P. M., Nygren, M., & Sanders, M. B. (2014). Results from a randomized trial of the Healthy Families Oregon accredited statewide program: Early program impacts on parenting. Children and Youth Services Review, Volume 44, pp. 288-298.**
Population and Sample	The study incorporated 803 first-time Oregon mothers who were randomly assigned to treatment (n=402; Health Families Oregon with seven programs) or control (n=401) groups.
Methodology	Experimental; Intent to Treat
Purpose	The study was a component of a larger, randomized study that assessed Healthy Families America as

	implemented in Oregon, or Healthy Families Oregon (HFO). The study team conducted a telephone survey with a randomly selected group of mothers to assess early outcomes at children's 1-year birthday. The study focused on the following questions: (1) What short-term program effects can be detected at children's 1-year birthday? In particular, compared to control families: (a) Do parents in the HFO group report more positive parenting behaviors and skills compared to families in the control group? (b) Do parents in the HFO group report lower parenting stress, less depressive symptomatology, and more positive family functioning compared to families in the control group? and (c) Do children in the HFO treatment group experience more supports for healthy development, specifically increased breastfeeding and increased rates of developmental screening? (2) Are there outcome differences for key subgroups of families? In particular, do outcomes differ for: (a) prenatally vs. postnatally enrolled mothers; (b) Hispanic vs. White/Caucasian mothers; (c) teenage vs. older mothers; (d) mothers with depressive symptomatology vs. non-depressed mothers; and (e) families with more vs. fewer total risk factors.
Measures & Assessments	• New Baby Questionnaire • Telephone Survey • Home Visiting Records • Adult Adolescent Parenting Inventory, Corporal Punishment Subscale (AAPI-CP) • Parent-Child Activities Scale (PCAS) • Family Functioning subscale of the Protective Factors Survey (PFS) • Parenting Stress Index – Short Form (PSI-SF) • Pregnancy Risk Assessment Monitoring System (PRAMS)
Study Implementation	• For the larger study, families were screened for inclusion in the study using the New Baby Questionnaire. Eligible parents were then randomly assigned using a random-number generator to program or control groups. • Following assignment, a first home visit was scheduled with parents assigned to the program group to conduct additional program intake assessments. Comparison families were mailed a standard resource and referral information packet. • For the telephone interview component presented in this article, a subsample of 1,604 mothers was randomly selected to complete telephone surveys. Families who participated received a $15 gift card. Telephone surveys were completed with 803 mothers.
Staff Qualifications	• Not addressed
Key Findings	Shared Reading • Treatment mothers reported reading with their infants significantly more frequently than control group mothers. Participants were asked "how often they read to their young child" with the possible responses: Not at all, Seldom, A few times, 3–4 times per week, About once a day, or More than once a day. The average score for treatment mothers was 4.74, compared to an average score of 4.43 for control group mothers ($p<.01$). • Sixty-two percent (62.4%) of treatment mother reported "reading at least daily to their young children," compared to 52.1% of control group mothers. Developmentally Supportive Activities • As measured with the Parent-Child Positive Activities Scale (a 6-point Likert scale), treatment mothers had an average score of 4.84, compared to an average score of 4.73 for control group mothers ($p<.05$). Corporal Punishment • As measured by the AAPI, there was no significant difference between treatment (mean score 1.89) and control group (mean score 1.97) mothers. Developmental Screenings • Treatment mothers were significantly more likely to report that their child received a developmental screening (Odds Ratio .4, p=.000) • Of the parents and children screened, treatment mothers were less likely to be told their child had a development concern (Odds Ratio 1.72, not significant at p=.078) Health • There were no other significant differences between treatment and control group mothers on health outcomes. Parenting Stress • While the treatment mothers reported less overall depression or parenting stress, as measured by the Parenting Stress Index, these results are not statistically significant. The average score for treatment mothers on depression was 2.17, compared to an average score of 2.22 for control group mothers (not significant). The average score on the Parenting Stress Index-SF for treatment mothers was 1.9, compared to an average score of 2.0 for control group mothers (not significant).

	• On the PSI, General Distress subscale, the average score for treatment mothers was 1.78, compared to an average score of 1.86 for control group mothers (not significant). • On the PSI, Parenting Stress subscale, the average score for treatment mothers was 2.02, compared to an average score of 2.14 for control group mothers (not significant). Family Relationships • As measured by the Family Functioning subscale of the Protective Factors Survey (5-point Likert scale), the average score for treatment mothers was 4.16, compared to an average score of 4.15 for control group mothers (not significant). The study team examined outcomes by sub-groups and found: • Non-depressed mothers exhibited stronger program effects on frequency of parent-child interactions than depressed mothers (p=.042). Non-depressed treatment mothers exhibited stronger program effects on the frequency of parent-child interactions than non-depressed control group mothers. • There were no significant differences between treatment and control group families with two or fewer risk factors, on measures of depression or stress. • In moderate and high-risk families, treatment mothers exhibited less stress and fewer depressive symptoms, compared to control group mothers. • As regards the use of harsh discipline or the endorsement of corporal punishment, the program appears to have the strongest effect on higher risk families and especially those families with the highest level of risk.

Citation	**LeCroy, C. W., & Krysik, J. (2011). Randomized trial of the healthy families Arizona home visiting program. Child and Youth Services Review, Volume 33, pp. 1761-1766.**
Population and Sample	The study incorporated 195 families who were randomly assigned to treatment group (n=97) and child development control group (n=98) at a single site in a large metropolitan area in Arizona. The treatment and control groups were found to be equivalent on most characteristics. Mothers in the treatment group were significantly younger than mothers in the control group. There also were significant differences on the use of prenatal care, income, health insurance, employment, and car ownership. More treatment parents reported being involved with Arizona's Child Protective Services, compared to control group mothers. All participants (n=195) completed baseline assessments. As the six-month time period, 94% of treatment and 91% of control group mothers were retained in the study. At the one-year time period, 88% of treatment and 89% of control group mothers were retained in the study.
Methodology	Experimental
Purpose	The purpose of the paper was to examine the effectiveness of home visiting as a means of improving parental, child, and maternal outcomes and preventing child abuse and neglect. The study incorporated a program that had a quality assurance approach and statewide accreditation.
Measures & Assessments	• Revised Parent-Child Conflict Tactics Scale (CTS-R) • Adult-Adolescent Parenting Inventory-2 (AAPI-2) • Home Visiting Records • Emotional/Social Loneliness Inventory
Study Implementation	• The screening and enrollment process for the study included administration of a 15-item screen assessing at-risk criteria such as teenage mother and a positive score led to a parent survey, a modified version of the Kempe Family Checklist. If the score on the survey was 25 or greater for either parent, then participation in the study was offered. If the parent accepted participation, random assignment to either the Healthy Families Arizona program or the Arizona Child Development Study (the control condition) was offered. • The program had a quality assurance protocol that was monitored by program staff.
Staff Qualifications	• Home visitors had a bachelor's degree or equivalent years of experience; all received training
Key Findings	Violent Behaviors • There were significant differences between treatment and control group mothers on measures of aggressive discipline practices. • There were not significant differences on a measure of family violence. Parenting Attitudes and Practices • There was a significant difference between treatment and control group mothers on Safety Practices (as measured with the AAPI-2), at six months. Treatment mothers had an average score of 17.95, compared to an average score of 16.05 for control group mothers (p=.04).

	• There were not significant differences between treatment and control group mothers on Inappropriate Expectations, Lack of Empathy, Belief in Corporal Punishment, Reversing Roles, Oppressing Child's Independence, or Mother's Reading. Parenting Support • There were significant differences between treatment and control group mothers on the use of resources, at both the six-month and 1-year time periods. Mental Health and Coping • There were significant differences between treatment and control group mothers on the use of alcohol, at the 1-year time period. Twelve percent of treatment and 20.5% of control group mothers reported alcohol use (p=.04). • There were not significant differences between treatment and control group mothers on Emotional Loneliness or Pathways to Goal. Maternal Outcomes • There were significant differences between treatment and control group mothers in participation in schooling or training, at the 1-year time period. Thirty-five percent (35.2%) of treatment mothers and 6.8% of control group mothers reported participation at the 1-year time period (p=.01). • There were not significant differences between treatment and control group mothers on use of birth control.

Citation	**Dumont, K., Mitchell-Herzfeld, S., Greene, R., Lee, E., Lowenfels, A., Rodriguez, M., & Dorabawila, V. (2008). Healthy Families New York (HFNY) randomized trial: Effects on early child abuse and neglect. Child Abuse & Neglect, Volume 32, pp. 295-315.**
Population and Sample	The study incorporated 1,173 families who were at risk for child abuse and neglect. Families were randomly assigned to either an intervention group (n=579) or a control group (n=594); 34% of mothers in the study were white, non-Latina; 45% African American, non-Latina; and 18% Latina; 31% were under 19, 54% were first-time mothers, 53% had not yet completed high school or received a GED, and 82% were never married. The study team determined that there were no significant differences between the treatment and control on descriptive characteristics. Further, the team found that 20% of the sample had a prior Child Protective Services (CPS) report and that 9% of the sample also had a substantiated report of child abuse or neglect, prior to baseline. Of these, over 40% of reports were considered "open" at the time of random assignment to treatment and control groups.
Methodology	Experimental
Purpose	The study was designed to evaluate the effects of Healthy Families New York (HYNY), a variant of Healthy Families America, a home visiting program focusing on parenting behaviors in the first 2 years of life. The study was designed to assess women assigned to treatment or control groups prior to the giving birth to their first child. The study also included older women who already had a child. The study was designed to assess four goals associated with HYNY: (1) promote positive parenting skills and parent-child interaction; (2) prevent child abuse and neglect; (3) support optimal prenatal care, and child health and development; and (4) improve parent's self-sufficiency. The study also focused on: (1) documenting the program's ability to reduce child abuse and neglect; (2) exploring and testing prevention versus intervention approaches; and (3) evaluating program services as provided to the psychologically vulnerable.
Measures & Assessments	• Parent-Child Conflict Tactics Scale (CTS-PC) • Office of Child and Family Services (OCFS) database; substantiated CPS reports
Study Implementation	• After enrollment and random assignment to groups, intervention families were appointed a home visitor who set up an initial visit to complete the enrollment process. After enrollment in HFNY, families were offered the services typically provided by the program. • Control group participants were provided with information about other services in the community and made referrals based on the needs identified during the initial assessment for study eligibility. They were not referred to other home visiting programs similar in type, duration, and intensity to HFNY and the study did not follow up to determine whether they followed through with the referrals. • Following the baseline interview, participants were interviewed in their homes shortly after the birth of their children (if they entered the study before the birth), at the time of the children's first

	and second birthdays, and, for a subsample, again at age 3. Interviews ranged from 45 minutes to an1 hour and 15 minutes. Baseline and Years 1 and 2 data were included in the current report. • At each follow-up, data were extracted from the OCFS database tracking child abuse and neglect reports and determination. Mothers also completed a paper-and-pencil version of the CTS-PC and placed the completed instrument in a sealed envelope.
Staff Qualifications	• Not addressed
Key Findings	• Mothers in the intervention group committed fewer acts of serious abuse at age 2. • Among women who were "psychologically vulnerable," HFNY mothers were one-quarter as likely to report engaging in serious abuse and neglect as control mothers (5% versus 19%) at age 2. Did HFNY have an effect on abusive or neglectful parenting? • The study team did not find statistically significant (p<.05) program effects related to the prevalence of events (or, whether an event occurred), as self-reported by participants, at year 1 or year 2 time periods. • There were significant differences between treatment and control group mothers on several sub-scales related to the frequency of events (or, how often an event occurred. For example, at year 1, treatment mothers reported significant fewer acts of "very serious physical abuse, minor physical aggression, and psychological aggression in the past year" and "harsh parenting in the past week." • At year 2, treatment mothers reported fewer "acts of serious physical abuse in the past year," compared to control group mothers. Specifically, treatment mothers reported one-fourth as many acts as control group mothers. • There were no significant differences between treatment and control group mothers on the prevalence or frequency of substantiated CPS reports of abuse or neglect, at either year 1 or year 2. Were effects of HFNY concentrated in the prevention subgroup? • Analyses were conducted on first-time mothers under the age of 19. These mothers were randomly assigned to treatment or control groups at a gestational age of 30 weeks or less. • At year 2, treatment mothers in the sub-group analysis were significantly less likely to report engaging in minor physical aggression against their children in the past year, compared to control group mothers (51% versus 70%, respectively). • At year 2, treatment mothers in the sub-group analysis were significantly less likely to report harsh parenting behaviors in the past week, compared to control group mothers (41% versus 62%, respectively). • Analyses of what the authors term the more "diverse group" of parents indicated comparable rates of minor physical aggression in the past year and harsh parenting in the past week, for treatment and control group mothers. • The authors reported that there did not appear to be a moderating effect related to the frequency of sub-scale items. Further, the patterns of non-significant effects for CPS reports and self-reported maltreatment, at year 2, were consistent with significant effects identified for minor physical aggression and harsh parenting. Were effects of HFNY concentrated in the psychologically vulnerable subgroup? • Analyses were conducted on a sub-group considered to be psychologically vulnerable. • At year 2, 5% of treatment mothers in this sub-group reported "engaging in acts of serious abuse or neglect," compared to 19% of comparison mothers. The authors also noted that "there was no difference in rates of self-reported serious abuse and neglect for the remaining women." • At year 2, there were significant differences between the sub-group of psychologically vulnerable mothers and comparison mothers on the frequency of serious abuse and neglect, with the sub-group reporting fewer incidents (p<.05). • At year 1, there were significant differences between the sub-group of psychologically vulnerable mothers and comparison mothers on the frequency of psychological aggression. • The authors reported that psychological vulnerability did not moderate differences between treatment and control group mothers on substantiated CPS reports.

Citation	**Duggan, A., Caldera, D. Rodriguez, K., Burrell, L., Rohde, C., & Crowne, S. S. (2007). Impact of a statewide home visiting program to prevent child abuse. Child Abuse & Neglect, Volume 31, pp. 801-827.**
Population and Sample	The study incorporated 325 families, who were enrolled in six Healthy Families Alaska (HFAK) program. Participants were randomized into treatment (n=162) and control (n=163) groups. Treatment and control

	group mothers were similar on measures of demographic characteristics. It was common to find depressive symptoms, substance abuse, and partner violence at the time of baseline assessments. Compared to control group mothers, treatment mothers were less likely to have "poor psychological resources" and to have enrolled in the program prenatally. Follow-up interviews were completed for 85% of the treatment group and 86% of the control group. The follow-up mothers were more likely to "have worked prior to study enrollment," "more likely to be "married to or living with the child's father, and "less likely to have enrolled prenatally."
Methodology	Experimental
Purpose	The purpose of the study was to assess the impact of Healthy Families Alaska, which was described as a "voluntary, paraprofessional home visiting program in preventing child maltreatment and reducing the multiple, malleable psychosocial risks for maltreatment for which families had been targeted."
Measures & Assessments	• Center for Epidemiological Studies Depression Scale (CES-D) • Mental Health Index (MHI-5) • CAGE score • Revised Conflict Tactics Scale (CTS2) • Parent–Child Conflict Tactics Scale (CTS-PC) • Infant-Toddler version of the Home Observation for Measurement of the Environment (HOME) Inventory • Nursing Child Assessment Satellite Training (NCAST) Teaching Scale. • Short form of Abidin's Parenting Stress Index (PSI) • Adult-Adolescent Parenting Index (AAPI) • Child Protective Services Reports • Pediatric Medical Records • Mother/Primary Caregiver Interview • Observations

Study Implementation	• Baseline family attributes were collected by trained research staff (blinded to family group assignment)
	• Follow-up data were collected when children were 2 years old
	• Study investigator conducted pediatric medical chart review
	• The study team identified measures of "adequate services," which included (a) enrollment ≥12 months, (b) enrollment ≥24 months, and enrollment ≥24 months and receipt of ≥75% of expected visits and ≤3 months on Level X, where Level X is intensive outreach to re-establish contact with families who are difficult to engage.
	
	• Adequate services also were defined for each parental risk; measures of "service adequacy" were based on visit content. The measures included:
	  • Any documented general discussion of the risk with the parent, such as a general discussion of the dangers of substance use.
	  • Any documented specific action taken to address the risk, such as giving the mother information for accessing substance use services.
	  • General discussion and maternal agreement with two statements: "I can talk with my home visitor about everything" and "My home visitor talks with me about sensitive issues."
	  • Specific action and maternal agreement with these statements.
	
	• Implementation fidelity was designed to include factors such as "staff recruitment and training, policies, protocols, and mechanisms to integrate HFAK with other services." The study team used multiple methods to assess implementation, including "home visitor surveys, review of training curricula, observation of selected training sessions, review of policy and procedure manuals, and discussion with program leaders." Further, home visitation staff completed questionnaires (in both 2001 and 2003) in which they rated their own competence in behaviors such as "developing a trusting relationship with parents," "helping parents acquire knowledge and skills," "working with mothers," and "working with fathers."

Staff Qualifications	• Not addressed
Key Findings	The program did not prevent child maltreatment, nor reduce the parental risks that had made families eligible for service. There was little evidence of effectiveness in preventing child abuse although this was clearly a high-risk sample—17% of control families and 16% of HFAK families had substantiated reports in the child's first 2 years of life. Impact on child maltreatment reports.

- The authors found that treatment and control group mothers were similar on rates of substantiated reports overall and with regard to neglect.
- Treatment and control group mothers were found to be similar on substantiated and unsubstantiated reports, combined.
- Nearly one-third of families had at least one report in two years.
- Over a quarter of families were reported for neglect.
- The authors did not find treatment versus control group mother differences in number of reports.

Impact on indicators of potential child maltreatment, disciplinary strategies, and parenting attitudes.

- The authors found that treatment and control group mothers were similar with regard to the percent of families in which the birth mother relinquished her role. The authors also found that the groups were similar with regard to the percent of children who were hospitalized for ambulatory care sensitive conditions and using the emergency department.
- Treatment and control group mothers were similar with regard to the percent of mothers who reported specific disciplinary strategies and neglectful behaviors and who were observed to interact poorly with their children.
- Treatment mothers were significantly less likely to provide a poor quality home environment, as measured using the HOME Scale. Specifically, 20% of treatment mothers were found to provide a poor quality home environment, compared to 31% of control group mothers ($p<.001$).
- Treatment and control group mothers were similar with regard to the frequency of hospitalizations and emergency department visits.
- Treatment mothers reported a lower incidence of use of mild physical and psychological disciplinary tactics, compared to control group mothers.
- Treatment and control group mothers were similar with regard to reported frequency of more severe forms of physical discipline and neglectful behaviors.
- Treatment and control group mothers were similar with regard to attitudes toward corporal punishment.
- Treatment and control group mothers were similar with regard to total AAPI scores.
- Treatment and control group mothers were similar with regard to all four AAPI subscales.

Impact on parent risks for child maltreatment and use of community services.

- The authors reported that it was common to find poor maternal mental health, substance use and partner violence, at follow-up.
- Treatment and control group mothers were similar on all but one of the binary outcomes identified by the authors. There was a trend towards reduced risk for maternal problem alcohol use, at follow-up.
- Treatment and control group mothers were similar with regard to mean scores on all but one of the measures of mental health and partner violence. There was a trend for treatment mothers to have lower total Parenting Stress Index scores.
- Treatment and control group mothers were similar with regard to reported use of community services to address mental health or substance use issues or partner violence.

Baseline attributes as moderators of HFAK impact.

- The authors did not find evidence that program outcomes were moderated.
- The authors found that "mild physical assault of the child" was less common among treatment mothers who were multiparous and mothers not in a violent relationship at baseline.

Association of parent risks with parenting behavior

- The authors found positive associations between parental risks that included depressive symptoms, problem substance use, and partner physical assault and measures of parenting.
- The authors found a significant association of "favorable attitudes toward corporal punishment" with severe physical assault, assault on the child's self-esteem, and the frequency of common corporal punishment.

Program efficacy

- The authors found "negligible evidence" of program efficacy in preventing maltreatment or reducing risks, in families enrolled ≥12 months and families enrolled ≥24 months.
- The authors failed to find statistically significant differences in 24 comparisons of child maltreatment, as reported in the first 2 years of life, combined.
- There were no differences between treatment and comparison groups with regard to a number of binary outcomes identified by the authors. That stated, treatment mothers (with enrollment ≥12

	months) were significantly less likely to report mild physical assault (p<.05 and p<.01) and common corporal punishment (p<.05). Treatment mothers ≥12 months enrollment were significantly more likely to report hitting the child with a hard object (p<.05). • Treatment mothers with ≥24 months enrollment were less likely to threaten the child's esteem (p<.05). Treatment mothers with ≥24 months enrollment were more likely to report hitting the child with a hard object (p<.01). • As regards the 11 continous outcomes identified by the authors, there were no statistically significant differences between treatment and control group mothers. Parental risks for child maltreatment. • Treatment mothers with ≥24 months enrollment were less likely to report physical partner violence (when excluding women without a partner, p<.05, and when categorizing the mothers as negative for physical violence, p<.05). • The authors also examined substance use at follow-up and illicit drug use. Both risk were more likely for treatment families, with specific home visitor actions addressing it (substance abuse at follow-up, p<.001, and illicit drug use, p<.05).

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Ownbey, M., Ownbey, J., & Cullen, J. (2011). The effects of a Healthy Families home visitation program on rapid and teen repeat births. Child and Adolescent Social Work Journal, Volume 28, pp. 439-458.**
Population and Sample	The study incorporated 140 treatment mothers (including 90 teen mothers) and 241 comparison group mothers (including 130 teens). The participants were expecting parents or parents with a child under three months of age. There were some significant differences between treatment and comparison group mothers, specifically with regard to average number of risk factors (5.9 for treatment and 5.0 for comparison group mothers, p=.001). However, the two groups did not differ significantly with regard to race/ethnicity or the proportion of teen (or, adolescent) parents.
Methodology	Non-experimental, post-test only with comparison group (no random assignment); Chi-squared tests of homogeneity
Purpose	The prevention of Rapid Repeat Births (RRBs) and Teen Repeat Births (TRBs) is an important indicator of the effectiveness of home visitation programs that serve mothers who are at-risk for child maltreatment. This study examined the effects on RRBs and TRBs of a rural/small town home visitation program based on the Healthy Families America (HFA) model. The study addressed the following hypotheses: • The distribution of RRBs in the treatment group will not differ from the distribution of RRBs in the Comparison group. • The distribution of TRBs in the treatment group will not differ from the distribution of TRBs in the Comparison group. • The distributions of TRBs in the Treatment and Comparison groups will not differ from those that would be expected based on county-wide census and public health data.
Measures & Assessments	• Referral Records • County Birth Records
Study Implementation	• An informal pre-screening checklist was used to generate referrals. Families who received a referral then were screened using the Kempe Family Stress Inventory (KFSI). Families who scored in the at-risk range on the KFSI were enrolled in HFA. Treatment mothers started services either prenatally or shortly after birth. HFA services were provided for at least six months. • Treatment fidelity was assured through the application of HFA standards to staff recruitment, training, supervision, and evaluation. • Supervision included weekly one-on-one reflective supervision and co-visits throughout the program.

	• Home visitation staff performance was evaluated through direct observation and collection of consumer satisfaction surveys. • Intervention integrity was not directly assessed.

Staff Qualifications	• Staf were experienced in human services, working with culturally and ethnically diverse populations, and education ranged from high school graduate through bachelor's degrees, though degree status was not a significant factor in personnel selection; additional training was provided.
	• Practitioners administering the AAPI and ASQ-SE received training in the administration and scoring procedures of the instruments
	• Staff participated in trainings that included:
	  • Connecting with Families: Family Support in Practice, a 6-day training program;
	  • Family-Centered Practice in Family Preservation Programs, a second 6-day training program;
	  • HFA Role-Specific Core Training, a pre-service curriculum that addresses principles of home visitation, family assessment, and/or program management;
	  • HFA-mandated continuing education; and
	  • On-going in-service training on various topics.
	• Newer staff were allowed to "shadow" more experienced staff.

Key Findings	• Relative to the comparison group and the community at large, clients of the HFA program examined in this study exhibited significantly reduced rates of RRB and TRB. • Specifically, rates of RRB were 60% higher in the comparison group and teen mothers in the comparison group were three times more likely to have a second birth during adolescence. • Teen mothers in the treatment group were more than 67% less likely to have a TRB than comparison teen mothers and 63% less likely to have a TRB than teens in the community at large. Rapid Repeat Births • There were statistically significant differences between treatment and comparison groups on Rapid Repeat Births. Eighteen percent of treatment mothers and 30% of comparison mothers had a RRB (p=.0243). Teen Repeat Births • There were statistically significant differences between treatment and comparison groups on Teen Repeat Births. Nine percent of treatment mothers and 27% of comparison mothers had a TRB (p=.0029). • There were statistically significant differences among treatment mothers, comparison group mothers, and the county-wide TRB rate (the latter of which was 24%, p=.0027). This was interpreted to mean that study data did not "conform to county-wide norms", because of the lower TRB rate among treatment mothers.

Citation	**Cullen, J. P., Ownbey, J. B., & Ownbey, M. A. (2010). The effects of the Healthy Families America home visitation program on parenting attitudes and practices and child social and emotional competence. Child and Adolescent Social Work Journal, Volume 27, pp. 335-354.**
Population and Sample	The study was an analysis of clinical data for 64 individual participants (55 families) from a Healthy Families America credentialed program in rural Western North Carolina. The sample was 78% white, 100% under-resourced, 96% English speaking, 73% were teenagers and/or first-time mothers (80%) who were unmarried (91%), 36% had more than one child living in the home, 44% held full or part time jobs, and 56% had less than a high school diploma.
Methodology	One group pretest–posttest design.

Purpose	This study examined the effects of a Healthy Families America (HFA) credentialed home visitation program on the parenting attitudes and practices of a sample of at-risk parents. It also examined the social and emotional competence of children whose parents successfully completed the program. Three hypotheses were addressed:
	  • Graduates of a credentialed HFA program will show no change between pre- and post-test on a standardized measure of positive parenting attitudes and practices.
	  • Compared to the standardization sample, graduates of a credentialed HFA program will perform significantly below the mean on a standardized measure of positive parenting attitudes and practices.
	  • Compared to the standardization sample, there will be no difference in the frequency with which children of graduates of a credentialed HFA program score in the at-risk range on a standardized measure of social and emotional competence.

Measures & Assessments	• Kempe Family Stress Inventory (KFSI) • Adult-Adolescent Parenting Inventory (AAPI-2) • Ages and Stages Questionnaire- Social Emotional (ASQ-SE)

Study Implementation	• An informal pre-screening checklist was used to generate referrals. Families who received a referral then were screened using the Kempe Family Stress Inventory (KFSI). • Participants started the program during their children's prenatal period or shortly after birth and continued in services until graduation from the program. • Services conformed to the HFA Home Visitation Model. • Treatment fidelity was assured through the application of HFA standards to staff recruitment, training, supervision, and evaluation. • Supervision included weekly one-on-one reflective supervision and co-visits throughout the program. • Home visitation staff performance was evaluated through direct observation and collection of consumer satisfaction surveys. • Intervention integrity was not directly assessed.

Staff Qualifications	• Staff were experienced in human services, working with culturally and ethnically diverse populations, and education ranged from high school graduate through bachelor's degrees, though degree status was not a significant factor in personnel selection.
	• Practitioners administering the AAPI and ASQ-SE received training in the administration and scoring procedures of the instruments.
	• Staff were experienced in human services, working with culturally and ethnically diverse populations, and education ranged from high school graduate through bachelor's degrees, though degree status was not a significant factor in personnel selection; additional training was provided.
	• Practitioners administering the AAPI and ASQ-SE received training in the administration and scoring procedures of the instruments
	• All FSW staff participated in trainings that included:
	  • Connecting with Families: Family Support in Practice, a 6-day training program;
	  • Family-Centered Practice in Family Preservation Programs, a second 6-day training program;
	  • HFA Role-Specific Core Training, a pre-service curriculum that addresses principles of home visitation, family assessment, and/or program management;
	  • HFA-mandated continuing education; and
	  • On-going in-service training on various topics.
	• FSW staff were allowed to "shadow" more experienced staff.

Key Findings	Attitudes and Behaviors
	• There were positive changes in each of the AAPI sub-domains (Expectations, Empathy, Corporal Punishment, Family Roles, and Independence; p<.001). More specifically:
	  • The average "pre" score for Expectation was 5.25; the average "post" score was 7.7
	  • The average "pre" score for Empathy was 4.14; the average "post" score was 7.6
	  • The average "pre" score for Corporal Punishment was 4.6; the average "post" score was 7.21
	  • The average "pre" score for Family Roles was 4.35; the average "post" score was 8.33
	  • The average "pre" score for Independence was 5.29; the average "post" score was 7.49
	  • The average overall "pre" score was 4.73; the average overall "post" score was 7.67
	• The study authors compared average scores to HFA standard scores and concluded "graduates of the program were no more likely and in, many instances, significantly less likely than randomly selected individuals to espouse parenting attitudes and practices that have been associated with child maltreatment."
	Ages and Stages Questionnaire: Socio-Emotional
	• Data were obtained from 55 children, whose parents graduated from the program.
	• There were no "at-risk" scores; all 55 children were assessed as being within the "normal" range for the instrument. The authors concluded that "when compared to their age peers, children whose families graduated from an HFA credentialed program exhibit higher levels of social and emotional competence as measured by the frequency with which they display social and behavioral challenges."

End Notes

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Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Nurse Family Partnership

Goals

The goals of Nurse-Family Partnership (NFP) are the following: 1) to improve pregnancy outcomes, 2) to improve child health and development, and 3) to improve the economic self-sufficiency of the family (Nurse-Family Partnership website).

Program Features

Providing mothers with education about and support during their pregnancy and childbirth experiences are strategies that reduce the likelihood of pregnancy and birth complications. Children from low income families who experience fewer complications during pregnancy and birth begin life with fewer challenges to overcome. Helping first-time mothers learn good techniques for providing children responsible and competent care helps to shape positive parent-child interactions. Positive parent-child interactions set children on a path toward optimal social-emotional development and positive cognitive outcomes.

In Nurse-Family Partnership, nurses conduct home visits beginning at pregnancy and continuing until the child is 2 years old (Nurse-Family Partnership website). The home-visiting nurse must be trained in how to develop therapeutic relationships and in the content of the home visits. The program is built around 64 home visits, each lasting between 60 and 90 minutes. The mothers are enrolled as early as possible, ideally by the 16th week of pregnancy. Nurses begin weekly home visits as soon as the mother is enrolled and continue for the first six weeks after delivery. Home visits are reduced to every other week until the child is 21 months old and then occur monthly until the child's second birthday.

Nurse Family Partnership Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:**
  - California Evidence-Based Clearinghouse rating of Well-Supported by Research Evidence
  - Home Visiting Evidence of Effectiveness
  - Promising Practices Network rating of Proven
- **Research supports** use with low income, first-time mothers who enroll early in their pregnancy
- **Related Smart Start outcomes:**
  - Increase in parent knowledge
  - Increase in positive parenting practices
  - Parents increase use of services referred to in the community
- **Purveyor training required:** Yes
- **Staff qualifications:** Registered nurse
- **Frequency:** Every week until six weeks after delivery and then every other week until the child is 21 months of age. Then, monthly until child's second birthday.
- **Dosage:** 60-90 minutes per visits
- **Minimal service threshold:** From the time of enrollment through the child's second birthday
- **Suggested Assessments:** Varies
- **Implementation Guidance:** http://www.nursefamilypartnership.org

The focus of the home-visiting content changes over time. During pregnancy, the nurse focuses on helping pregnant women find prenatal care, improve their diet, and reduce the use of cigarettes, alcohol, and illegal substances. Nurses also help the mother prepare emotionally for the arrival of the baby by educating her on the birth process and the immediate challenges of the first few weeks after delivery. They provide individualized parent coaching aimed at

increasing awareness of specific child development milestones and behaviors, and encourage parents to use praise and other nonviolent techniques. Another focus is the promotion of economic self-sufficiency among mothers by encouraging them to develop a vision for their future, stay in school, find employment, and plan future pregnancies.

For more information regarding Nurse-Family Partnership use this link: http://www.nursefamilypartnership.org.

Target Audience

Low income, first-time mothers who enroll early in their pregnancy

Documented Outcomes

	Type of Study	Improved parenting behaviors*	Maternal all-cause mortality rate improved	Fewer visits to emergency department for injuries	Reduced emergency visits for accidents and poisonings	Reduced risk or reports of maltreatment, abuse, and neglect *	Delayed second pregnancy	Reduced preterm births	Increased birth weight	Child preventable-cause mortality rate improved	Improved child development
Olds et al. (2014)	Clinical trial with random assignment to groups		✓							✓	
Olds et al. (1986a)	Experimental, with random assignment to groups							✓	✓		
Olds et al. (1986b)	Experimental, with random assignment to groups	✓		✓	✓	✓					
Zielinski et al. (2009)	Experimental, with random assignment to groups					✓					
Yun et al. (2014)	Quasi-experimental						✓				
Miller (2015)	Meta-analysis			✓	✓	✓	✓	✓	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcomes *Increase in positive parenting practices*

Research Evidence for Nurse Family Partnership

- Nurse Family Partnership program shown sizeable and sustained, though not always replicable, effects on important mother and child outcomes.[i, ii, iii]
- Specific effects replicated in two or more studies included: 1) reduction in measures of child abuse and neglect (including injuries and accidents), 2) reduction in mothers' subsequent births, 3) reduction in prenatal smoking among mothers who smoked at the start of the study, and 4) improvement in cognitive and/or academic outcomes for children born to mothers with low psychological resources (i.e., intelligence, mental health, self-confidence).[iv]
- The program benefitted the neediest families (low-income, unmarried women) by helping to reduce rates of childhood injuries that may be associated with child abuse and neglect and defer subsequent pregnancies and move into the work force.[i, iii]

Review of Experimental and Quasi-Experimental Studies

Citation	**Olds, D. L., Kitzman, H., Knudtson, M. D., Anson, E., Smith, J. A., & Cole, R. (2014). Effect of home visiting by nurses on maternal and child mortality: Results of a 2-decade follow-up of a randomized clinical trial. Pediatrics, 168(9), pp. 800-806.**
Population and Sample	1138 primarily low-income (85.1%) African American (92.1%) women at less than 29 weeks of gestation and with no previous births were randomized to one of 4 groups: • Group 1 (n=166) received transportation for regular prenatal care • Group 2 (n=514) received transportation plus developmental screening for infants and toddlers • Group 3 (n=230) received transportation plus prenatal/postpartum home visiting • Group 4 (n=228) received transportation, screening, and prenatal, postpartum, and infant/toddler home visiting Participants had at least 2 of the following sociodemographic risk characteristics: unmarried, having less than 12 years of education, and unemployed.
Methodology	Clinical trial, with random assignment to groups
Purpose	To determine the effect of prenatal and infant/toddler nurse home visiting on maternal and child mortality during a 2-decade period (1990-2011).
Measures & Assessments	• National Death Index • NFP Enrollment Records
Study Implementation	• Nurse Family Partnership (NF) nurses visited women as follows: a) women in treatment groups 3 and 4 received a mean of 7 prenatal visits, and b) women in treatment 4 received a mean of 26 visits after delivery. The NFP nurses provided information and activities that would improve mothers' prenatal health and help them provide more competent care of their babies after birth. In addition, they worked to help mothers to develop better self-care practices, plan subsequent pregnancies, complete their educations, and find employment. • Outcomes of mother's in the four treatment groups were compared with data from the National Death Index (NDI). • The program provided specific guidelines and activities.
Staff Qualifications	• Nurses
Key Findings	• During the 21-year study, the mean maternal all-cause mortality rate for treatment groups 1 and 2 combined was 3.7%. The mean rate was .4% for treatment group 3 and 2.2 % for treatment group 4. The survival contrast between groups 1 and 2 combined and group 3 was significant (p=.007) but not significant between groups 1 and 2 combined and group 4. • By the time children reached age 20, the child preventable-cause mortality rate for treatment group 2 was 1.6% and for treatment group 4 0.0%. The survival contrast was significant at p=.04.

Citation	**Olds, D. L., Henderson Jr., C. R., Tatelbaum, R., & Chamberlin, R. (1986a). Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. Pediatrics, 77, pp. 16-28**
Population and	400 women enrolled prior to the 30th week of pregnancy were stratified by marital status, race, and

Sample	geographic region and randomly assigned to 4 groups: • Group 1 (n=90) received no services (control group) • Group 2 (n=94) received free transportation for regular prenatal and well-child care at local clinics and physicians' offices • Group 3 (n=100) received same services as group 2 as well as nurse home visitation during pregnancy • Group 4 (n=116) received the same services as group 3 with continued visits until babies were 2 years old
Methodology	Experimental, with random assignment to groups
Purpose	This article reported prenatal outcomes as part of an evaluation of a nurse home visitation program for first-time mothers in the Appalachian region of New York State. Participants in the study were either teenagers, unmarried, or low-income.
Measures & Assessments	• Interviews • Medical Records • Serum cotinine assays
Study Implementation	• During their visits, the nurses provided the following activities: 1) parent education, 2) enhancement of mothers' informal support systems during pregnancy and delivery, and 3) linkage of the mothers with community health and human services (e.g., nutritional supplementation program). An average of 83% of nurses' time was spent on education. • Prenatal education, tailored to families' individual needs, included information about fetal and infant development, diet, signs of pregnancy complications, rest, exercise, personal hygiene related to obstetrical health, and preparation for labor, delivery, and early care of the newborn. Nurses also monitored weight gain and helped to stop the use of cigarettes, alcohol, and drugs. • Interviews were conducted and dietary intake (using 24-hour diet records and 24-hour recalls) was measured prior to group assignment and at 32 weeks of pregnancy. Medical records were reviewed and coded by two trained registered nurses. Serum cotinine assays at 36 weeks of pregnancy for a subsample of 116 women who received care at the health department clinic were done to validate mothers' reports of smoking. • Nurses in the labor and delivery room completed forms indicating whether mothers were accompanied by a support person. • Detailed record-keeping systems and regular case reviews were used to monitor implementation of the home visit protocol.
Staff Qualifications	• Nurses
Key Findings	• Compared with the control group, nurse visited women experienced the following significant outcomes: o became aware of more community services; o attended childbirth classes more frequently; o made more extensive use of WIC; o made greater dietary improvements; o reported that their babies' fathers became more interested in their pregnancies; o were accompanied to the hospital by a support person during labor more frequently; o reported talking more frequently to family members, friends, and service providers about their pregnancies and personal problems; and o had fewer kidney infections. • Young adolescent mothers in the nurse-visited groups gave birth to newborns that were an average of 395 grams heavier than newborns of adolescent mothers in the control group (p=.02) • There was significant and positive difference in preterm delivery for women who smoked in the nurse-visited groups compared with smokers in the control group. • There was no difference between smokers who enrolled in the program early. However, there was a significant and positive difference in birth weight for adolescent mothers who enrolled early in the program when compared with those who enrolled later.

Citation	**Olds, D. L., Henderson Jr., C. R., Chamberlin, R. , & Tatelbaum, R. (1986b). Preventing child abuse and neglect: A randomized trial of nurse home visitation. Pediatrics, 78, pp. 65-78.**
Population and Sample	400 women enrolled prior to the 30th week of pregnancy were stratified by marital status, race, and geographic region and randomly assigned to 4 groups: • Group 1 (n=90) received no services • Group 2 (n=94) received free transportation for regular prenatal and well-child care at local clinics and physicians' offices • Group 3 (n=100) received same services as group 2 as well as nurse home visitation during pregnancy • Group 4 (n=116) received the same services as group 3 with continued visits until babies were 2

	years old
Methodology	Experimental, with random assignment to groups
Purpose	This article reported the effects on child abuse and neglect of a nurse home visitation program for first-time mothers in the Appalachian region of New York State. Participants in the study were either teenagers, unmarried, or low-income.
Measures & Assessments	• Rotter's Locus of Control (variant) • Abuse and Neglect Registries • Caldwell Home Observation checklist and interview • Bayley Mental Development Index • Cattell Scales • Medical Records
Study Implementation	• During prenatal visits, the nurses provided the following activities: 1) parent education, 2) enhancement of mothers' informal support systems in caring for the child, and 3) linkage of the families with community health and human services (e.g., nutritional supplementation program, vocational training, mental health counseling, legal aid, Planned Parenthood). An average of 83% of nurses' time was spent on education. • Nurses sent two reports of their observations of medical, social, and emotional conditions to the children's pediatric health care provider. They also clarified and reinforced physicians' recommendations during home visits with the families. • Home-based education focused on infant development including information about infants' temperament (especially crying behavior), socioemotional and cognitive needs (including responsive care giving and more complex motor, social, and intellectual experiences), and physical health care (including diet and bathing, managing common health problems, routine health care and immunizations). • Babies were brought by their mothers to the project office at ages 6, 12, and 24 months to check their weights and physical measurements. Developmental tests also were administered at 12 and 24 months. • Mothers were interviewed at the time of infant assessments about common difficulties such as feeding and crying and their responses to these problems. At babies' 6-month visits, mothers were administered an infant temperament Q-sort procedures. • Mothers were interviewed in their homes when babies were 10 and 22 months of age and the Caldwell Home Observation checklist and interview procedure were completed. • Workers with the NY State Department of Social Service reviewed records for verified cases of abuse or neglect. With one exception, state social services departments where 15 mothers and children had relocated reviewed their records for abuse and neglect information. One nurse-visited non-risk family with no indication of maltreatment in the local records was omitted due to incomplete data. • Detailed record-keeping systems and regular case reviews were used to monitor implementation of the home visit protocol. • Inter-observer agreement for the Caldwell procedure on individual items was measured and ranged from 82% to 100%.
Staff Quallfications	• Nurses
Key Findings	• <u>Abuse/Neglect:</u> o During children's first 2 years, 4% (n=1, abuse/neglect combination) of highest risk (poor, unmarried teenagers) nurse-visited study participants abused or neglected their children compared with 19% (n=8:neglect=4, neglect/abuse=4) of those in the control group. However, these results were not statistically significance. o The incidence of abuse and neglect increased as risk factors accumulated for the control group but remained relatively low for the nurse-visited group even with higher levels of risk. o Nurse-visited women reported significantly more positive moods for their babies but more frequent occurrences of resisting eating and greater concern in mothers' responses to 6-month olds' behavioral problems. Though not statistically significant, nurse-visited poor unmarried teens tended to report less conflict with and scolding of their babies and less frequent crying that those in the control group. • <u>Play Materials and Parenting Behaviors:</u> o For the group at greatest risk, nurse-visited mothers were observed in their homes to punish and restrict their 10- and 22-month-old children significantly less frequently and provided more appropriate play materials than those in the control group. • <u>Developmental Quotients:</u> o Though not statistically significant, there was trend for 12- and 24-month-old children of highest risk nurse-visited mothers to have higher developmental quotients than those in the control group. • <u>Emergency Room Visits:</u> o During babies' first year, the children of nurse-visited women, especially poor unmarried teens,

	were seen in the emergency room significantly fewer times than those in the control group. A detailed review of medical records showed that the differences were explained by fewer visits for upper respiratory tract infections. o During babies' second year, the children of nurse-visited mothers were seen in the emergency room significantly fewer times and had fewer accidents and poisonings than those in the control group. • Maternal Sense of Control: o Treatment differences in child abuse and neglect was greater at lower levels of maternal sense of control, for poor unmarried nurse-visited teens. o The incidence for maltreatment increased significantly as maternal sense of control declined for the control group but did not lead to an increase for nurse-visited women (but the results for these women were not significant).

Citation	**Zielinski, D. S., Eckenrode, J., & Olds, D. L. (2009). Nurse home visitation and the prevention of child maltreatment: Impact on the timing of official reports. Development and Psychopathology, 21, pp. 441-453.**
Population and Sample	• 400 families randomly assigned to 4 groups: o Comparison Group 1 (n=90) children at ages 12 and 24 months received developmental and sensory screening, with referrals for evaluation or treatment if indicated o Comparison Group 2 (n=94) received the same services as Group 1 with the addition of free transportation for regular prenatal and well-child care through age 2 at local clinics and physicians' offices o Intervention Group 3 (n=100) received same services as group 2 as well as nurse home visitation during pregnancy o Intervention Group 4 (n=116) received the same services as group 3 with continued visits until babies were 2 years old • Study groups included women who had no previous live births, were less than 25 weeks into gestation, and had at least one of the following characteristics: (a) <19 years at registration, (b) single parent, or (c) low socioeconomic status. The final sample was 11% African American and 89% European American.
Methodology	Experimental, with random assignment to groups
Purpose	**To examine the effects of the Nurse Family Partnership (NFP) program on the timing of verified reports of child maltreatment.**
Measures & Assessments	• Child Protective Services (CPS) Records
Study Implementation	• **Because there were no differences between Treatments I and II in their use of prenatal and well-child care (both groups had high rates of completed appointments), these two groups were combined to form a single comparison group.** • **The study examined differences between the full intervention (Treatment IV) and the combined comparison group (Treatment Groups I and II). Treatment Group III (prenatal home-visiting only) was not included in the analyses because few and inconsistent effects were found in previous studies.** • **Nurses were scheduled to visit Intervention Group 4 women once every other week during pregnancy, once a week for the first 6 weeks postpartum, and less often after that until the children reached the age of 2 years. The nurses completed an average of 9 visits during pregnancy and 23 visits between the child's birth until age 2.** • **During home visits, nurses worked with mothers to a) improve prenatal health; b) improve parents; competence in providing early care for their children; and c) help them plan future pregnancies, complete their educations, and find work.**
Staff Qualifications	• Nurses
Key Findings	• **76% of NFP children survived to age 15 with no CPS report compared with 68% of the children in the comparison group.** • **83% of NFP children had no initial reports of neglect by age 15 compared with 73% of comparison children.** • **NFP children showed significantly less risk for initial reports of neglect than comparison children between the ages of 5 and 15, with no more initial reports of neglect after age 8 for the NFP group.** • **Cox models showed that the treatment by time period interaction model and the interaction model with continuous time were both significant. First time reports of neglect for the highest risk NFP children stopped at age 3 but continued for the highest risk comparison children through age 12.** • **81% of NFP children had no report of any maltreatment by the age of 15 compared with 58% of comparison children and 87% of NFP children had no report of neglect compared with 63% of comparison children.**

Citation	**Matone, M., O'Reilly, A., Luan, X. Localio, A. R., & Rubin, D. M. (2012). Emergency department visits and hospitalizations for injuries among infants and children following statewide implementation of a home visitation model. Maternal and Child Health Journal, 16, pp. 1754-1761.**
Population and Sample	• 5,909 women in the Nurse Family Partnership (NFP) group who were received services from 24 NFP sites in Pennsylvania between 2003 and 2007. • 16,794 women in a match (using propensity scores) comparison who did not receive NFP services. • The majority of study participants were white (>75%), unmarried (>=90%), and from urban areas of the state 82%); 42% were 18 years of age or younger.
Methodology	Quasi-experimental
Purpose	To compare the utilization of hospital or emergency rooms for childhood injuries during the first two years of life between Nurse Family Partnership (NFP) program participants and comparison families.
Measures & Assessments	• NFP Enrollment History • Pennsylvania State Birth Records • Pennsylvania State Death Records • Welfare Records and Medicaid Claims
Study Implementation	• The retrospective NFP cohort were selected based on (1) delivery of a first-born infant who was not medically high-risk (i.e., born prior to 25 weeks' gestation, died at birth or within 14 days of birth, infants died from a congenital or perinatal condition); (2) successful linkage to the Medicaid claims of their children following birth; (3) receipt of welfare assistance from the Commonwealth of Pennsylvania within 12 months prior to the birth of their first-born infant. • The matched non-NFP comparison group, identified through birth and death certificate and welfare eligibility data, included women residing in NFP communities and meeting the same inclusion criteria as the NFP cohort. Propensity score analysis was used for matching groups based on baseline characteristics including maternal education and race, marital status, history of gestational diabetes and history of smoking, TANF and food stamp receipt prior to and/or during the first trimester. • Models were stratified based on age (18 years or younger and over 18) and birth cohort (2003-05 and 2006-07). • Medicaid claims for injuries examinations that occurred in hospital or emergency room settings were used as the source of outcome data. • NFP uses a formal protocol for site-level implementation support (e.g., supervisory staff, annual regional and state meetings, continuing education), but evaluation of fidelity has not been incorporated into those protocols.
Staff Qualifications	• Nurses
Key Findings	• Of 6,129 emergency department (ED)injury visits identified for both groups, 1,613 (26%) were for NFP children. The frequency of injury visits per child ranged from 0 to 13. • Compared with the non-NFP group, NFP children were more likely to have at least 1 ED injury visit (NFP=32% vs non-NFP=27%). • Compared with the non-NFP group, NFP children were less likely to have 5 or more ED injury visits (NFP=.1% vs non-NFP=1.0%). • NFP children were significantly more likely to have higher rates of ED injury visits in the first 2 years of life than the comparison group children. However, the difference was largely explained by the significantly higher rate of visits by NFP children for superficial injuries. The visit rates for increasingly serious injuries and suspected child abuse were similar for both groups. • Significant site variation occurred in ED injury visit rates (14.5% to 42.5%) across NFP agencies.

Citation	**Yun, K., Chesnokova, A., Matone, M., Luan, X., Localio, A. R., & Rubin, D. M. (2014). Effect of maternal-child home visitation on pregnancy spacing for first-time Latina mothers. American Journal of Public Health, 104(S1), pp. S152-S158.**
Population and Sample	• NFP group included 1,000 Latina women who: o delivered a first-born, singleton infant from January 1, 2003, through December 31, 2007; o received any form of welfare assistance in the 12 months before and including birth; and o were clients of 1 of 15 Pennsylvania NFP agencies that had served 15 or more Latina women during the study period. • Comparison group included 3,385 Latina women, matched using propensity scores who: o delivered a first-born, singleton infant from January 1, 2003, through December 31, 2007; o received any form of Pennsylvania welfare assistance in the 12 months before and including birth; and o had not participated in Pennsylvania NFP but resided within the service area of a Pennsylvania NFP agency
Methodology	Quasi-experimental
Purpose	This study examined the time to second pregnancy of first-time Latina mothers after participating in

	a Nurse Family Partnership (NFP) home visitation program.
Measures & Assessments	• NFP client data • State Welfare Eligibility Files • State Birth Certificate Files
Study Implementation	• Data were extracted from NFP client data, welfare eligibility files from the Pennsylvania Department of Public Welfare, and birth certificates from the Pennsylvania Department to Public Health. • Nurses visited the NFP group beginning no later than the end of the 28th week of pregnancy and continuing for up to 2 years postpartum.
Staff Qualifications	• Trained registered nurses
Key Findings	• NFP women experienced a 22.9% cumulative incidence of second conception by 18 months compared with non-NFP women who experienced a 25.8% cumulative incidence. The results were not statistically significant. • Program effects appeared largest for women of Mexican heritage and adolescents. Women of Mexican heritage in the NFP group had a 26% decreased risk of second conception at 18 months following their first birth and NFP adolescents had a 20% decreased risk of second conception at 18 months The absolute difference between NFP and and adolescents at 18 months was 4.6%. These results were not statistically significant. • The cumulative incidence of second conception was approximately 45% at 36 months for both groups.

Review of Meta-Analyses

Citation	**Miller, T. R. (2015). Projected outcomes of Nurse-Family Partnership home visitation during 1996–2013, USA. Prevention Science, 16, pp. 765-777.**
Population and Sample	Total participants across all studies: • Nurse-visited prenatal = 1491 • Nurse-visited postnatal = 922 • Comparison group prenatal = 1580 • Comparison group postnatal = 1293
Methodology	Meta-study
Purpose	This article addresses how pre- and post-natal home visits by registered nurses as part of Nurse Family Partnership (NFP) programs may affect the lives of low-income, first-time mothers and their babies. NFP has been evaluated in six randomized trials as well as several limited analyses, with findings on 21 outcomes reviewed and effects calculated on three others. This article also reports outcome data from the NFP national data system and communications to fill data gaps on some trials.
Measures & Assessments	Varied across studies
Study Implementation	• Thirty-nine evaluation reports were identified, including 23 on three randomized trials by the NFP model developers. Studies conducted by program developers used experimental designs and replication studies used quasi-experimental designs with imperfect comparison group matching. • Effectiveness estimates for 21 outcomes were extracted from the reports and the NFP National Service Office's reporting system. • Methods used for estimating program effectiveness were mixed.
Staff Qualifications	Varied across studies
Key Findings	• <u>Prenatal Health</u> o Cotinine levels in the blood indicated that NFP mothers smoked 24.2% less tobacco during their pregnancy. o Pregnancy-Induced hypertension declined by 31.3% for treatment groups. • <u>Pregnancy Outcomes</u> o Preterm births (less than 37 weeks) were reduced by 14.7% for treatment groups. o 0.035 fewer subsequent preterm births for treatment groups. o Reduced infant deaths by 45.4% for treatment groups. • <u>Parent Health Behaviors</u> o 31.2% fewer closely spaced second births within 24 months for treatment groups; in years 3–12 post-partum, birth rate unchanged. o 30.7% reduction in abortions through child age 3 for treatment groups. o 11.2% (7.6 percentage point) increase in mothers who tried breast-feeding for treatment groups. • <u>Violence, Abuse, and Neglect</u> o 16.1% reduction in intimate partner violence through child age 4 for treatment groups. o Estimated reduction in child maltreatment by 31.0% at ages 4 through 15 for treatment groups.

- Child Health and Safety
  - Estimated reduction in language delay by 39.1%, reducing need for preschool or school-based remedial services for treatment groups.
  - Through age 2, NFP babies have 32.6% fewer injuries treated in emergency departments (EDs) or admitted to hospital.
  - NFP participation is associated with a 13.0% (9.1 percentage point) increase in probability that children covered by Medicaid will have complete immunizations at age 2.
  - Estimated reduction in youth arrests by 44.6% at ages 11 through 19, with reduced arrests of girls predominating and arrest probabilities equalizing by age 19 for treatment groups.
  - Estimated reduction in alcohol, tobacco, and marijuana use by 53.2% at age 12 until at least age 15 for treatment groups.
- Socio-Economic
  - Estimated reduction in TANF payments by 5.6% for 12 years post-partum. Savings result from reduced subsequent births and altered earning patterns that reduce TANF eligibility and payments per eligible family for treatment groups.
  - Estimated reduction in food stamp payments by 9.6% for at least 12 years post-partum. Savings result from reduced subsequent births and altered earning patterns that reduce food stamp eligibility and payments per eligible family for treatment groups.
  - Estimated reduction in person-months on Medicaid by 7.6% for at least 15 years post-partum due to reduced second births and fewer subsequent children for treatment groups.
  - Estimated reduction in the present value of Medicaid spending per child recipient by 8.5% from birth through age 18 (bootstrap-estimated 95% CI 4.5%, 12.5%) through health improvements for treatment groups.
- An estimated 4.85% of the second babies who would have been born within two years of the first birth would have used subsidized child care funded by the Child Care Development Block Grant for treatment groups.

Review of Descriptive and Non-Experimental Studies

None

End Notes

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[i] Olds, D. L. (1999). The nurse home visitation program. Future of Children, 9(1), 190-191.

[ii] Olds, D. (2010). The Nurse Family Partnership: From trials to practice. In A. J. Reynolds, A. J. Rolnick, M. M. Englund & J. A. Temple (Eds.), Childhood Programs and Practices in the First Decade of Life. New York: Cambridge University Press.

[iii] Miller, T. R. (2015). Projected outcomes of Nurse-Family Partnership home visitation during 1996–2013, USA. Prevention Science, 16, pp. 765-777.

[iv] Advisory Panel. (2008). Evidence Summary for the Nurse Family Partnership. Department of Education. Coalition for Evidence Based Policy: Washington, DC. Updated March 2012.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Nurturing Parenting Programs

NPP-Parents and Their Infants, Toddlers, and Preschoolers

NPP-Young Parents and Their Families
NPP-Nurturing Skills for Families
NPP-Nurturing Fathers

Goals

The goals of the Nurturing Parenting Programs (NPP) are the following: 1) to prevent recidivism of abuse and neglect in families receiving social services, 2) to stop the intergenerational cycle of child abuse by teaching positive parenting behaviors, and 3) to lower the rate of multiple teenage pregnancies (source: https://www.nurturingparenting.com/).

Nurturing Parenting Programs Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:**
  - SAMHSA National Registry of Evidence-Based Programs and Practices
  - Home Visiting Evidence of Effectiveness
- **Research supports** use with families at risk for abuse and neglect
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
- **Purveyor Training required:** Yes
- **Dosage:** Varies by version of NPP
- **Suggested Assessments:** Adult-Adolescent Parenting Inventory (AAPI)
- **Implementation Guidance:** http://nurturingparenting.com.

Program Features

The Nurturing Parenting Programs are a set of family-based programs that can be offered in a group setting, in a home-visiting setting, or as a combination of both group meetings and home visitation (Nurturing Parenting website). Components of each of the programs include 1) developing empathy, facilitating parent-child bonding and attachment; 2) teaching parents appropriate expectations of children's growth, particularly ways to promote children's feelings of self-worth, trust, and security; 3) employing discipline that promotes the dignity of children and adults; 4) empowering adults and children to nurture themselves, others, and their environment; 5) promoting positive self-worth; and 6) helping all family members develop a meaningful level of self- awareness and acceptance.

An array of NPP programs are designed for specific populations and to meet certain levels of need, including:

Primary prevention - Some versions of NPP are meant for primary prevention and are appropriate for many types of families. NPP versions that are designed to prevent the development of poor parenting behaviors are short-term, approximately five to 18 sessions.

Secondary prevention - Other NPP programs are designed to offer secondary prevention targeted to high risk families. These programs that are designed to "intervene" to prevent escalation in the early stages of maltreatment are generally from 12 to 20 sessions.

Tertiary prevention - And still other versions of NPP are meant for tertiary prevention, specifically for parents who may already be involved with the child welfare system. These parenting programs are designed to "treat" abusive and neglectful parent-child or parent-teen dysfunctional interactions and are generally 15 to 25 sessions.

Parenting stressors and appropriate practices can vary with the age of the child. Certain NPP programs are designed specifically for parents of chidlren of a certain age. Specific NPP programs relevant for families with children age 0-5 include:

NPP for Parents of Children Ages 0-5	**Prevention Level**	**According to Family Development Resources which developed NPP:**
Young Parents and Their Families	Tertiary	"The Nurturing Program for Young Parents and Their Families is referred to as a competency-based program. Each lesson has identified competencies the parents need to learn in order for their parenting practices to improve. Parents attend 16 group sessions each lasting 2 1/2 hours. Families can also receive individual home/parent sessions between the group sessions to ensure the knowledge and skills presented in the group sessions are being implemented in home."
Nurturing Skills for Families	Secondary	"Nurturing Skills for Families is an innovative model of the Nurturing Programs that is designed to provide flexibility to meet the needs of families with children ranging in age from birth to 11 years old. The Lesson Guide for Parents contains over 80 individual lessons presented in 18 competency areas. Core competency lessons form the basic structure of the program. Additional supplemental lessons allow parent educators to tailor the program to the needs of the group or family."
Parents and Their Infants, Toddlers, and Preschoolers - Group Sessions	Tertiary	"Developed, implemented and validated throughout the state of Louisiana, this evidence-based program provides intense group and individual home/parent sessions to families receiving services from child welfare. Parents attend 16 group sessions each lasting 2 1/2 hours."
Parents and Their Infants, Toddlers, and Preschoolers - Home Based	Tertiary	"In addition to the group sessions defined above, families can also receive up to 7 individual home/parent sessions between the group sessions to ensure the knowledge and skills presented in the group sessions are being implemented in home."
Nurturing Fathers	Secondary	"The Nurturing Father's Program is a 13-week group-based program for developing attitudes and skills for male nurturance. The group of 8 to 16 fathers meet weekly for 2½ hours. The Nurturing Fathers Program is an adaptation of the Nurturing Program philosophy and lessons designed and implemented specifically for dads."

Those implementing NPP must select a specific program. Please see the Nurturing Parenting Programs website to learn about each program. http://nurturingparenting.com.

Target Audience

The Nurturing Parenting Programs target all families at risk for abuse and neglect with children birth to 18 years of age. The programs have been adapted for special populations, including Hmong families, military families, Hispanic families, African-American families, teen parents, foster and adoptive families, families in alcohol treatment and recovery, parents with special learning needs, and families with children with health challenges.

Documented Outcomes for NPP-Parents and Their Infants, Toddler, and Preschoolers

	Type of Study	Outcomes	
		Improved parenting and child rearing beliefs and practices*	Reduction in child abuse or reports of maltreatment*
Americorps (2015)[i]	Quasi-Experimental	✓	✓
Bavolek et.al. (2012)[ii]	Non-experimental	✓	
Hodnett et.al. (2009)[iii]	Non-experimental	✓	✓
Maher et.al. (2011)[iv]	Non-experimental		✓
Montanez et.al. (2010)[v]	Non-experimental	✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start Outcomes *Increase in positive parenting practices*

Research Evidence for NPP-Parents and Their Infants, Toddler, and Preschoolers

- The program is linked to improved parenting and child rearing attitudes as assessed using the Adult-Adolescent Parenting Inventory-2 (AAPI-2) and a reduction in child abuse or reports of maltreatment.

Review of Experimental and Quasi-Experimental Studies

Citation	Americorps Impact Evaluation: Sacramento Family Support Collaborative Birth and Beyond Home Visitation Program. (2015).
Population and Sample	1,312 parents enrolled in one of two groups (treatment and comparison) 31% African American, 32% Latino/Hispanic, 18% White; 52% 20-29 years of age; 68% English speaking; 40% never married, 27% married, 17% living with partner, 11% divorced/separated; 38% with one child, 26% with 2 children, 66% with 3 or more children; 71% unemployed and low-resource.
Methodology	Quasi-experimental
Purpose	• The Birth & Beyond (B&B) Home Visitation (HV) Program supports families with the ultimate goal of preventing child abuse and neglect in Sacramento County. The core component of the HV program is the evidence-based parenting program, Nurturing Parent Program. Families enrolled in the program are also provided referrals and support for a wide range of services including health insurance enrollment, school readiness, crises intervention, and assistance with basic needs. The evaluation compared the rate of Child Protective Services (CPS) referrals between groups (one participating in the program and the other not participating) during and after the period of program participation. • The Nurturing Parent Program (NPP) is a competency-based curriculum designed to meet a family's needs based on parenting strengths and weaknesses. The curriculum content focuses on parents' attitudes and knowledge about topics such as child development, appropriate discipline, and empathy (positive bonding) in a one-to-one instructional model, which is offered in the family home. • The evaluation measured the degree to which these parents completed program plans, experienced

	changes in assessed parenting skills/risk for child maltreatment, and compared the rate of CPS referrals during and after program participation to non-B&B families.
Measures & Assessments	• Adult-Adolescent Parenting Inventory – 2 (AAPI-2) • Child Protective Services data
Study Implementation	• Program services are delivered through the nine family resource center (FRC) sites, which are located in high-needs communities with concentrated risk for child maltreatment and CPS involvement. • The Adult-Adolescent Parenting Inventory – 2 (AAPI), which measures parenting beliefs and practices known to result in child maltreatment, was used to determine risk level at intake. Parents were assigned to one of three program groups (i.e., low, medium, high risk). • All families in the B&B home visitation component received an initial six NPP lessons, with the total number of lessons determined by risk level: Low Risk (Prevention Group) 16 lessons; Medium Risk (Intervention Group) 27 lessons; High Risk (Treatment Group) 55 Lessons. • Instructors observed family dynamics within the home setting and provided coaching and immediate reinforcement with parents.
Staff Qualifications	• Each FRC had a service delivery team that included up to eight home visitors, a team leader, a program manager, a crisis intervention specialist, a family resource center coordinator, and a multi-disciplinary team of professionals from county substance abuse treatment, mental health, child protective services, and welfare.
Key Findings	• Participants' average scores increased between the pre- and post-tests, across all the five domains (i.e., parent expectations of children, empathy towards children's needs, use of corporal punishment as a means of discipline, parent-child role responsibilities, and children's power and independence). • Being in the B&B group rather than the comparison group decreased the probability of having a substantiated referral for maltreatment by 41% when all other variables were held constant. • Being in the B&B group rather than the comparison group decreased the probability of having a CPS referral by 18% when all other variables were held constant. • Mothers who received 25-34 hours of home visitation from B&B volunteers were 2.73 times (173%) less likely to have a substantiated referral than those in the comparison group. However, there were no statistically significant differences between the comparison group and B&B participants who received less than 25 hours of face-to-face service and those who received more than 34 hours of service.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Bavolek, S. J., Keene, R. G., Miranda, G., & Radcliff, J. T. (2012). Implementation of the Nurturing Parenting Programs with Latino families in Imperial County, California. Retrieved from: http://nurturingparenting.com/images/cmsfiles/imperialcofinal3yrreport1-23-13.pdf**
Population and Sample	Based on a review of the data collected for 2 programs: • From 2009 to 2012, a total of seventeen programs, 15 to 20 sessions long designed for parents and their infants, toddlers and preschoolers were implement throughout Imperial County. • A total of 103 parents completed the Infant, Toddler, Preschooler program: 88% female, 95% Hispanic, 48% married; 60% were high school graduates or had some college, 51% made less than $40,000 annually (25% had unknown income levels); 28% had three or more children
Methodology	Non-experimental; gains within treatment
Purpose	• To assess the effectiveness of three Nurturing Parenting Programs implemented in Imperial County, California.
Measures & Assessments	• Adult-Adolescent Parenting Inventory (AAPI)
Study Implementation	• From the fall of 2009 to the fall of 2012, Imperial County implemented three different Nurturing Parenting Programs: o The Nurturing Parenting Program (NPP) for Parents and their Infants, Toddlers and Preschoolers, a 15 to 20 session group and home based program; o NPP for Parents and their School-Age Children, a 15 session group-based program; o NPP for Parents and their Adolescents, a 12 session group-based program. • The three programs were implemented a combined total of sixty-three times. Three hundred and fifty seven (357) families, 95% Hispanic, participated in approximately 1,014 group-based and home based parenting classes. With each class running approximately 2.5 hours, 2,535 hours of parenting instruction

	was provided families of Imperial County.
Staff Qualifications	• Professionals and paraprofessionals were selected based on their experience, language, and cultural competencies. Qualifications included a professional background in parent education.
Key Findings	Among participants in Nurturing Program for Parents and Infants, Toddlers, Preschoolers: • Although all posttest mean scores for the five constructs of the AAPI were greater than pretest mean scores, only three of the five posttest scores were statistically significant. • The three AAPI Construct mean scores to show significant positive posttest increases were Empathy, Corporal Punishment and Role Reversal. This means that parents who completed their Nurturing Program for Infants, Toddlers and Preschoolers: o increased their level of empathy in meeting their children's needs; o developed a stronger belief in the use of alternatives to corporal punishment as a means of teaching children discipline; and, o developed a greater understanding of appropriate roles for parents and children.

Citation	**Hodnett, R. H., Faulk, K., Dellinger, A., & Macher, E. (2009). Evaluation of the Statewide Implementation of a Parent Education Program in Louisiana's Child Welfare Agency: The Nurturing Parenting Program for Infants, Toddlers, and Pre-School Children. Retrieved from: http://www.casey.org/media/EvaluationParentEdLA_ES.pdf**
Population and Sample	262 parents (with smaller samples for some of the analyses): 77% female, 66% white, average income of $14,400 annually, 39% married or partnered, 45% high school graduates
Methodology	Non-experimental; Pre/post within group
Purpose	To evaluate the statewide implementation of the Nurturing Parenting Program in Louisiana.
Measures & Assessments	• Adult-Adolescent Parenting Inventory – 2 (AAPI-2) • Nurturing Parent Competency Scale
Study Implementation	• Initially the program was broken into 2 8-week sessions, on focusing on parenting issues and the other focusing on more advanced skills. • AAPI was administered before and after implementation of each 8-week section. • As a result of facilitator feedback, the program was streamlined into one continuous 16-week group and home-based curriculum with only one pre/post assessment an "Easy Reader" version of the materials; content was not changed but the vocabulary simplified for participants who needed it. • Each family developed a "Nurturing Family Plan" at the start of the program based on individual parental needs above and beyond those covered in the core lessons and to be used to document newly learned parenting skills demonstrated during home visits. • Family Resource Center contractors participated in a 3-day facilitator training with the program developer to increase fidelity of program delivery. • Training was provided for first-line workers and supervisors on the core principles of the program as well as the new policy regarding referrals to parent education in which the worker had to first consider a referral to the family resource center (FRC) for NPP unless otherwise indicated. • During data collection, it became evident that some sites across the state did not follow some of the fidelity expectations and thus did not demonstrate fidelity.
Staff Qualifications	• Not addressed
Key Findings	• Results indicated statistically significant improvement from pre- to post-test in parental attitudes on all five sub-scales of the AAPI-2. • There was a lower rate of repeat maltreatment among participants who attended at least 14 sessions of the 16-session program.

Citation	**Maher, R. J., Marcynyszyn, L. A., Corwin, T. W., & Hodnett, R. (2011). Dosage matters: The relationship between participation in the Nurturing Parenting Program for infants, toddlers, and preschoolers and subsequent child maltreatment. Children and Youth Services Review, 33, pp. 1426–1434.**
Population and Sample	564 caregivers enrolled in the NPP at ten resource centers in Louisiana and participated in a 16 week group-based program, with group sessions of approximately two and half hours.
Methodology	Non-experimental; Pre/post within group
Purpose	This article uses statewide data on caregivers of young children referred to the Nurturing Parenting Program (NPP) for allegations of abuse and neglect to examine the relationship between program dosage and subsequent maltreatment following program participation. At six months after participating in the program, caregivers who attended more sessions were significantly less likely to be reported for child maltreatment, holding other factors constant.
Measures &	• NPP attendance

Assessments	• State child welfare Tracking and Information Payment Systems (TIPS) • Adult-Adolescent Parenting Inventory-2 (AAPI-2)
Study Implementation	• NPP involves lesson guides, DVDs, parent handbooks, assessment inventories, behavioral modeling, discussion, role-playing, and family activities to promote cognitive and affective learning. It also is structured to involve children in the learning process. • NPP was administered in 2 ½ hour sessions over a 16-week group-based program. • Home visits were used as make-ups for missed sessions and as compliments to the group sessions to reinforce concepts for parents who need more time, and as supplemental sessions for parents who had other needs. Home sessions averaged one hour in length. • Transportation assistance was provided as needed.
Staff Qualifications	• Resource Center staff were trained as NPP facilitators • Front-line welfare staff were trained to become familiar with the program model
Key Findings	• The NPP was significantly associated with subsequent incidences of maltreatment, but the findings are dependent on both the timeframe during which the incidence occurred and the type of incidence — any reported or only substantiated incidences. • Six months following participation, the number of sessions attended reduced the likelihood of reported incidences of maltreatment, but not substantiated. • In the two-year time frame following participation, caregiver attendance in more sessions of the NPP was associated with fewer substantiated incidences of maltreatment.

Citation	**Montanez, M., Devall, E., VanLeeuwen, D. M. (2010). Social Capital: Strengthening Mexican-American families through parenting education. Journal of Family and Consumer Science, 102(3), pp. 27-33.**
Population and Sample	102 Mexican-American parents of preschool children: 93% female; 13% in their teens, 44% in their twenties, 27% in their thirties, and 16% in their forties or older; 58% had less than high school education; 40% had incomes less than $8,000 annually; 44% married; 40% had three or more children.
Methodology	Non-experimental; Pre/post within group
Purpose	The purpose of the study was to evaluate the effectiveness of a family centered science-based parent education curricula for Mexican American families. Development of social capital was explored from a scientific evaluation of adult and teen parents who voluntarily participated in a parenting program. Most were unmarried, young, low-income, and Mexican-American. A strengths-based, culturally specific method was utilized to recruit and retain participants.
Measures & Assessments	• Adult-Adolescent Parenting Inventory – 2 (AAPI-2) • Nurturing Quiz • Family Social History Questionnaire (FSHQ)
Study Implementation	• 17 parent educators who had received specialized training in the curriculum offered NPP class series. • To encourage retention, parent educators mailed post cards each week to thank parents for coming, tell them about the topic for the upcoming class, and let them know they were missed if absent. They also called families the day before each class to encourage attendance. A special graduation ceremony with certificates and gifts was held for families who completed the program. The average completion rate was 60%. • Classes were offered at schools, health offices, community centers, and family resource centers in six communities in the county. Approximately half of the classes were in English and half in Spanish.
Staff Qualifications	• Parent educators had a bachelor's degree, were advanced graduate students in family studies, or were paraprofessionals.
Key Findings	After training, parents had significantly greater empathy, decreased belief in corporal punishment, fewer inappropriate expectations of children, less reversal of parent-child roles, and increased knowledge of positive discipline techniques.

End Notes

[i] Americorps Impact Evaluation: Sacramento Family Support Collaborative Birth And Beyond Home Visitation Program. (2015).

[ii] Bavolek, S. J., Keene, R. G., Miranda, G., & Radcliff, J. T. (2012). Implementation of the Nurturing Parenting Programs with Latino families in Imperial County, California. Retrieved from: http://nurturingparenting.com/images/cmsfiles/imperialcofinal3yrreport1-23-13.pdf

[iii] Hodnett, R. H., Faulk, K., Dellinger, A., & Macher, E. (2009). Evaluation of the Statewide Implementation of a Parent Education Program in Louisiana's Child Welfare Agency: The Nurturing Parenting Program for Infants, Toddlers, and Pre-School Children. Retrieved from: http://www.casey.org/media/EvaluationParentEdLA_ES.pdf

[iv] Maher, R. J., Marcynyszyn, L. A., Corwin, T. W., & Hodnett, R. (2011). Dosage matters: The relationship between participation in the Nurturing Parenting Program for infants, toddlers, and preschoolers and subsequent child maltreatment. Children and Youth Services Review, 33, pp. 1426–1434.

[v] Montanez, M., Devall, E., VanLeeuwen, D. M. (2010). Social Capital: Strengthening Mexican-American families through parenting education. Journal of Family and Consumer Science, 102(3), pp. 27-33.

Additional Evidence

Young Parents and Their Families
http://nurturingparenting.com/images/cmsfiles/building_npskills_teenage_parents.pdf

Nurturing Fathers
http://nurturingparenting.com/images/cmsfiles/nfpresearch-parentalattitudesandbehavior.pdf
http://nurturingparenting.com/images/cmsfiles/nfpresearch-crossculturalinvestigation.pdf

Nurturing Skills for Families
http://nurturingparenting.com/images/cmsfiles/hi_dhs_final_rept_2008_09_narrative.pdf

Additional Resources

Bavolek, S. J. K. R., & Weikert, P. (2005). The Florida study: A comparative examination of the effectiveness of the Nurturing Parenting Programs.

Family Development Resources, I. (2012). The nurturing parenting programs comprehensive review. Author: Park City, UT.

Family Development Resources. (2011). Nurturing Parenting Program. [Website] Retrieved from http://nurturingparenting.com/about.html.

Safe Child. (2002). An Evaluation of the Nurturing Parenting Program at Safe Child.

Wagner, K.F. (2001). Parenting education and child welfare recidivism: A comparative study of the Nurturing Parenting Program graduates and non-graduates of Fresno County.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Parent-to-Parent Peer Support

Goals

Parent-to-parent support involves either the provision of support from an experienced and knowledgeable parent to a parent experiencing stress or other psychological distress associated with the birth and rearing of a child with a condition that is considered atypical [i, ii, iii] or parent-to-parent support groups where parents of young children and other family members engage in supportive and mutually beneficial exchanges based on common interests or concerns.[iv] The majority of these types of experiences typically involve support exchanges in response to parents' needs associated with child conditions leading to poor outcomes.[v] These child-related conditions include, but are not limited to, a developmental disability, a special health care need, a health impairment, a mental health issue, or a rare childhood disease.[vi, vii, viii] Parent-to-parent support also includes the provision of support to women experiencing difficult pregnancies, teenage and first-time parents, and parents needing advice or guidance with parenting and child rearing. [iv] Parent-to-parent programs are often called parent support networks, peer support programs, family support networks, or family-to-family support programs. [ii, viii, ix, x, xi]

Program Features

Parent-to-parent programs and practices are based on social support theory which includes the tenet that emotional, informational, instrumentation, and other types of advice and assistance (social supports) provided in response to either stress-related incidents (e.g., birth of a child with a condition placing him or her at-risk for poor health or developmental outcomes) or the need for resources to address family or child-related concerns (e.g., information on child intervention options) lessen the negative psychological effects associated with difficult life events.[xii, xiii] The support(s) provided by parents that are responsive to other parents' individual needs, concerns, priorities, etc., are expected to decrease stress, enhance positive adaptations, and enhance and promote positive child, parent, and family functioning.[vii]

Parent-to-parent programs typically have a parent coordinator who "takes" referrals for a parent or from another family member on behalf of a parent and who uses information obtained during a referral to match the parent with a more-experienced parent knowledgeable about parents' concerns or requests. In larger parent-to-parent programs, other parents, in addition to the program coordinator, obtain information about parents' concerns and match the parent with another more-experienced parent. The parent-to-parent coordinator at the time of referral obtains information about the reason for referral and information about the parents' child, child condition, diagnosis, or special challenges, the types of support needed or requested, the characteristics of the parent with whom the parent will be matched, and any specific preferences or concerns to be taken into consideration as part of a parent-to-parent match. Formal training for parents who will provide support to other parents is considered both essential and necessary for parent-to-parent programs to be effective.[xiv, xv, xvi] The same is the case for parent-to-parent support group facilitators.[xvii]

Parent-to-parent support groups typically involve the exchange of information, advice, guidance, etc., and other types of social supports among parents with similar needs, concerns, or preferences.[iii] These groups are most often conducted at regularly scheduled times and often include supportive exchanges during special events or those offered on special topics at parent meetings or workshops (e.g., parents night out). Parent-to-parent support groups are generally run

by parents with experience in the purpose of the groups or by professionals who have personal experience with the main focus of a support group.[v, xviii]

The program features generally considered the defining characteristics of a well-developed and operated parent-to-parent program and parent-to-parent support groups include mutually beneficial exchanges between parents, parents who are respectful of one another, parents who are good listeners and who offer or provide support in response to other parents' concerns and requests, and parents who are nonjudgmental and accepting of parents' unique family situations.[xix, xx, xxi] The benefits of these features are expected to include, but are not limited to, enhanced coping, psychological health, family adaptations, family functioning, and advocacy.[i, viii, xi, xxi, xxii]

Target Audience

The target audience of parent-to-parent support as part of early childhood intervention includes mothers, fathers, and other family members in households with young children birth to 5 years of age where the children have conditions that cause psychological disturbances, stress, or other problems related to poor or maladaptive coping. Most parent-to-parent programs, however, work with parents with children of any age, although those funded by Smart Start are for children birth to 5 years of age.

Overall Research Evidence for Parent to Parent Peer Support

- Parent-to-parent support and parent support groups have a wide range of positive effects, including changes and improvements in parent psychological health; family functioning, coping, empowerment, and enhanced perception of family well-being; positive parent and family adaptations to each child and family's unique circumstances; improved willingness to engage in appropriate services; improved positive parenting practices; higher rates and duration of breastfeeding; and improved child development. [x, xi, xxii, xxiii, xxiv, xxv,xxvi,xxvii]
- Results are positive for both parents receiving support as well as parents providing support to others. However, due to the lack of differences between parent-to-parent and nonintervention group parents, most investigators have concluded that parent-to-parent is promising but is not yet a practice that has sufficient research to claim that it is evidence-based.[vii, xxviii, xxix, xxx, xxxi]

Peer Support for Parents of Children with Disabilities and Chronic Illness

Target Audience

Parents of young children who have disabilities or chronic illnesses

Documented Outcomes

	Type of Study	Parent Outcomes			
		Increased social support*	Improved family empowerment, functioning, coping, and adaptation to disability	Reduced parental anxiety	Increased parental confidence and self-esteem
Singer et.al. (1999)[xxii]	Experimental	✓	✓		
Ireys et.al. (2001)[xxiii]	Meta-Synthesis	✓		✓	
Schilling et.al. (2013)[xxiv]	Meta-Synthesis	✓	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in parent's social support*

Peer Support for Parents of Children with Disabilities and Chronic Illness Snapshot

- **EC Profile Indicator:** FS30 - Rate of investigated reports of child abuse/neglect per 1000 children ages 0-5
- **Clearinghouse Rating:** None
- **Research supports** use with parents of children, birth through five, who have disabilities or chronic illnesses
- **Related Smart Start outcomes:**
  - Increase in parent's social support
- **Training required:** Yes
- **Staff qualifications:** Parent of grown child with disability or chronic illness
- **Frequency:** Approximately bi-weekly
- **Suggested Assessments:** Protective Factors Survey

Research Evidence for Peer Support for Parents of Children with Disabilities and Chronic Illness

- There is evidence that parent-to-parent peer support can contribute to improved social support, improved family functioning, improved parent confidence, and reduced parental anxiety.

Review of Experimental and Quasi-Experimental Studies

Citation	**Singer, G. H. S., Marquis, J., Powers, L. K., Blanchard, L., Divenere, N., Santelli, B., Ainbinder, J. G., Sharp, M. (1999). A multi-site evaluation of parent to parent programs for parents of children with disabilities. Journal of Early Intervention, 22, pp. 217-229.**

Population and Sample	• 128 parents of children with disabilities assigned to treatment (n=56) or control groups (n=72).
	  ○ 45% of children were 5 years of age and younger and receiving early intervention services
	• Selection criteria consisted of (a) being parents, foster parents, or grandparents of children with a disability or chronic health condition, (b) having access to a telephone, and (c) willing to wait up to 2 months for support from Parent to Parent if selected for the waiting list comparison group.
	  ○ The treatment group participated in Parent to Parent for 2 months; control group parents were moved to a support group after 2 months.

Methodology	Experimental, with pre/post assessments and a qualitative component with a subsample
Purpose	This study was an experimental evaluation of Parent to Parent Programs in five states: Kansas, New Hampshire, North Carolina, South Carolina, and Vermont. Expected changes included an increase in parents' estimates of their a) ability to cope with a child's disability, b) sense of empowerment to effect change or obtain services for their children, and c) general acceptance of their family's life circumstances.
Measures & Assessments	• Source of Strength and Family Closeness subscale of the Kansas Inventory of Parental Perceptions (KIPP) • The Family Empowerment Scale • Parent Coping Efficacy Scale • Parent survey • Telephone interview
Study Implementation	• Eight weeks prior to random group assignment, pre-test measures were mailed to parents. • Parent mentors were asked to make four calls over the 2-month program period to the parents in the intervention group. • At the end of the 2 months, post-test measures were mailed to parents in the intervention and the control groups. • Following completion of the intervention by both the waiting list and treatment groups, parents were divided into two groups based on their responses to a survey: those who rated Parent to Parent as helpful and those who did not. From these two groups, 12 participants were randomly assigned to two groups for participation in a telephone interview to collect additional qualitative information about the program.
Staff Qualifications	• Parent mentors received an average of 8 to 10 hours of training.
Key Findings	• There were statistically significant gains for the intervention group on the family and disability measure, which is a measure of attitudes thought to be a primary component of parental cognitive adaptation to disability. • There were significant differences on post-test scores between the groups, in favor of the intervention group, for parents who began the study with lower levels of perceived coping skills. • There were no significant changes on the measure of empowerment. • The intervention group made statistically significantly greater progress in meeting their needs than the control group. • 89% of intervention group parents rated the program as helpful. • Qualitative interviews suggest that parents who rated the program as helpful and reported feeling isolated before participating in the program reported felted supported by discovering that there are "really people out here that understand me." Parents who reported that the program was not helpful reported that the differences between the participating parent and the parent mentor impeded the participating parents' sense of being understood. These findings suggest that the perception of "sameness" is key to the success of the intervention.

Review of Meta-Syntheses

<table>
<tr><td>Citation</td><td>Ireys, H. T., Chernoff, R., Stein, R. E. K., DeVet, K. A., & Silver, E. J. (2001). Outcomes of community-based family-to-family support: Lessons learned from a decade of randomized trials. Children's Services: Social Policy, Research, and Practice, 4(4), pp. 203-216.</td></tr>
<tr><td>Population and Sample</td><td>• 3 randomized controlled trials of community-based support programs for parents of children with chronic illnesses; 78% to 92% of mothers had at least a high school education and mean age ranged from mid to late 30s; racial composition reflected the site of the study and the illnesses/conditions of the children in the groups. Mothers were randomly assigned to experimental and control groups (This article did not provide group sizes but noted that the information was reported elsewhere).
o Study 1: 365 children with a range of conditions; 37% African American, 48% Hispanic mothers; 42% of mothers worked outside of the home
o Study 2: 53 children with arthritis; 92% White mothers; 65% of mothers worked outside of the home
o Study 3: 193 children with diabetes, cystic fibrosis, sickle cell anemia, and moderate to severe asthma; 42% African American, 6% Hispanic mothers; 70% of mothers worked outside of the home</td></tr>
<tr><td>Methodology</td><td>Experimental, with repeated measures</td></tr>
<tr><td>Purpose</td><td>A review of the results and lessons learned from 3 randomized controlled trials of 12- to 15-month community-based support programs for parents of school-aged children with chronic illnesses. Support was provided by trained mothers who were raising or had raised children with similar health conditions.</td></tr>
<tr><td>Measures & Assessments</td><td>• Psychiatric Symptom Index</td></tr>
<tr><td>Study Implementation</td><td>• All three programs were based on the same conceptual framework and implemented through pediatric tertiary care centers.

<table>
<tr><td>Study 1</td><td>In Study 1, three parents of children with chronic health conditions were hired part time as support partners. Assignments were made on the basis of geographical proximity. Because we employed only three support partners and a large group of participating parents, no attempt was made to link support partners with parents on the basis of diagnosis.</td></tr>
<tr><td>Study 2
Study 3</td><td>In Studies 2 and 3, the intervention was specifically designed to make this link; thus, all of the support partners had children with the same condition as the participating parents. In addition, we selected support partners with children who were at least young adults to convey the concept that the support partners "had been there, had survived, and are still going."</td></tr>
<tr><td colspan="2">In all three studies, support partners were asked to make telephone calls every two weeks with assigned parents and to meet with them about six times during the course of the program. In addition, three special events (e.g., picnics or bowling parties) were held for all of the families during each of the intervention periods.</td></tr>
</table>
• Support partners included parents whose children were at least young adults. Three parents of children with chronic health conditions were hired as support partners in Study 1 and were not linked with parents whose children had the same or similar conditions. Studies 2 and 3 were specifically designed to link support partners who had children with the same condition as participating parents.
• Support partners were asked to make telephone calls to their assigned parents every two weeks and meet with them about six times throughout the period of the program. Three special family events (e.g., picnics or bowling parties) also were held during each program period.
• The Psychiatric Symptom Index was completed pre and post intervention by all participants.
• Posttest interviews were conducted 12 months after program enrollment.
• The intervention team met with a health and/or mental health professional every week throughout the programs.</td></tr>
<tr><td>Staff Qualifications</td><td>• After being nominated by specialty and general pediatric clinics, mothers participated in a 30- to 40-hour training program. Graduates thought to be most capable of serving as effective support partners were selected from the group and participated in a 10-hour intensive training program.</td></tr>
<tr><td>Key Findings</td><td>• Mean anxiety scores were lower following intervention for the experimental groups than for the comparison groups in all three studies. This difference was significant for Studies 2 and 3.
• There were no significant effects on any other measure of maternal mental health for any of the studies.
• Although Study 2 found evidence of enhanced perceptions of social support, there was no evidence that this was the pathway for the effect on maternal anxiety.
• There was no evidence of a relationship between dosage of intervention and response.</td></tr>
</table>

Citation	**Shilling, V., Morris, C., Thompson-Coon, J., Ukoumunne, O., Rogers, M., & Logan, S. (2013). Peer support of parents of children with chronic disabling conditions: A systematic review of quantitative and qualitative studies. Developmental Medicine & Child Neurology, 55(7), pp. 602-609.**
Population and Sample	• Seventeen papers were included in the review: o 9 qualitative studies o 7 experimental studies o 1 mixed-methods evaluation
Methodology	Meta-study
Purpose	To review the quantitative and qualitative evidence of the effectiveness of peer support for parents of children with long-term health conditions.
Measures & Assessments	• Sources of Strength and Family Closeness • Impact on Family Scales
Study Implementation	• To be included in the analysis a study must involve: a) parents and caregivers of children with chronic disabling conditions (i.e., disabled, chronically, seriously ill children and young people); 2) informal or formal in-person parent support provided by parents either one-on-one or in group meetings; and 3) outcomes related to parental psychological health, experience of the person providing or receiving peer support, economic implications of peer support programs, family functioning, accessing services or information, relationships with health professionals, and long-term impact of peer support • Two reviewers independently assessed qualitative studies based on five criteria of quality; disagreements were resolved through discussion. • One reviewer assessed quantitative studies using criteria based on the National Health Service Centre for Reviews and Dissemination and the Cochran Collaboration. Scores were checked by a second reviewer.
Staff Qualifications	• Not addressed
Key Findings	• Eight studies contributed quantitative data based on the outcomes they assessed (i.e., psychological health, family function, experience of parents receiving support, accessing services and information). o There were consistent effects on anxiety, anger, cognitive disturbance, concern, confidence, coping, depression, empowerment, illness intrusion, overall mental health. o Evidence was weak regarding increased use of community resources by parents or the number of emergency room or acute care visits or number of calls made to specialists. • Ten papers contributed qualitative data across five themes (i.e., shared social identify, learning from the experience of others, personal growth, supporting others, when peer support does not work). o The most common theme across studies related to benefits of finding a shared social identity with other parents, which fostered a sense of belonging, support, and empowerment. This helped parents to feel better able to cope and reduced feelings of isolation, loneliness, and guilt. o Many parents described learning from the expertise and experience of other parents. o Parents reported a sense of empowerment, confidence, and control, enabling them to develop new skills, motivation, and affirmation of their expertise as parents. o Parents in several studies reported feeling that giving support was as important as receiving it. o Some parents reported no benefit from peer support, which was attributed to the lack of a shared identity. Parents with high levels or stress or who felt pressured by a professional to participate were less satisfied with the support they received.

Review of Descriptive and Non-Experimental Studies

None

Peer Support for Parents of Young Children with Mental Health Issues

Target Audience

Parents of young children who have concerns about the mental health of the parent, child, or family.

Documented Outcomes

	Type of Study	Parent Outcomes			Child Outcomes	
		Improved parenting competencies and practices*	Perceived parenting style	Improved family empowerment, functioning, coping, and adaptation to disability	Reduced child behavior problems**	Child academic performance**
Day et.al. (2012)[xxxv]	Experimental	✓			✓	
Lennon et.al. (1997)[xxxvi]	Non-experimental with comparison groups		✓			
Hoagwood et.al. (2009)[xxxvii]	Meta-synthesis					✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in positive parenting practices*
**Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Parent-to-Parent Peer Support for Mental Health Issues Snapshot

- **EC Profile Indicator:** FS30 - Rate of investigated reports of child abuse/neglect per 1000 children ages 0-5
- **Clearinghouse Rating:** None
- **Research supports** use with parents of children, birth through five, who have concerns about parent, child, or family mental health
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
  - More children on track for typical and/or enhanced development
- **Training required:** Yes
- **Suggested Assessments:**
  - Eyberg Child Behavior Inventory
  - Protective Factors Survey

Research Evidence Peer Support for Parents of Young Children with Mental Health Issues

- The evidence in support of parent-to-parent peer support is varied, with some studies supporting peer support's effectiveness while other studies fail to find statistically significant associations between peer support and parent or child outcomes.

Review of Experimental and Quasi-Experimental Studies

Citation	**Day, C., Michelson, D., Thomson, S., Penney, C., & Draper L. (2012). Evaluation of a peer led parenting intervention for disruptive behaviour problems in children: community based randomised controlled trial. BMJ, 344, pp. 1-10.**
Population and Sample	• 116 children 2-11 years of age randomly assigned to groups; families reported difficulties in managing children's behavior: o Intervention group = 59 o Waitlist group = 57
Methodology	Experimental
Purpose	To evaluate the effectiveness of peer parent group program called, Empowering Parents, Empowering Communities, delivered to socially disadvantaged families at six sites located in schools and children's centers in inner London, UK. The goals of the parenting groups were to improve parent-child relationships and interactions, reduce child behavioral problems, and increase parents' confidence in their parenting abilities.
Measures & Assessments	• Eyberg Child Behavior Inventory • Concerns About My Child Measure • Arnold-O'Leary Parenting Scale • Parenting Stress Index-Short Form • Strengths and Difficulties Questionnaire
Study Implementation	• Trained peer facilitators worked in pairs to deliver the intervention program to groups of 7-14 parents over 8 weekly 2-hour sessions. Intervention sessions involved information sharing, group discussion, demonstration, role play activities, reflection, and planning and review of homework tasks. • Measures were administered to both groups one week before and immediately after the intervention ended. • Peer facilitators received regular supervision to ensure fidelity of the intervention, skill development, and personal support. Supervisors were available by telephone to manage potential safety issues, such as recognizing and reporting abusive parenting practices.
Staff Qualifications	Peer facilitators included 12 parents from the local community who completed an accredited training program. The training consisted of 60 hours of workshops, submission of a written portfolio, and a period of supervised practice.
Key Findings	• 91.5% of the peer-led intervention group had high treatment retention and user satisfaction. • Child behavior problems were significantly reduced for the intervention group. • Parenting competencies and practices significantly improved for the intervention group, with no differences in parental stress between the intervention and waitlist groups.

Review of Meta-Analyses

Citation	**Hoagwood, K. E., Cavaleri, M. A., Olin, S. S., Burns, B. J., Slaton, E., Gruttadaro, D., & Hughes, R. (2009). Family support in children's mental health: A review and synthesis. Clinical Child and Family Psychology Review, 13(1), pp. 1-45.**
Population and Sample	50 distinct programs and their major family support components
Methodology	Meta-study
Purpose	A review of structured family support programs in children's mental health to identify typologies of family support services and identify research gaps.
Measures & Assessments	Varied across study
Study Implementation	• To be included in the review, family services, interventions, or programs were expected to meet the following criteria: a) provide information, skills building, concrete help, or advocacy skill training support specifically for caregivers of children or adolescents with mental health conditions (as opposed to other health or developmental conditions); b) published between 1990 and 2008; c) provide more than a didactic workshop; d) be part of a child's treatment and include a separate caregiver support component that did not focus on improving the child's outcome; e) have a formal curriculum or structure; and f) have some evaluative data or be currently under study. • Two of the authors reviewed the 50 interventions meeting the selection criteria to determine categories, codes and typologies. The coding system was reviewed and approved by all of the authors and the two authors then coded the interventions, discussing any discrepancies until consensus was reached.

	• Of the 50 programs reviewed, 11 (22%) used a peer-to-peer model, with 8 (73%) of these being affiliated with family-run organizations; 33 (66%) were clinician-led programs; and 6 (12%) were team led. Peer-to-peer programs were led by parents with experience navigating services systems for their own children with mental illness. • *Only the peer-to-peer model studies are included in this review.* • The two authors coded all 50 interventions together to ensure inter-rater reliability.
Staff Qualifications	• Not addressed
Key Findings	• There were only three experimental (n=2) or quasi-experimental (n=1) studies of the 11 peer-to-peer programs included in the review. o Overall, the findings suggest that family support may be most beneficial for less empowered families, such as low-income families. o Although families with support were more likely to initiate mental health services for their children, there was no difference between treatment and control groups for treatment attendance or retention. o One study focusing on child academic performance among seriously emotionally disturbed youth found positive changes in child academic performance.

Hoagwood et.al.	NYS PEP Program: 40-hour training for family advisors/advocates working with parents/caregivers of youth with mental health needs (Jensen & Hoagwood, 2008) Followed by 6 month small group telephone consultation (12 hrs) Co-led by experienced parent advocate and MH professional to model collaboration Goals: – Enhance family advisors' knowledge of evidence-based practices in children's mental health – Enhance family advisors' skills and competencies in working with parents (engaging, boundary setting, priority setting, questioning, group management) – Improve parent activation and youth mental health Theory-based targeting principles of behavior change (Jaccard et al., 2002) Manualized
Kutash et.al. 2006	The article cited is a manual on school-based mental health interventions
Koroloff et.al. 1996	The purpose of using paraprofessionals in this study was (a) to increase the number of families who, once referred for children's mental health services, actually initiated those services, and (b) to encourage service continuance. The Family Associate role was created to address the major problems associated with children's mental health service initiation and continuance, particularly those that low-income families might encounter. The Family Associates were employed by their respective county mental health programs and received referrals through the EPSDT process. In order to intervene early in the service initiation process—when dropout was most likely (Baekeland & Lundwall, 1975; Larsen, Attkisson, Hargreaves, & Nguyen, 1979; Sirles, 1990)—the Family Associates contacted the parents or other family members soon after the referral for mental health services was made. The most common Family Associate services were (a) providing families with information, (b) providing caregivers with social and emotional support, and (c) linking families to community resources and services. An innovative feature of this intervention was the availability of a flexible cash fund.

Review of Descriptive and Non-Experimental Studies

Citation	Lennon, L., Maloney, C., Miller, J., Underwood, M., Walker, J., Wright, C., & Chambilss, C. (1997). An evaluation of informal parent support groups. Retrieved from: http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED408078 .
Population and Sample	• 75 parent participating without random assignment in intervention (n=38) and comparison (n=37) groups o Intervention group parents met regularly with other parents to discuss parenting concerns and experiences, but no explicit parental support was provided. o Comparison group parents had not previously participated in any formal or informal parent education programs.
Methodology	Non-experimental, pre/post with comparison group
Purpose	The purpose of this study was review the effects of informal parent support networks on perceptions of child behavior, styles of discipline, and satisfaction in parenting.
Measures & Assessments	• Eyberg Child Behavior Inventory • Cleminshaw- Guidubaldi Parent Satisfaction Scale • Parenting Self Appraisal Scale • Daily Behavioral Responses
Study Implementation	• Pre and post-tests were administered anonymously to all participants over a five week period. Post-test response rate was 35% for the intervention group and 54% for the comparison group.
Staff Qualifications	• Not addressed
Key Findings	• There were no significant differences between the groups on most measures of perception of children's problems and parenting or use of disciplinary strategies. • There was a significant difference between the intervention and comparison groups for perceived parenting styles, with intervention groups seeing their parenting as more permissive.

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Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Parents as Teachers

Goals

The goals of Parents as Teachers (PAT) are to provide the following: 1) information, 2) support, and 3) encouragement to parents so they can help their children learn, grow, and develop to their fullest potential.[i]

Program Features

Parents as Teachers is a home-visiting model providing a broad context of parenting education and family support, and building protective factors, especially for families in vulnerable situations (source: PAT website). PAT parent educators use a relationship-based and parenting-focused approach. Parent educators conduct the home visits focusing on parent-child interaction, development-centered parenting, and family well-being.

The PAT model has four components that all affiliate programs are required to provide: 1) one-on-one personal (or home) visits, 2) group connections (or group parent meetings), 3) health and developmental screenings for children, and 4) a resource network for families. Affiliate programs offer families 10 to 12 home visits annually (at minimum). Programs must offer higher-need families 24 visits annually. In some cases, visit frequency may be gradually decreased as the family transitions out of PAT and into other services. Home visits by a trained parent educator last 60 minutes. Affiliate programs offer group connections (or meetings) monthly and determine the length of services. Some programs may choose to focus services primarily on pregnant women and families with children from birth to age 3 years; others may offer services from pregnancy through kindergarten entry.[ii]

For more information regarding Parents as Teachers use this link: www.parentsasteachers.org.

Target Audience

Parents of children birth to 5 years; programs may target specific groups, such as teen parents

Parents as Teachers Snapshot

- **EC Profile Indicator:** : FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect; KEA10 - Kindergarten Entrance Assessment
- **Clearinghouse Rating**
  - SAMHSA National Registry of Evidence-Based Programs and Practices
  - California Evidence-Based Clearinghouse Rating of 3 (Promising Research Evidence)
  - Promising Practices Network rating of Promising
  - Home Visiting Evidence of Effectiveness
- **Research supports** use with parents of children birth to 5 years of age
- **Related Smart Start outcomes:**
  - Increase in parent knowledge
  - Increase in positive parenting practices
  - Parents increase use of services referred to in the community
  - Increase in parent's social support
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Staff qualifications:** Four-year degree or higher
- **Frequency:** Dependent on number of risk factors family has experienced
- **Dosage:** Each visit should last at least 60 minutes
- **Minimal service threshold:** Two years
- **Suggested Assessments:**
  - Life Skills Progression
  - Keys to Interactive Parenting Scale
  - PICCOLO
- **Implementation Guidance:** www.parentsasteachers.org.

Alignment with Smart Start Outcomes

	Type of Study	Parent Outcomes					Child Outcomes			
		Improved parent knowledge, attitudes, behaviors*	**Reduced cases of abuse or neglect**	**Quality of parenting and the home environment****	**Perceptions of social support and parenting satisfaction*****	**Improved literacy practices and literacy environment ********	**Improved child developmental outcomes*********	**Increased school readiness**	**Higher third grade reading scores**	Mastery motivation
Wagner, et. Al. (2002)	Experimental						✓			
Wagner, M. M. & Clayton, S. L. (1999)[iii]	Experimental		✓				✓			
Drotar, et.al. (2008)[iv]	Experimental						✓ For low SES children			✓
Zigler, E., Pfannenstiel, J. C., & Seitz, V. (2008)[v]	Quasi-experimental							✓	✓	
Owen and Mulvihill (1994)[vi]	Non-experimental with comparison groups	✓		✓	✓					
Wakabayashi, T., and Scharphorn, L. (2015)[vii]	Non-experimental					✓ With DPIL				

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

* Aligned with Smart Start outcomes *Increase in parent knowledge*

**Aligned with Smart Start outcomes *Increase in positive parenting practices*

***Aligned with Smart Start outcomes *Increase in parent's social support*

****Aligned with Smart Start outcomes *Increase in frequency of parent and child shared reading, Increase in the adult's use of recommended reading strategies*

*****Aligned with Smart Start outcomes *More children on track for typical and/or enhanced development*

Research Evidence for Parents as Teachers

- Positive effects for parents on parenting practices, home environment, and social support, though results were somewhat mixed.
- Evidence of impact on of child cognitive and language improvements, social development and school readiness have been found.
- Results were sometimes mixed, though several studies showed greater effects with children from low-income households.
- Length of PAT attendance was found to be associated with improved home literacy and preschool enrollment, which are predictors of school readiness and third-grade reading achievement.

Review of Experimental and Quasi-Experimental Studies

Citation	**Wagner, M., Spiker, D., & Linn, M. I. (2002). The effectiveness of the Parents as Teachers program with low-income parents and children. Topics in Early Childhood Special Education, 22(2), pp. 67-81.**
Population and Sample	• 665 families randomly assigned to one of three community PAT (n=275) or control (n=390) groups • Average age of mothers was 24 years with 58% African American, 29% White, 12% Hispanic/Other; 21% working full time, 45% not working or seeking work; 60% annual income of less than $15,000
Methodology	Experimental with random assignment to groups
Purpose	Findings are described from a multisite, randomized evaluation of the PAT program. The evaluation was designed to assess the effectiveness of the program with low-income families.
Measures & Assessments	• Knowledge of Infant Development Inventory – KIDI • Parenting Sense of Competence Scale – PSOC and Child Maltreatment Precursor Scale – CMPS • Home Observation and Measurement of the Environment Inventory – HOME and Nursing Child Assessment Satellite Training Scale – NCAST • Developmental Profile II –DPII • Adaptive Social Behavior Inventory – ASBI
Study Implementation	• Recruitment of families occurred when children were less than 8 months old; participation was to continue until the children's third birthdays. • Families in intervention and control groups received a $20 gift certificate to complete a data collection visit annually. Parents were assessed at children's first birthdays and children were assessed at their second birthdays only. • Intervention groups received monthly home visits from at PAT parent educator along with other PAT services (e.g., group meetings, developmental screenings, referral for other services as needed). Control group families did not receive any PAT services. • The evaluation ended at children's second birthdays because too few families continued to participate beyond that time. • The three participating sites were certified by the PAT national center as implementing the model with high fidelity and quality.
Staff Qualifications	• Certified Parent Educators: most had associates, bachelors, or masters degree with training in child development and/or early childhood education; 1-12 years experience as home visitors

Key Findings	• Parent Knowledge:
	  ○ Scores for parenting knowledge were lower for very low-income families than for families with more moderate incomes.
	  ○ There were stronger positive effects for very low-income families on 4 of 6 knowledge measures but none reached statistical significance.
	• Attitude Toward Parenting:
	  ○ Small to moderate negative effects were found on scale scores for all items for both income groups.
	  ○ There was a large statistically significant positive effect on parents' happiness when caring for children between intervention and control groups for more moderate-income families.
	• Parenting Behaviors:

	○ Scores for parenting behaviors were lower for very low-income families than for families with more moderate incomes. ○ Effects of PAT were mixed for both very low-income and more moderate-income families. ○ The only items reaching statistical significance was between intervention and control groups of more moderate-income families on parental acceptance of child's behavior. • Child Outcomes: ○ Scores for child outcomes were lower for very low-income children than for children in families with more moderate incomes. ○ For very low-income children, small positive effects were found for very-low income children on 3 of 5 DPII measures and a moderate effect on ASBI (with the exception of a small negative effect on self-help development). ○ For more moderate-income children, small negative effects were found for 3 of 5 DPII measures and a small positive effect on ASBI.

Citation	**Wagner, M. M. & Clayton, S. L. (1999). The Parents as Teachers program: Results from two demonstrations. The Future of Children, 9(1), pp. 91-115.**
Population and Sample	• Salinas Valley PAT: 497 families randomly assigned to participant (n=298; 83.6% Latino) and control (n=199; 76.9% Latino) groups; 44-46% limited English proficiency; average 25-26 years of age • Teen PAT: 704 teens under the age of 19 and either pregnant or with a child less than 6 months old were randomly assigned to four groups (PAT services, n=177; case management services, n=174; PAT plus case management, n=175; control group, n=178); 53-59% Latino; average 16.6 years of age
Methodology	Experimental
Purpose	The article reports the results of evaluations of two randomized trials of PAT: (1) the Northern California (Salinas Valley) Parents as Teachers Demonstration, serving primarily Latino parents; and (2) the Teen Parents as Teachers Demonstration, serving adolescent parents in four counties in Southern California.
Measures & Assessments	• Knowledge of Infant Development Inventory (KIDI)) • Home Observation for Measurement of the Environment (HOME) Inventory • Developmental Profile II (DPII); Salinas Valley also used Bayley Scales of Infant Development (BSID) and Peabody Picture Vocabulary Test (PPVT)) • Immunization History • Parent Interviews
Study Implementation	• Salinas Valley Project: PAT group ○ The PAT group was offered monthly home visits from a trained parent educator for as long as the families chose to remain in the program up to the children's third birthdays. Visits included a lesson from the national PAT curriculum, with materials often left to reinforce and supplement the lessons. Additional services included a) periodic screenings of children's hearing, vision, and general development and made referrals to community services as needed; and b) voluntary group meetings in English and Spanish for parents to discuss and receive social support.. ○ PAT program participants received an average of 20 visits over three years varying in length from 28 to 50 minutes depending on the parent educator. Less than 15% of participant group families attended any group meeting. Control group ○ Control group members periodically received developmentally appropriate toys to track families locations and to encourage completion of annual assessments. If the annual assessments indicated significant developmental delays or other problems, referrals to appropriate services were made. • Parent and child assessments for both Salinas Valley study groups were completed in families' homes at children's first, second, and third birthdays by trained field evaluators. Families also could take their children to the Monterey County Office of Education for annual developmental assessments by child psychologists. • Teen PAT Demonstration Project: PAT and Combined (PAT plus case management) Intervention Groups: ○ PAT and combined intervention groups were offered PAT services through their children's second birthdays. ○ PAT intervention groups received an average of 10 visits during the 2-year period. Visits were expected to last about an hour but the actual length of visits was not collected. PAT group members averaged two group meetings and combined intervention group members averaged three over two years. ○ Additional telephone contacts were made, with PAT averaging 6 calls over 2 years and the

	combined intervention group averaging 17 calls. Case Management and Combined Intervention Groups: o Case management and combined intervention groups were offered comprehensive case management services modeled after California's Adolescent Family Life Program. A minimum of quarterly face to face contacts were provided (more often if needed). Referrals or arrangements for services were made to address issues such as psychological functioning, health status, nutrition, environmental risks, and educational and vocational goals. o The combined intervention group received case management contacts separate from PAT visit and received additional telephone contacts (average of 6 calls in two years).. o Additional telephone contacts were made for participants in the case management group. averaging 8 calls in two years). o Case management and combined intervention group participants received an average of 10 case management contacts in two years. Control Group: o Control group participants received toys as an incentive to maintain contact and participate in annual developmental assessments. • Assessments of children and parents in all Teen PAT study groups were completed in their homes by field evaluators at or near the children's first and second birthdays.
Staff Qualifications	• Six of 10 PAT-trained parent educators had bachelor's degree or higher and six were Latinas who spoke both English and Spanish.
Key Findings	• Salinas Valley: *Parent Knowledge, Attitudes, Behavior, and Home Environment:* o There were no significant effects between the groups on parenting knowledge. o Small and inconsistent changes for parenting attitudes. o Negative significant effect on parent behavior/home environment measure of acceptance of children's behavior (control group outperformed PAT group). *Child Outcomes:* o PAT group showed significant improvement in child's social and self-help development as compared to control group. o PAT children showed small but not statistically significant effects for social development. o No significant benefits were associated with PAT for child health and health care. • Teen PAT: *Parent Knowledge, Attitudes, Behavior, and Home Environment:* o There were no significant effects between the groups on parenting knowledge. o Small and inconsistent changes for parenting attitudes. o Positive significant effect on parent behavior/home environment measure of acceptance of children's behavior (PAT group outperformed control group). o Negative significant effect on parent behavior/home environment measure for the availability of appropriate play materials (control group outperformed PAT group). *Child Outcomes:* o Significantly greater gains in children's cognitive development for the PAT plus case management group over control group. o Significantly fewer opened cases of child abuse or neglect for PAT plus case management group. o Significantly higher rate of full immunization for case management only group.

Citation	**Drotar, D., Robinson, J., Jeavons, L., and Kirchner, H.L. (2008). A randomized, controlled evaluation of early intervention: the Born to Learn curriculum. Child: care, health and development, 35, 5, 643–649.**
Population and Sample	The study randomly assigned 256 families to the treatment group, which received the Born to Learn curriculum, and 271 families to the comparison group. Stratification was used to ensure comparable socioeconomic characteristics. Twenty-nine treatment families and 39 comparison families did not receive the intervention. Demographic characteristics were comparable with regard to sex, ethnicity, and socio-economic status (SES).
Methodology	Experimental with random assignment
Purpose	The study team assessed whether or not the Born to Learn (BTL) curriculum would be associated with better child outcomes than a general parent education program. More specifically, the study team "hypothesized that children whose parents received the BTL curriculum would demonstrate more competent cognitive and language development, security of attachment (SAT), mastery motivation (MM), academic readiness skills and social competence than children whose families received a general parent education programme." Further, the study team assessed whether or not the BTL curriculum had greater effects on children from lower-SES families, compared to children from

	higher-SES families.
Measures & Assessments	• Bayley Scale of Mental Development, Second Edition (BSMD) • Bayley Behavioural Rating Scale (BBRS) • Child Behaviour Rating Scale (CBRS) • Q-Sort measure of SAT • Mastery motivation, defined as persistent problem solving with novel tasks, was assessed at 12, 24 and 36 months of age • Systematic Analysis of Language Transcripts (SALT) was used to assess language development at 36 months of age • Bracken Basic Concept Scale – Revised • Test of Early • Reading Ability-2 (TERA-2) • Social Skills Rating System (SSRS)
Study Implementation	• The BTL curriculum included two home visits in the first month. After the first month, treatment group parents received monthly visits and group meetings. • Visits were conducted in the family home with trained parent educators, who were aware of the group assignments. • The study tracked program implementation on (1) home visit attendance; (2) coverage of curriculum material; and (3) performance. • Videotapes of visits were evaluated and the study team found that more than 90% of curriculum objectives were met. • The general parent education program included educational handouts describing child development at different ages and access to activities such as parent discussion groups. The comparison group did not receive any BTL curriculum content or structure.
Staff Qualifications	• Parent educators received training at the Parents as Teachers National Center
Key Findings	• The study used an intent-to-treat design and analyses controlled for: *SES, randomization blocking (low SES vs. middle/high SES), and included terms for group, age and the interaction between group and age.* <u>Cognitive development</u> • The study team failed to find group differences in cognitive development at 12 and 24 months, using the BSMD. The team also failed to find group differences at 36 months, using the KAB. • There was a significant group differences by socio-economic status (SES) interaction at 24 months ($p<.003$), wherein the effect of the BTL curriculum was significant for the low-SES subgroup. More specifically, children in the treatment group had higher mean scores (mean =89.67), than comparison group children (mean=82.16) ($p<.01$). <u>Security of attachment</u> • The study team failed to find group differences at 18 months, using the SAT. <u>Adaptive behavior</u> • The study team failed to find group differences at 12, 24, or 36 months, using the BBRS. • The study team failed to find group differences on the CBRS factor scores. <u>Mastery motivation</u> • The study team failed to find group differences on in mastery motivation with the exception in which treatment group children had higher scores on task competence at 36 months (mean=847.98), compared to comparison group children (mean=841.74) ($p<.05$). • The study team found a significant group SES interaction effect for task competence at 24 months, wherein children in low-SES families in the treatment group had higher scores (mean=584.49), compared to comparison group children (mean=556.21) ($p<.02$). • The study team failed to find a significant group SES interaction effect for task competence at 24 months for high-SES families in the treatment group (mean=618.36), compared to families in the comparison group (mean=681.0). <u>Language, conceptual development, school readiness and social skills</u> • The study team failed to find group differences on language, as assessed using the SALT, TERA-2, or SSRS (parent and teacher report).

Citation	**Arnold, J.M. (2012). The Parents as Teachers program in Missouri and the resulting difference in academic effects for fifth- and sixth-grade students. Dissertation Thesis; Liberty University.**
Population and Sample	The study incorporated 178 fifth- and sixth-grade students. The study team matched 89 Parents as Teachers (PAT) students with 89 non-PAT students on gender, ethnicity, and socioeconomic status.
Methodology	Quasi-experimental with matched comparison group

Purpose	The study assessed whether or not there were significant differences between Developmental Indicators for the Assessment of Learning—Third Version (DIAL-3) and Missouri Assessment Program (MAP) Communication Arts third- and fourth-grade assessments. The study address three research questions: (1) Do currently enrolled fifth- and sixth-grade students who participated in the Eagle's Parents as Teachers Program show a significant difference on the school readiness screening, the DIAL-3 composite score, when compared to fifth- and sixth-grade students who did not participate in the Eagle's Parents as Teachers Program? (2) Do currently enrolled fifth- and sixth-grade students who participated in the Eagle's Parents as Teachers Program show a significant difference on the 3rd grade MAP Communication Arts test when compared to fifth- and sixth-grade students who did not participate in the Eagle's Parents as Teachers Program? (3) Do currently enrolled fifth- and sixth-grade students who participated in the Eagle's Parents as Teachers Program show a significant difference on the 4th grade MAP Communication Arts test when compared to fifth- and sixth-grade students who did not participate in the Eagle's Parents as Teachers Program?
Measures & Assessments	• Developmental Indicators for the Assessment of Learning 3 (DIAL-3) • Missouri Assessment Program (MAP) Test Communication Arts third- and fourth-grade assessments
Study Implementation	• All families with preschool-aged children in Missouri could participate in PAT, through their local school districts. • The study compared fifth- and sixth-grade students who parents did and did not participate in PAT.
Staff Qualifications	• Parent educators were trained in the PAT *Born to Learn Curriculum*
Key Findings	<u>DIAL-3 Composite Scores</u> • The mean score for the treatment group was 57.91 and the mean score for the comparison group was 54.43. This was not a statistically significant difference (n=178). The study team found a small effect size: Cohen's d=.27. <u>Third-Grade Communication Arts Assessment</u> • The mean score for the treatment group was 645.70 and the mean score for the comparison group was 638.18. This was not a statistically significant difference (n=178). The study team found a small effect size: Cohen's d=.24. <u>Fourth-Grade Communication Arts Assessment</u> • The mean score for the treatment group was 667.28 and the mean score for the comparison group was 663.72. This was not a statistically significant difference (n=178). The study team found a very small effect size: Cohen's d=.11.

Citation	**Zigler, E., Pfannenstiel, J. C., & Seitz, V. (2008). The Parents as Teachers program and school success: A replication and extension. Journal of Primary Prevention, 29, pp. 103-120.**
Population and Sample	• 5,721 kindergarten children entering public kindergarten in Missouri with 82% of the original sample having third-grade test data 4-5 years later. Data for special education students were excluded from the analyses. • 45% of students were classified as being poverty-level based on free/reduced lunch data.
Methodology	Quasi-experimental, structural equation modeling
Purpose	The study was a replication and extension of another, but with a larger sample, an improved measure of poverty that uses eligibility for free or reduced lunch, and new longitudinal data. The study used path analysis to test how Parents as Teachers (PAT) affects children's school readiness and later third-grade achievement.
Measures & Assessments	• Missouri Assessment Program (MAP) Communication Arts Assessment • Parent Survey • School Entry Profile
Study Implementation	• Teachers completed a School Entry Profile for each student. • Parents/Guardians completed surveys asking about their child's health and health care as well as participation in PAT and/or other early childhood education programs. • Matched 76% of the original sample of students with third-grade Communication Arts test data in the statewide database. Another 6% had data because they had taken the assessment a year later than expected based on their year of kindergarten entry.
Staff Qualifications	• Kindergarten teachers were trained to collect preschool and health care information from parents/guardians and use observation to assess children's skills, knowledge, and social development.
Key Findings	• The new measure of poverty reduced the importance of minority group membership and increased the importance of poverty as a direct predictor of school readiness. • Length of PAT attendance was both a direct and indirect (through increased school readiness) predictor

	of third-grade achievement. • Home literacy and preschool attendance were important predictors of school readiness and third-grade achievement, and both were predicted by length of PAT attendance. Home literacy efforts also had a small direct effect on third-grade achievement.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Owen, M.T. and Mulvihill, B.A. (1994). Benefits of a Parent Education and Support Program in the First Three Years. Family Relations, Vol. 43, No. 2, pp. 206-212.**
Population and Sample	The study incorporated a Parents as Teachers (PAT) sample of 59 families. The study also incorporated a comparison group of 69 families, who were recruited from child birth preparation classes conducted at a hospital in a city that did have a PAT program. With one exception (a child who was eight months old), PAT children were 6 months old or younger. There were attrition rates of 28.8% in the PAT group and 20.3% in the comparison group over the three-year study period. The study team reported that the treatment and comparison groups *"did not differ in parental age, education, or occupation. Education levels for both groups of parents ranged from high school graduate to professionally degreed. The typical profile was of a middle-class first-time parent who had attended college. Mothers' mean age was 28 years at the time of their first child's birth; fathers' mean age was 30 years. Only 7% of the PAT participants and 8% of the comparison group were non-Caucasian. There were no single-parent families in the comparison group; 9% of the PAT group were single parents. Family socioeconomic status scores on the Hollingshead (1975) Four Factor Index of Social Status ranged from class 1 to class 5 (highest to lowest), but 85% of the PAT and 87% of the comparison families were in the upper two strata. There was no significant difference on SES scores between the groups."*
Methodology	Non-experimental with comparison groups
Purpose	The study examined the benefits of the PAT program over a child's first three years. The study addressed four hypotheses: (1) PAT participants would provide home environments that were more developmentally enriching to their children than would nonparticipants, (2) Children in the PAT program would achieve higher scores on standardized tests of mental and social development than children whose parents did not participate, (3) PAT parents would perceive more community and peer support than nonparticipant parents, and (4) PAT parents would report less stress associated with parenting and child rearing than nonparticipants.
Measures & Assessments	• Bayley Scales of Infant Development • Kaufman Assessment Battery for Children • Receptive-Expressive Emergent Language Scale • Preschool Language Scale • Vineland Adaptive Behavior Scales • Parent Knowledge Questionnaire • Parent Attitudes Toward Childrearing • Parenting Stress Index • Inventory of Parenting Experiences • Home Observation for Measurement of the Environment
Study Implementation	• The pilot programs only served first-time parents. The comparison group also was only first-time parents. • State and site program directors conducted training for administrators and home visitors. • There were three pilot sites. Staff from each site met monthly. Staff also attended in-service training sessions. • The sites provided on-site supervision of staff. • The study team reported that *"On average, families received 24 home visits and participated in 12 group meetings over the course of their involvement with the PAT program."* • The study team collected data at baseline and then when the first-born child was 1, 2, and 3 years old.

Staff Qualifications	• All parent educators were trained according to Parents as Teachers National Center guidelines.
Key Findings	Cognitive and language abilities. • The study team failed to find significant main effects of group or time and no group by time interaction effects. Adaptive social behavior. • The study team failed to find significant group, time, or group by time interaction effects, at ages 2 and 3. Parent knowledge. • The study team found that, when the study began, *"there was a significant difference between the PAT and comparison group mothers and fathers in parent knowledge about child development, with PAT mothers and fathers scoring higher."* • The study team found, for mothers, a significant group effect over both times of measurement ($p < .01$) and a significant time effect ($p < .05$). More specifically, the study team reported *"The PAT group mothers had higher parent knowledge scores than comparison mothers, (with mean scores of 26.07 for PAT and 24.13 for Control), and all parents increased in parent knowledge from baseline (mean score 24.38) to child age 3 (mean score 25.48)."* • The study team failed to find a group by time interaction effect. Parent attitudes. • The study team found that the treatment and comparison groups *"were highly similar in parent attitudes at baseline, and there were no significant effects of group, time, or group X time found in the repeated measures MANOVA."* Quality of parenting and the home environment. • The study team found that the treatment and comparison groups both had relatively high scores (i.e., the top quartile) on the HOME, as measured at each assessment. • The study team found a significant main effect for group ($p<.01$), wherein the mean score for the treatment group was 42.76 and the mean score for the comparison group was 41.28, as assessed using the HOME. Further, the team reported that *"The differences across time were small but consistent in their direction. There were no significant time or group X time effects on this measure."* • The study team also reported that *"Significant effects of PAT participation on the HOME scores were again found even after controlling for effects of initial parent knowledge."* Parenting stress. • The study team reported that both the treatment and comparison groups *"scored in the low- or moderate-risk range of the Parenting Stress Index, indicating little parenting stress."* • The study team failed to find significant effects of group, time, or group by time on parenting stress. Perceptions of social support and parenting satisfaction. • The study team found a significant group effect for Community Support, as perceived both by mothers ($p<.05$) and fathers ($p<.05$). The study team reported that *"PAT mothers and fathers both reported more satisfaction with neighborhood involvement and support from community groups than the comparison group parents (for PAT and Control groups, respectively, mothers' mean scores were 4.70 and 4.23, and fathers' mean scores were 4.43 and 4.08). "* • The study team found a significant effect for time, both for mothers ($p<.0001$) and fathers ($p<.0001$). The study team found that *"parents in both groups expressed increasingly greater satisfaction with support from the community as their children got older (at ages 1, 2, and 3, respectively, mothers' mean scores were 3.55, 3.64, and 6.14, and fathers' mean scores were 3.29, 3.44, and 5.99). The increase occurred primarily between child ages 2 and 3."* • The study team failed to find a significant group X time interaction effect. • The study team found that, with fathers, there was a significant decline over time in expressed satisfaction with parenting ($p<.001$). The study team reported that the decline was *"evident between age 2 and age 3 (mean scores obtained at child ages 1, 2, and 3 were 1.57, 1.65, and 1.20, respectively)."* • The study team failed to find a significant group or group by time effects in parenting satisfaction for mothers or fathers. • The study team failed to find significant group or group by time effects with regard to increasing satisfaction with support from intimate relationships over time, although all parents reported increasing satisfaction. • The study team failed to find group, time, or group by time effects with regard to parents' satisfaction with support from their friends. Parent satisfaction with PAT. • The study team reported that PAT parents had high levels of satisfaction with the PAT program. • The study team reported that *"Forty- three percent of mothers and 27% of the fathers were unsure whether their child had increased abilities as a result of their participation in PAT."*

Citation	Wakabayashi, T., and Scharphorn, L. (2015). Results of the Innovative Approaches to Literacy Project Evaluation conducted by The Center for Early Education Evaluation HighScope Educational Research Foundation.
Population and Sample	The study incorporated 1,326 families and 1,557 children. Of these, 1,031 children remained in the evaluation at the end of the project. Participants were recruited from 59 Parents as Teachers (PAT) affiliates, operating in 59 high poverty school districts in nine states. Of these 59 affiliates, one affiliate left the study. The study focused on high-risk families. Focal and non-focal children were included in the study.
Methodology	Non-experimental
Purpose	The study was a two-level evaluation of PAT Innovative Approaches to Literacy (IAL). The first level was an "overall evaluation," and incorporated all participating families. The second level was a "focal evaluation" and targeted children in five focal states, who were going to be between 48 and 59 months of age at the end of the project.
Measures & Assessments	• Home Literacy Checklist (HLC) • Literacy-related Personal Visit Records (Lit PVR) • Woodcock- Johnson Tests of Achievement-III (WJ-III) Extended Oral Language subtests
Study Implementation	• The focal evaluation incorporated children from five focal states (Georgia, Michigan, North Carolina, Pennsylvania, and South Carolina). • PAT was partnered with Imagination Library for the IAL initiative. • For the focal evaluation, the study team evaluation home literacy experiences as well as child skills, using the Woodcock- Johnson Tests of Achievement-III (WJ-III) Extended Oral Language subtests. • The study team reported that project parent educators completed 24,856 personal visits over approximately 15 months with participating families. The team reported that: *"On 49% of the visits, parent educators spent between 21 and 60 minutes on literacy-related activities, and on more than 70% of the visits the parent educator conducted multiple literacy-related activities and shared literacy-related resources with the family."* • The study team reported that more than 35,000 books were distributed, through a combination of the Imagination Library and PAT.
Staff Qualifications	• Not addressed
Key Findings	<u>Increased number of children's books</u> • The study team reported that *"At the end of the project, over half of children owned a small personal library of between 26 to 75 books. There was a 35% increase in the percentage of families with 26 or more books in the home (54% at the beginning of the project and 89% at the end of the project)."* <u>Increased connections to libraries and literacy resources</u> • The study team reported that *"Of families remaining in the project, the percentage of families reporting that they own a library card steadily increased over the length of the project. At the end of the IAL project, there was a 19% increase in the number of families that reported owning a library card (an increase from 55% at the beginning of the project to 74% at the end of the project)."* <u>Increased home literacy behaviors.</u> • The study team reported that *"children showed increases in the frequency of their literacy behaviors, such as looking at books alone."* More specifically, *"There was a 29% increase in the number of children looking or pretending to read books once or more a day."* • The study team reported that *"Parents also increased the frequency with which they used literacy behaviors with their child (i.e., reading books to their child), as well as positive literacy engagement approaches, such as asking their child questions about the book they are reading together. There was a 22% increase in the number of families reading together once or more a day. The majority of parents and children read the Imagination Library books together once a week or more frequently and the majority of children looked at the Imagination Library books by him/herself once a week or more frequently."* • The study team also reported that over half of parents reported *"they always read books, magazines, or newspapers"* and many parents *"read the literacy handouts or practiced the adult-child literacy activities given to them by their parent educator."* <u>Increased oral language</u> • The study team compared children pre- and post-assessment scores to the standard scores of a national representative sample. The study team found that *"At both pre- and post-test, children participating in the IAL project had comparable scores to the national mean ($\mu = 100$, $SD = 15$)."* • The study team reported that, in the focal evaluation, children *"showed significant increases in their oral language skills at age four. The percentage of the 174 children assessed who increased their score*

on at least one of the four measures of oral language was 94%." The study team also reported that *"While the increases in oral language skills for the focal evaluation group were not significantly different from those of the normed sample, the focal evaluation sample had higher overall levels of risk (low income, low educational attainment of the mother, single parent families, minority) than the group on whom the scores were normed."*

- The study team examined oral language skills for the lowest performing children and found that *"At pretest, a number of children's standard scores on each subtest of the WJ-III (Story Recall, Understanding Directions, Picture Vocabulary and Oral Comprehension) were more than 1 standard deviation below the mean (a score of less than 85). At post-test, scores had improved to an average score (85 or above) on each subtest for more than 50% of the children."*

End Notes

[i] **Parents as Teachers National Center. (2010). Parents As Teachers. [Website]. Retrieved from: www. parentsasteachers.org.**

[ii] Administration for Children and Families. (2011). Implementing Parents as Teachers (PAT) Program Model Overview. Retrieved from: http://homvee.acf.hhs.gov/document.aspx?rid=3&sid=16.

[iii] Wagner, M. M. & Clayton, S. L. (1999). The Parents as Teachers program: Results from two demonstrations. The Future of Children, 9(1), pp. 91-115.

[iv] Drotar, D., Robinson, J., Jeavons, L., and Kirchner, H.L. (2008). A randomized, controlled evaluation of early intervention: the Born to Learn curriculum. Child: care, health and development, 35, 5, 643–649.

[v] Zigler, E., Pfannenstiel, J. C., & Seitz, V. (2008). The Parents as Teachers program and school success: A replication and extension. Journal of Primary Prevention, 29, pp. 103-120.

[vi] Owen, M.T. and Mulvihill, B.A. (1994). Benefits of a Parent Education and Support Program in the First Three Years. Family Relations, Vol. 43, No. 2, pp. 206-212.

[vii] Wakabayashi, T., and Scharphorn, L. (2015). Results of the Innovative Approaches to Literacy Project. Evaluation conducted by The Center for Early Education Evaluation HighScope Educational Research Foundation.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

SafeCare Augmented

Goals

SafeCare was developed as a more streamlined version of Project 12-Ways, which was designed to address behaviors that can lead to child abuse and neglect.

Program Features

SafeCare Augmented is an adaptation of SafeCare. As described by Silovsky et.al. (2011), SafeCare Augmented adds Motivational Interviewing to the SafeCare protocol. The augmented program also brings in training for home visitation staff that promote the identification of and response to risk factors for maltreatment. See SafeCare for more information on the core model.

SafeCare Augmented Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:** See SafeCare
- **Research supports** use with children birth to 5 years of age who are at risk for child maltreatment
- **Related Smart Start outcomes:**
  - Increase in parent knowledge
  - Increase in positive parenting practices
- **Purveyor training required:** Yes
- **Frequency:** Weekly or bi-weekly
- **Dosage:** 18 to 20 weeks
- **Implementation Guidance:** http://safecare.publichealth.gsu.edu/

Target Audience

Families with young children (ages birth to 5) at risk for child maltreatment (which includes: young parents; parents with multiple children; parents with a history of depression or other mental health problems, substance abuse, or intellectual disabilities; foster parents; parents being reunified with their children; parents recently released from incarceration; and parents with a history of domestic violence or intimate partner violence).

Documented Outcomes

	Type of Study	Observed parent outcomes			Parent-reported family outcomes	
		Parent engagement	Referrals and connections*	Domestic violence reports	Parenting behaviors**	Risk factors such as family resources, social support, child abuse potential, depression, and nonviolent parenting strategies
Silovsky et.al. (2011)[i]	Experimental	✓	✓	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Parents increase use of services referred to in the community*
**Aligned with Smart Start outcome *Increase in positive parenting practices*

Research Evidence for SafeCare Augmented

- The program is a modified version of the SafeCare protocol. The program is differences in service provider and parent behaviors. For example, service providers working with the SafeCare Augmented protocol may experience more success in connecting with families and referring

Review of Experimental and Quasi-Experimental Studies

Citation	**Silovsky, J. F., Bard, D., Chaffin, M., Hecht, D., Burris, L., Owora, A., Beasley, L., Doughty, D., & Lutzker, J. (2011). Prevention of child maltreatment in high-risk rural families: A randomized clinical trial with child welfare outcomes. Children and Youth Services Review, 33, 1435-1444.**
Population and Sample	The study was conducted in the rural southwest and included 105 parents of young children with "identifiable risk of depression, intimate partner violence, or substance abuse." Participants were randomly assigned to either SafeCare Augmented (SC+) or standard home-based mental health services (SAU). The study team reported making attempts to recruit Native American families for the study. Participating caregivers were at least 16 years old and had at least one risk factor, which included: parental substance abuse, mental health issues, or intimate partner violence.
Methodology	Experimental with random assignment to groups
Purpose	The overarching goal of this study was to conduct a randomized clinical trial of SC+ compared to SAU to examine reductions in future child maltreatment reports, as well as risk factors and factors proximal to child maltreatment.
Measures & Assessments	• Child Abuse Potential Inventory (CAPI) • Conflict Tactics Scale-Parent Child (CTS-PC) • Family Resource Scale-Revised (FRS-R) • Social Provisions Scale (SPS) • Beck Depression Inventory 2 (BDI-2) • Diagnostic Inventory Schedule (DIS) Alcohol and Dug Modules • Child Well Being Scales-Revised (CWBS) • Overt Hostility Inventory (OHI) • Composite International Diagnostic Interview (CITI) • Client Cultural Competence Inventory (CCCI) • Client Satisfaction Survey • Monthly Service Utilization Report (MSUR) • Demographic Questionnaire • Child Welfare Referrals and Out-of-Home Placements, Child welfare report data
Study Implementation	• Data were collected at three time periods: baseline (before randomization to groups), post services, and 6 months after the end of services. • The treatment group received SafeCare Augmented services. The comparison group received standard home-based mental health services (SAU), which included individual and family therapy and case management from the state's Department of Human Services. • SafeCare Augmented was adapted for use in the study's rural setting. This included selecting providers already established in the community; these providers were considered knowledgeable about local resources. • The study team expected that study participants would receive additional services, outside of the study parameters. • SafeCare Augmented providers received training and oversight for model fidelity. Oversight was provided by staff who were certified by the program's national developers.
Staff Qualifications	• SafeCare Augmented providers had Bachelor's degrees. They also received initial and ongoing training in Motivational Interviewing, as well as annual training in coding the Child Well Being Scales-Revised. • The SafeCare Augmented team had access to local experts in intimate personal violence, substance abuse, and mental health. • Data collectors utilized Audio Computer Assisted Self Interviews (ACASI) for self-report measures. Data collectors were trained in data collection procedures, cultural sensitivity and competency, research ethics, legal child abuse reporting requirements, and managing safety concerns during home visits. Data collectors also had a data collection manual.
Key Findings	Use of Services

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- The study team found that treatment providers were "significantly more likely to engage families in services and provide more services" than providers in the comparison group. More specifically, 83% of treatment participants completed service intake, compared to 33% of comparison group participants. In addition, the treatment program recorded more hours of service (36 hours for the treatment group, compared to 8 hours for the comparison group).

Referrals and Connections

- The treatment program was "significantly more likely to refer and link families to additional services," compared to the comparison group ($p<.01$). For example, treatment participants "were referred for basic needs (utilities 10%, food 29%, housing 4%), services to address mental health (15%), substance abuse (2%), domestic violence (2%), developmental disability (4%), programs for children (school 10% and assessment services 4%), and other services (e.g., clothing, 29%)."

Child Welfare Reports

- The study team reported that 20.8% of treatment and 31.5% of comparison group participants experienced a "future referral to child welfare." Among participants with at least one referral, the median length of time until first report in the treatment group was 200.5 days while the median length of time before the first report in the comparison group was 103 days. The study team reported "the large number of individuals never experiencing a report resulted in a non-statistically significant difference between event history curves."
- One treatment participant had a report beyond 300 days after study enrollment, compared to five comparison group participants.

Future Reporting

- The study team controlled for baseline risk factors that included: prior number of referrals, age of youngest child at referral, hours of service, prior involvement with prevention services, intake completed, household monthly income, total number of children in the home, married or living with a partner, White, education level, length of stay in current community, number of moves in last five years, reported concurrent treatment programs, and participant age.
- When covariates were controlled (either singly or in combination), the study team did not find a significant group effect.

Referrals for Neglect

- The study team found that, among participants with at least one referral for neglect, the median length of time until a first report for the treatment group was 200 days. The median length of time until a first report for the comparison group was 90 days. The study team reported "these differences did not produce statistically significant event time results."

Domestic Violence Reports

- The study team found that there were no domestic violence reports for the treatment group and seven reports for the comparison group. The study team reported "a statistically significant difference in survival" between treatment and comparison groups ($p<.01$).

Parent Report of Outcomes

- The study team reported that treatment participants reported greater improvements in parenting behaviors, compared to comparison group participants.
- The study team reported "within-group improvements" within the treatment group for: family resources, social support, child abuse potential, depression, and nonviolent parenting strategies.
- The study team reported that treatment participants had "short-term improvement in use of nonviolent parenting strategies," compared to the comparison group participants.
- The study team failed to find group differences in "risk and protective factors or reports to child welfare, except domestic violence reports."

Review of Descriptive and Non-Experimental Studies

None

End Notes

[i] Silovsky, J. F., Bard, D., Chaffin, M., Hecht, D., Burris, L., Owora, A., Beasley, L., Doughty, D., & Lutzker, J. (2011). Prevention of child maltreatment in high-risk rural families: A randomized clinical trial with child welfare outcomes. Children and Youth Services Review, 33, 1435-1444.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

SafeCare

Goals

The program was developed to reduce the incidence and severity of abuse or maltreatment. SafeCare is intended to complement the more specialized intervention services families might be receiving from other agencies.

Program Features

SafeCare was developed as a more streamlined version of Project 12-Ways, which was designed to address behaviors that can lead to child abuse and neglect. SafeCare provides parent training in parent-child/parent-infant interactions, infant and child health, and home safety. The model emphasizes learning in a social context and uses behavioral principles for parent training across three modules. Trained counselors deliver direct services to families in their homes.

SafeCare home-visiting services typically include 18 to 22 weeks of training to parents. Trained home visitors conduct 60- to 90-minute weekly or biweekly home visits focusing on three modules: (1) parent-child/parent-infant interactions, (2) infant and child health, and (3) home safety. All SafeCare modules include baseline assessments and observations of parental knowledge and skills, parent training, and follow-up assessments to monitor change. The training is designed to promote generalization of skills across time, behaviors, and settings.

SafeCare Home Visiting Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:** California Evidence-Based Clearinghouse for Child Welfare, Maternal, Infant, and Early Childhood Home Visiting (MIECHV); Child Welfare Information Gateway; and Promising Practices Network
- **Research supports** use with families with children aged birth to 5 years with a history of child maltreatment or risk factors for child maltreatment
- **Related Smart Start outcomes:**
  - Increase in parent knowledge
  - Increase in positive parenting practices
- **Purveyor training required:** Yes
- **Frequency:** Weekly or bi-weekly
- **Dosage:** 18 to 20 weeks
- **Implementation Guidance:** http://safecare.publichealth.gsu.edu/

Target Audience

SafeCare is designed for families with children aged birth to 5 years with a history of child maltreatment or risk factors for child maltreatment, including young parents; parents with multiple children; parents with a history of depression or other mental health problems, substance abuse, or intellectual disabilities; foster parents; parents being reunified with their children; parents recently released from incarceration; and parents with a history of domestic violence or intimate partner violence. The program also serves parents of children with developmental or physical disabilities, or mental health, emotional, or behavioral issues.

Documented Outcomes

		Parent Outcomes				
		Reduced Recidivism*	Increase in Knowledge**	Reduction in Hazards	Planned Activities Training	Positive Parental Behavior*
Chaffin et.al. (2014)[i]	Experimental, randomized cluster design	✓				
Gershater-Molko et.al. (2003)[ii]	Non-experimental; single-case study		✓	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in positive parenting practices*
**Aligned with Smart Start outcome *Increase in parent knowledge*

Research Evidence for SafeCare Home Visiting

- The program is associated with reduced recidivism, and may be enhanced with additional coaching.
- The program also is associated with parent outcomes such as use of planned activities and positive parenting strategies. The program was not, however, associated with outcomes for the indicator "Following of Instructions by Child."

Review of Experimental and Quasi-Experimental Studies

Citation	**Chaffin, M., Hecht, D., Bard, D., Silovsky, J., & Beasley, W. H. (2012). A statewide trial of the SafeCare home-based services model with parents in child protective services. Pediatrics, 129(3), pp. 509-515.**
Population and Sample	The study incorporated 2,175 maltreating parents/caregivers who were enrolled in a statewide system of home-based services operated by community-based agencies under contract with Child Protective Services (CPS). Parents were all nonsexual abusers. Study participants were randomized at the agency/region level to SafeCare (SC) intervention-coached (C) or SC-uncoached (UC) conditions or services as usual-coached (SAU) or SAU-uncoached conditions. Home visiting teams also were randomly assigned coached or uncoached conditions. The customary SC inclusion criteria are a preschool-aged child in the home and no untreated substance use disorder. However, because the study was conducted within a more inclusive service system, families with children up to age 12 were served (irrespective of untreated substance abuse). Fifty-five percent of the sample met customary SC inclusion criteria. For the home visits, 21% of the sample was assigned to SAU/UC, 25% was assigned to SAU/C, 30% was assigned to SC/UC, and 25% was assigned to SC/C. For cases, 23% was assigned to SAU/UC, 24% to SAU/C, 28% to SC/UC, and 25% to SC/C.
Methodology	Experimental, randomized cluster design
Purpose	In this trial, Child Protective Services (CPS) recidivism outcomes were compared between the home-based SafeCare (SC) model for child neglect and comparable home-based services, but without SC modules, for parents in the CPS system across two quality control strategies: coached (C) and uncoached implementation.
Measures & Assessments	• Child Abuse Potential Inventory • Family Resources Scale • Beck Depression Inventory • Social Provisions Scale • Alcohol and Drug Disorders Modules of the Diagnostic Interview Schedule • CPS reports were extracted from a statewide CPS database
Study Implementation	• The only difference between the SC and SAU home visiting services was the SafeCare modules themselves. • Baseline assessments were completed prior to beginning services with post-data collected at the end of

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	training. • Follow-up for recidivism using CPS data continued for about 6 years following the end of training. A recidivism event was defined as any report occurring after study enrollment.
Staff Qualifications	• All home visitors in SC and SAU conditions were trained in basic motivational interviewing and domestic violence safety planning skills and had access to emergency funds to help families meet basic concrete needs.
Key Findings	• The study team reported effect size as a hazard ratio (HR), which can be interpreted similarly to risk ratios. The study team also reported 95% confidence intervals. • The study team conducted preliminary single-event, survival analyses and found a significant interaction in favor of the SC/C approach (no covariates or propensity strata were applied). When client-level covariates were added to the analysis, the covariates attenuate the interaction, in favor of a SC main effect. A SC main effect was found when similar analyses were conducted for recurrent events. • In the 4-strata analyses (comparing SU/C, SU/UC, SAU/C, SAU/UC), the study team found a significant pooled main effect in favor of SC, and also in favor of coaching. Across strata, the study team found a SC main effect but not a coaching effect. • When the study team examined the customary SC inclusion-criteria compliant sub-group, they found a significant SC effect for the 4-strata analyses, but did not find a significant coaching effect. • The study team added cross-level compliance by treatment condition interactions (within propensity strata for the 2-level, 4-strata model). The study team found a significant compliance main effect (i.e., individuals who complied with treatment, in both conditions, exhibited lower recidivism). There were not significant differences between SC and SAU groups with regard to compliance effects. • Consistently significant main effects in favor of SafeCare were found. Larger effects were found among the subpopulation meeting customary SafeCare inclusion criteria. • Coached implementation yielded smaller and in some cases significant effects in analyses that included more diverse cases falling outside customary SafeCare inclusion criteria.

Review of Descriptive and Non-Experimental Studies

Citation	**Gershater-Molko, R. M., Lutzker, J. R., & Wesch, D. (2003). Project SafeCare: Improving health, safety, and parenting skills in families reported for, and at-risk for child maltreatment. Journal of Family violence, 18(6), pp. 377-386.**
Population and Sample	The study incorporated 80 families at risk for or with histories of child maltreatment who completed training in health care skills. Of the original 80, 52 also completed the safety-training component, and 41 completed parent–child interactions training. The project used two sources of referrals: the Department of Children and Family Services (DCFS; referred families that had recent reports of child maltreatment; maltreating families) and a local hospital (referred families considered at-risk for child maltreatment but without a history of child maltreatment; at-risk families). A total of 266 families initially were referred to the project. However, a significant proportion of these families dropped out of the program without completing the assessment or intervention.
Methodology	Non-experimental; single case study
Purpose	The intervention goals of Project SafeCare were to improve parenting skills and reduce future occurrences of maltreatment. The purpose of this study was to examine the aggregate of pre/post differences in the three training components of all families who completed each component.
Measures & Assessments	• Health Knowledge Questionnaire • Social Validation Questionnaire • Home Accident Prevention Inventory-Revised (HAPI-R) • Planned Activities Training (PAT) Checklist • Observations
Study Implementation	• The entire program from the first day of face-to-face contact until the completion of training in all three components was designed to last approximately 24 weeks. The three training components of Project SafeCare were generally taught sequentially, beginning with health training, followed by safety training, and then parenting. If a family presented a hazardous home environment, however, safety was trained first. • Each of the intervention components was taught over the course of five sessions. If the family was unable to meet the training criterion of each component within this period, one additional training session in that component was provided, with a maximum of six training sessions per component. The parents' performance in achieving the goals of each of the three teaching components was assessed individually using direct observation in role-play situations.

	• Baseline measures for health were completed on the first day of contact, with baseline measures of safety completed at the end of health training, and baseline measures of parenting completed at the end of safety training.
Staff Qualifications	• Training in model implementation was provided Health Training for Families • Training was provided by graduate assistants (59 of 80 families), DCFS caseworkers (5 families), a combination of caseworker and graduate assistant (3 families), and a combination of video training and a graduate assistant (13 families). Safety Training • Training was provided by graduate assistants and video. • Among the at-risk population, nine families completed training. Seven of the nine received training from graduate assistants while two received video training. • Among the maltreating population, 43 families completed training. Thirty-seven of the 43 received training from graduate assistants while six received video training. Parenting Skills • Parenting skills were modeled by research assistants. Parents then "practiced using positive and appropriate parenting skills during these activities." Parent-Child/Parent-Infant Interactions Training • Parent-Child/Parent-Infant Interactions Training was completed by 41 families (34 completed Parent-Child Interactions while 7 completed Parent/Infant Interactions). • Training was provided by graduate assistants and video.
Key Findings	Health Training • For the health training, the study team used a criterion of 100% correct performance across three consecutive role-play scenarios within one session. • Among maltreating families: 91% of those trained by graduate students, 100% of those trained by caseworkers, 33% of those trained by a combination of caseworker and graduate assistant, and 67% of those trained by video and graduate assistant met the training criterion. • Among at-risk families: 100% of those trained by graduate students and 100% of those trained by a combination of video and graduate students met the training criterion. • Of the 80 families completing the health training, 88% met the training criterion of 100% correct responses across three consecutive role-play scenarios in the final training session for health. The scores for the remaining families increased but did not meet the 100% performance criterion. Safety Training • Fifty-two families completed the safety component of the training. Of these: 55% of maltreating families and 30% of at-risk families met the criterion of 85% reduction in hazards in their homes. • Among the maltreating families, there was a 78% mean percent reduction in overall number of hazards within the home. • Among at-risk families, there was a 70% mean percent reduction in overall number of hazards within the home. Planned Activities Training • Data from 34 families was used to assess Planned Activities Training. Data were not included from at-risk families, however, as the data were incomplete. • The study team found significant increases in parents' use of Planned Activities Training techniques ($p<01$), wherein the baseline mean score was 50 and the post-training score was 92. Positive Parental Behavior • Data on 41 participants were used to assess Positive Parental Behavior. Data were not included from at-risk families, however, as the data were incomplete. • The study team found significant increases in Positive Parental Behaviors ($p<01$), wherein the baseline mean score was 64 and the post-training score was 74. Following of Instructions by Child • Data from 34 families was used to assess Following of Instructions by Child. Data were not included from at-risk families, however, as the data were incomplete. • The study team did not find significant increases in Following of Instructions by Child, wherein the baseline mean score was 69 and the post-training score was 85.

End Notes

[i] Chaffin, M., Hecht, D., Bard, D., Silovsky, J., & Beasley, W. H. (2012). A statewide trial of the SafeCare home-based services model with parents in child protective services. Pediatrics, 129(3), pp. 509-515.

[ii] Gershater-Molko, R. M., Lutzker, J. R., & Wesch, D. (2003). Project SafeCare: Improving health, safety, and parenting skills in families reported for, and at-risk for child maltreatment. Journal of Family violence, 18(6), pp. 377-386.

Additional Resources

https://safecare.publichealth.gsu.edu/files/2015/04/Overview-of-SafeCare-brochure-3-16-15.pdf

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Targeted Short-Term Home Visiting

Goals

The goals of targeted, short-term, home visiting interventions reviewed below are to help parents (who may have multiple risk factors) address problematic child behaviors through improvements in positive parenting practices.

Targeted Short-Term Home Visiting Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse rating:** None
- **Research supports** use with high risk families with infants and toddlers
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
  - More children on track for typical and/or enhanced development
- **Suggested Assessments:**
  - Eyberg Child Behavior Inventory
  - Child Behavior Checklist

Program Features

Targeted, short-term, home visitation programs may vary in approach as well as the risk factors displayed by parents and children, which may include: poverty, mental health issues, history of domestic violence in the home, either parent having a history of abuse with other children, etc.

The home visitors may be social workers or trained paraprofessionals who provide several home visits based on the needs of the families. These providers will make referrals and help families link to other community resources based on their unique needs.

This summary contains information on different approaches to providing targeted, short-term, home visitation services. For the purposes of this review, short-term home visiting refers to programs that run approximately 6 months or less. The interventions reviewed here included between 3 and 8 home visits per family.

Target Audience

Parents of young children who are exhibiting or at risk of problem behaviors

Special Note

Many programs that are targeting parents based on a variety of risk factors choose to use long-term home visiting. When parents are dealing with a variety of challenges, the research has shown that more long-term intensive work with families is required. For example, Healthy Families America, Nurse-Family Partnership, and Parents as Teachers offer intensive home visiting in some cases for up to five years. These long-term home visiting programs have a great deal more evidence generally having a rating of Evidence-Based.

Documented Outcomes

	Type of Study	Parent Outcomes		Child Outcomes	
		Parental Sensitivity	Positive Parenting Practices*	Child Behavior Problems**	Child Attachment Behavior**
Moss et.al. (2011)[i]	Experimental	✓			✓
Dishion et.al. (2008)[ii]	Experimental		✓	✓	
Gardner et.al. (2007)[iii]	Experimental		✓		
Bagner et.al. (2013)[iv]	Non-experimental		✓		

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in positive parenting practices*
**Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for Targeted Short-Term Home Visiting

- Targeted, short-term, home visitation can be effective for families in which children have exhibited problem behaviors.
- Short-term programs typically offer a few sessions, targeting specific parenting or behavioral issues.

Review of Experimental and Quasi-Experimental Studies

Citation	**Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsy, G. M., St-Laurent, D., & Bernier, A. (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: A randomized control trial. Development and Psychopathology, 23, pp. 195–210.**
Population and Sample	The study included 67 parent-child dyads were randomly assigned to treatment (n=35) and control (n=32) groups.
Methodology	Experimental with random assignment
Purpose	The study's goal was to determine the effectiveness of a short-term home visitation program on risk of child maltreatment. The study addressed the following hypotheses: (1) **At posttest, in comparison with the control group, the intervention group will show an increase in parental sensitivity, an increase in the proportion of children showing secure (B) versus insecure (A, C, and D combined) attachment to the caregiver, and a decrease in the proportion of children showing disorganized (D) versus organized (B, A, and C combined) attachment.** (2) **The intervention would act as a protective factor in decreasing the vulnerability of maltreated children to the development of behavior problems.** **The team also was able to address the moderating role of child age on outcome measures.**
Measures & Assessments	• Maternal Behavior Q-Set • Strange Situation Procedure for children age 12-24 months • Preschool Separation–Reunion Procedure for children age 2-6 years • **Child Behavior Checklist**
Study Implementation	• Participants were recruited through child welfare and community service agencies that were asked to refer clients who were a) the primary caregiver (biological mother or father) of a child between 12 and 71 months and were presently living with the child, b) primarily French speaking, c) not participating in any other parent-child oriented treatment program, and d) being monitored by a community (n=13) or child welfare agency (n=54) for child maltreatment. Legal involvement was not considered necessary in cases of community monitoring because a parent or clinical worker reported the maltreatment and the family agreed to receive parenting services and monitoring by a specially designated community organization. Participating parents signed an informed consent, which explained randomization and data use from all sessions for research purposes. • Participating families completed pretest measures during a 2-hour home and 1-hour lab visit, scheduled approximately 1 week apart. Following completion of the pretest assessments, families were randomly assigned to the intervention or control group using a simple 1:1 block allocation sequence. • One week after completing the pretests, the 8-week home visiting program focused on the caregiver-child relationship and caregiver sensitivity began for the intervention group. The home visits included brief discussions of relevant themes (attachment, emotion, regulation) and video feedback of caregiver-child interactions. Interveners were blind to study hypotheses (excluding those concerning changing sensitivity) and pretest results. • Both intervention and control groups received the standard agency services, which consisted of a monthly visit by a child welfare caseworker. Agency standards are not uniform and usually consist of general monitoring of family conditions with respect to neglect and abuse. Caseworkers were also available to respond in crisis situations. • Approximately 10 weeks after the second pretest visit, the post-test evaluation, conducted by different

	research assistants who were blind to group assignment, took place for both groups. • A member of the project staff supervised interveners on a weekly basis with expertise in the intervention method. Some sessions were videotaped for use in supervision and to check treatment delivery against training standards.
Staff Qualifications	• Four clinical workers with experience (3 with more than 10 years, 1 with less than 5 years) in child welfare settings were trained by attachment experts to observe and understand attachment behavior in infants, toddlers, and preschoolers. Three of the workers had bachelor degrees in psychology and one had a master's degree.
Key Findings	• There were significant improvements in parental sensitivity and child attachment security in the treatment group. • There was a significant decrease in child disorganization in the treatment group. • Older treatment group children exhibited lower levels of internalizing and externalizing problem behaviors. Parental Sensitivity • The study team found that treatment group parents exhibited higher levels of sensitivity after the intervention, compared to control group parents (d=.47, p<.05). • The study team found that child age was not a statistically significant moderator of the intervention. Child Behavior Problems • The study team found that there were not significant differences between treatment and control groups on measures of externalizing problems. • The study team found that there were not significant differences between treatment and control groups on measures of internalizing problems. • The study team found that child age significant moderated the impact of the intervention on internalizing problems (p<.01) and externalizing problems (p<.01). • The study team found that, in the treatment group, externalizing and internalizing problems decreased as children got older (p<.05). In the control group, however, externalizing and internalizing problems marginally increased with age (but was not statistically significant at p<.05). Child Attachment Behavior • The study team found that there was a statistically significant intervention effect on security scores (effect size: r=.36, p<.05). More specifically, the team found that, in the treatment group, a greater proportion of insecure children became secure, compared to the control group. Further, in the treatment group, a smaller proportion of children remained insecure, compared to the control group. • The study team found that there was a statistically significant intervention effect on child disorganization (effect size: r=.37, p<.05). More specifically, the team found that, in the treatment group, a greater proportion of disorganized children became organized, compared to the control group. Further, one child in the treatment group became disorganized, compared to seven children in the control group. • The study team found that child age was not a significant moderator of the intervention, for child attachment (as assessed through measures of security and disorganization).

Citation	**Dishion, T. J., Connell, A., Weaver, C., Shaw, D., Gardner, F., & Wilson, M. (2008). The family check-up with high-risk indigent families: Outcomes of positive parenting and problem behavior from ages 2 through 4 years. Child Development, 79(5), pp. 1395-1414.**
Population and Sample	The study included 731 mother-child dyads randomly assigned to an intervention (Family Check-Up (FCU)/EcoFIT intervention) or control (Women, Infants, and Children (WIC) program as usual) group. Eligible and participating families were identified at WIC sites and had children ages 2 years to 2 years 11 months. Families were located in metropolitan, suburban, and rural communities.
Methodology	Experimental, with random assignment to treatment and control groups
Purpose	The study was an outcomes assessment of the Family Check-Up/EcoFIT program. The program provides linked interventions that can be tailored and adapted to family needs and targets family management in early childhood with the goal of preventing or reducing problem behaviors. Family Check-Up occurs over three sessions: an initial contact session, an assessment session, and a feedback session. Families also were provided EcoFIT services after completing the Family Check-Up. The study hypothesized that families at high risk involved in WIC and randomized to the EcoFIT would: (1) **Report reductions in problem behavior from child age 2 though age 4 years, compared with control families;** (2) **Show increases in caregiver involvement and direct observations of positive parenting practices at child age 2 and 3, compared with control participants;** (3) **Show that reductions in problem behavior would be mediated by improvements in positive parenting practices, as measured by home visitor ratings and direct observations of parent–child interaction.**
Measures & Assessments	• Center for Epidemiological Studies on Depression Scale • Child Behavior Checklist for Ages 1.5–5 • Eyberg Child Behavior Inventory
Study Implementation	• The study included families with a child between 2 years 0 months and 2 years 11 months. • Families were screened for socioeconomic, family, and/or child risk for future behavior problems. Families had to have two or more risk factors to be included in the study. • Parents received a 2.5-hour home visit. Pre-test assessments were conducted during the initial home visit. Home visits and observations were conducted at ages 3 and 4 in both treatment and comparison groups. • Treatment group participants received the intervention with a parent consultant for two or more sessions. Treatment group participants also were offered follow-up sessions, which focused on parenting practices, other family management concerns (e.g., co-parenting), and contextual issues (e.g., child care resources, marital adjustment, housing, vocational training). • Consultants were trained for 2.5-3 months with a combination of techniques (including didactic instruction, role-playing, and ongoing videotaped supervision of intervention activity to ensure fidelity). The team also conducted weekly cross-site case conferences via videoconferencing to further enhance fidelity. Finally, the team conducted annual meetings, to provide updates to training.
Staff Qualifications	• Parent consultants were PhD and master's-level service workers with previous experience implementing family-based interventions but no experience using FCU. • The initial certification of parent consultants included reviews of videotapes of feedback and follow-up intervention sessions.
Key Findings	• There was a decrease in reported problem behaviors in treatment group families, compared to the control group. • Families in the treatment group exhibited improvements on all measures of positive parenting. • Improvements in positive parenting mediated improvements in child behavior. Eyberg Problem Behavior Scale • The study team found that there were significant intercept and slope values as well as significant residual variance in the intercept and slope parameters. Further, the team found that there was a significant intervention effect on the rate of change in problem behavior. More specifically, the team found that "there was more growth in problem behavior in the control group compared with the intervention group." CBCL Externalizing Scale • The study team found that there were significant intercept and slope values as well as significant residual variance in the intercept and slope parameters. Further, the team found that there was a significant intervention effect on the rate of change in problem behavior. As with the Eyberg Problem

	Behavior Scale, the team found that there was "more growth in problem behavior in the control group." Moderators • The study team found that gender was not a significant moderator of the Eyberg Problem Behavior and Externalizing Behavior Problem scales. • The study team found that ethnicity was not a significant moderator of the Eyberg Problem Behavior and Externalizing Behavior Problem scales. Positive Parenting Practices • The study team found that treatment group participants exhibited "statistically reliable improvements in observed positive parenting." Positive Parenting and Child Problem Behavior • When using the CBCL Externalizing Problem Behavior scale, the study team found that "the direct effect of intervention on the problem behavior slope was not significant with maternal symptoms included in the model." Further, the team found that "Treatment significantly predicted improvements in positive parenting from child age 2 to 3. More positive parenting predicted less growth in problem behavior. The indirect effect from intervention to more positive parenting to decreased growth in problem behavior was statistically significant, although small in magnitude, indicating a significant partial mediation effect of positive parenting." • When using the Eyberg Child Behavior Inventory, the study team found that "The direct effect of intervention on the problem behavior slope was not significant with positive parenting in the equation. The family-centered intervention significantly predicted improvements in positive parenting from child age 2 to 3. More positive parenting predicted less growth in problem behavior in early childhood. The indirect effect from intervention to more positive parenting to less growth in problem behavior was statistically reliable."

Citation	**Gardner, F., Shaw, D. S., Dishion, T. J., Burton, J., & Supplee, L. (2007). Randomized prevention trial for early conduct problems: effects on proactive parenting and links to toddler disruptive behavior. Journal of Family Psychology, 21(3), pp. 398–406.**
Population and Sample	The study included 120 low-income 2-year-old boys and their mothers randomly assigned to intervention (n=60) and control (n=60) groups. Families were recruited at Women, Infants, and Children (WIC) Nutritional Supplement Program sites.
Methodology	Experimental, with randomized assignment to treatment and control groups.
Purpose	This was a prevention trial of the effectiveness of a brief, multi-faceted, family-centered intervention designed to reduce disruptive behavior. The study addressed the following questions: (1) Does a brief parenting-focused intervention in low-income toddlers at high risk for conduct problems lead to increases in positive and proactive parenting from ages 2 to 3? (2) To what extent do changes in proactive and positive parenting contribute to change in child disruptive behavior from ages 2 to 3, independent of effects of negative parenting?
Measures & Assessments	• Child Behavior Checklist, 2-3 • Eyberg Behavior Inventory • Parent-child video-recorded observations
Study Implementation	• The study included parents who had a son between 17 and 27 months of age. • Parents were screened for risk factors. Parents had to have at least two risk factors to participate in the study, including socioeconomic, family, and/or child risk for conduct problems. • The treatment group received the home-based Family Check-Up (FCU) program. The control group received WIC food vouchers but no intervention from therapists. After completing the program, treatment group participants were offered follow-up sessions that focused on "parenting practices and other contextual issues (e.g., child care, marital adjustment, housing). Pre-assessments and observations were completed during the initial home visit. • Parents in both treatment and comparison groups received a follow-up visit after approximately 12 months. Post-assessments were conducted during this follow-up visit. • The study team videotaped sessions for use in supervision. These included both face-to-face and video-conference meetings. In addition, therapists used a written manual and the program's book as a guide

	for providing parenting support.
Staff Qualifications	• Two master's-level therapists were trained and supervised by the intervention developers.
Key Findings	• There was an increase in proactive and positive parenting skills in treatment group parents. Increases in proactive and positive parenting were associated with changes in disruptive behavior (borderline significant mediating effect). Change in Parenting and Child Behavior Following Intervention • The study team found that there was a "developmental trend across time was for maternal proactive–positive and negative strategies to increase between ages 2 and 3." However, the team found that there were statistically significant differences between the treatment and comparison groups with regard to gains in proactive and positive parenting between ages 2 and 3, with greater gains exhibited in the treatment group (p=.037). • The study team noted that "Observed negative parenting did not change as a result of the intervention." Predicting Change in Child Behavior From Change in Parenting • The study team found that "increases in proactive and positive parenting strategies from ages 2 to 3 predicted improvement in CBCL Destructive scale scores across the same period" (r=.21, p=.015). In comparison, the team found that "Change in negative parenting did not predict change in child CBCL Destructive." • The study team examined inter-correlations between proactive parenting, child destructive behavior and intervention status. The team found that all three variables are inter-correlated, as follows: "treatment status is related to change in proactive parenting (r = .18, p= .037) and change in CBCL Destructive (r = .26, p = .004); change in proactive parenting is related to improvement in CBCL Destructive (r = .21, p = .015). • The study team found that "proactive parenting did not significantly mediate treatment effects, although there was a suggestion of a trend in that direction (p = .07). Instead, it appears that change in proactive and positive parenting was associated with change in child outcome in both intervention and control groups," and that "There was no association between child destructive behavior at age 2 and negative or positive parenting at age 3."

Review of Descriptive and Non-Experimental Studies

Citation	**Bagner, D. M., Rodriguez, G. M., Blake, C. A., & Rosa-Olivares, J. (2013). Home-based preventive parenting intervention for at-risk infants and their families: An open trial. Cognitive and Behavioral Practice, 20, pp. 334-348.**
Population and Sample	The study included seven 12- to 15-month-old infants and their families. Families were recruited from a large pediatric primary care clinic with high Hispanic representation. Six of the 7 families completed the intervention
Methodology	Non-experimental
Purpose	The study's goal was to determine the feasibility, acceptability, and early outcomes of a home-based intervention designed to prevent externalizing problem behaviors.
Measures & Assessments	• Therapy Attitude Inventory (TAI) • Dyadic Parent-Child Interaction Coding System–Third Edition • Infant-Toddler Social and Emotional Assessment • Child Behavior Checklist for 1½- to 5-Year-Olds
Study Implementation	• The intervention involved the use of an adapted version of Parent-Child Interaction Therapy (PCIT), which was designed to strengthen the parent-child interaction to change child behavior. PCIT progresses through two phases: Child Directed Interaction (CDI) where the parents learn to follow their child's lead in play and use differential attention to strengthen the parent-child relationship; and Parent Directed Interaction (PDI), where parents learn to use effective commands and time-out for noncompliance. Because PDI is developmentally inappropriate for infants, the adaption focused on the core features of CDI while addressing the developmental needs of infants.

	• Families meeting the screening criteria were contacted to arrange for baseline assessments, following which all families received the home-based intervention weekly for an average of 6 1-hour sessions. Parents were expected to practice the skills daily in a 5-minute infant-led play in between sessions. • Following the intervention and approximately 2 months after the baseline, families were seen for the post-intervention assessment in their home, which included the same measures completed at baseline with an additional measure of program satisfaction. • Families participated in a home-based follow-up assessment that occurred between 4 and 6 months after the post-intervention assessment. Families were reimbursed $50 for their participation in each assessment, totaling $150 for their involvement in the entire study. • The first author, a PCIT Master Trainer, trained graduate students. • Graduate students participated in weekly group supervision to discuss each case along with the first author, and all sessions were audiotaped and later coded for therapist adherence to the intervention manual.
Staff Qualifications	• B.A.-level graduate students in clinical psychology under the supervision of and along with the first author and licensed clinical psychologist.
Key Findings	• All participating mothers documented significant improvements in parent-child interactions • Participating mothers documented significant improvements in infant behavior problems Outcome Trends for Parenting Skills • The study team found that "mothers significantly increased their use of the "do" skills and significantly decreased their use of the don't skills." Both the increase in use of "do" skills and decrease in use of "don't" skills were significant at p<.001, at the time of the post-intervention assessment. The increase in use of "do" skills was significant at p<.05 and decrease in use of "don't" skills was significant at p<.001 at the time of the follow-up assessment. Outcome Trends for Infant Behavior • The study team found that, on the ITSEA Externalizing Scale, "changes between baseline and follow-up approached significance with an effect size of 1.34." • The study team found that, on the ITSEA Dysregulation Scale, "Changes between the baseline and follow-up also approached significance with an effect size of 1.37." • The study team found that, on the CBCL (administered only at the follow-up due to the age criterion (i.e., 18 months), "all infants were below the clinical cutoff on the externalizing scale (i.e., T-scores of 63) and 5 of 6 were below the clinical cutoff on the emotionally reactive scale (i.e., T-score of 65)." The team also made comparisons "between the baseline ITSEA externalizing and dysregulation scales and the follow-up CBCL externalizing and emotionally reactive scales" and found that "both comparisons were statistically significant with effect sizes of 1.78 and 1.42, respectively." Both effect sizes were statistically significant at p<.01.

End Notes

[i] Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsy, G. M., St-Laurent, D., & Bernier, A. (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: A randomized control trial. Development and Psychopathology, 23, pp. 195–210.

[ii] Dishion, T. J., Connell, A., Weaver, C., Shaw, D., Gardner, F., & Wilson, M. (2008). The family check-up with high-risk indigent families: Outcomes of positive parenting and problem behavior from ages 2 through 4 years. Child Development, 79(5), pp. 1395-1414.

[iii] Gardner, F., Shaw, D. S., Dishion, T. J., Burton, J., & Supplee, L. (2007). Randomized prevention trial for early conduct problems: effects on proactive parenting and links to toddler disruptive behavior. Journal of Family Psychology, 21(3), pp. 398–406.

[iv] Bagner, D. M., Rodriguez, G. M., Blake, C. A., & Rosa-Olivares, J. (2013). Home-based preventive parenting intervention for at-risk infants and their families: An open trial. Cognitive and Behavioral Practice, 20, pp. 334-348.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Triple P

Level 1

Levels 2, 3, 4, 5

Goals

The goals of the Triple P – Positive Parenting Program are the following: 1) to prevent behavioral, emotional, and developmental problems in children, 2) to enhance the knowledge, skills, and confidence of parents, and 3) to reduce the use of corporal punishment (Triple P America, n.d.).

Triple P Snapshot

- **EC Profile Indicator:** FS30 - Percent of children age 0-5 with an investigated report of child abuse/neglect
- **Clearinghouse Rating:**
  - California Evidence-Based Clearinghouse Rating of 2 (supported by research evidence) for the Triple P system and 1 (well-supported by research evidence) for Triple P Level 4
  - SAMHSA National Registry of Evidence-Based Programs and Practices
  - Promising Practices Network rating of Promising
- **Research supports** use with parents of children ages birth through preschool
- **Related Smart Start outcomes:**
  - Increase in positive parenting practices
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Suggested Assessments:**
  Level 4 - Triple P Parenting Scale
  Level 3 - Triple P Parenting Experience Survey
  Level 2, 3, 4 – Triple P Caregiver Satisfaction Questionnaire
- **Implementation Guidance:**
  http://www.triplep- america.com.

Program Features

The Triple P uses a multi-level parenting and family support strategy (Triple P America, n.d.). The program targets the developmental periods of infancy, toddlerhood, pre-school, elementary school, and adolescence. Within each developmental period, the intervention varies from being very broad (targeting an entire population) to quite narrow (targeting only high-risk children). Triple P incorporates five levels of intervention of increasing strength for parents (Triple P America, n.d.). Triple P includes universal and group parent education, as well as home-visiting strategies. Although it is included under Parent Education, the model also includes practices generally reviewed in t-he Home-Visiting Programs section.

- Level 1 is a form of universal prevention that delivers information on parenting skills to interested parents using print and electronic media.
- Level 2 involves brief, individual or seminar-based consultation with parents and caregivers. These interventions provide topic-specific guidance to parents of children with mild behavior difficulties with the aid of parenting tip sheets and videotapes that demonstrate specific parenting strategies.
- Level 3 is a four-session intervention targeting children with mild to moderate behavior difficulties and includes active skills training for parents.

- Level 4 interventions are more intensive and are conducted with individual parents, groups of parents, or by guiding parents who are using a Triple P self-help parenting book. Level4
- interventions last from 8 to 10 sessions and are for parents of children with more severe behavioral difficulties.
- Level 5 is for parents and caregivers experiencing relationship conflict, parental depression, or high levels of stress. These parents often benefit from a more intensive family intervention program.

For more information regarding Triple P – Positive Parenting Program use this link: http://www.triplep- america.com.

Target Audience

For the first intervention level, all parents of children birth through preschool are the target audience. For the other intervention levels, parents of children birth through preschool with behavioral, emotional, and developmental problems are the target audience.

Documented Outcomes

	Type of Study	Parent Outcomes					Child Outcomes	
		Parenting practices*	Parenting satisfaction and efficacy	Parental adjustment	Parental relationship	Parent observational data	Social, emotional, and behavioral outcomes**	Child observational data
Sanders et. al. (2014)[i]	Meta-analyses	✓	✓	✓	✓	Long-term only	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in positive parenting practices*
**Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

In addition, each level has been liked to specific outcomes:

	Parent Outcomes				Child Outcomes	
	Parenting practices*	Parenting satisfaction and efficacy	Parental adjustment	Parental relationship	Social, emotional, and behavioral outcomes**	Child observational data
Level 1		✓			✓	
Level 2	✓	✓	✓	✓	✓	✓
Level 3	✓	✓	✓	✓	✓	
Level 4	✓	✓	✓	✓	✓	✓
Level 5	✓	✓	✓	✓	✓	✓

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Research Evidence for Triple P

- This program has been linked to positive changes in parenting skills, child problem behaviors, and parental well-being.

Review of Experimental and Quasi-Experimental Studies

See Meta-Analyses

Review of Meta-Analyses

Citation	**Sanders, M. R., Kirby, J. N., Tellegen, C. L., & Day, J. J. (2014). The Triple P-Positive Parenting Program: A systematic review and meta-analysis of a multi-level system of parenting support. Clinical Psychology Review, 34, pp. 337–357.**
Population and Sample	101 experimental, quasi-experimental, and non-experimental studies
Methodology	Meta-analysis
Purpose	This systematic review and meta-analysis examined the effects of the multilevel Triple P-Positive Parenting Program system on a broad range of child, parent and family outcomes. Multiple search strategies identified 116 eligible studies conducted over a 33-year period, with 101 studies comprising 16,099 families analyzed quantitatively. Moderator analyses were conducted using structural equation modeling. Risk of bias within and across studies was assessed.
Measures & Assessments	• Varied across studies
Study Implementation	• A search of the research literature was conducted to obtain relevant studies. • Researchers extracted data (means, standard deviations, sample sizes for each group at pre- and post-intervention, and at the longest follow up time point); study characteristics (Triple P levels, trial design (RCT, uncontrolled, cluster randomized, quasi-experimental), groups included in the trial, variant of Triple P (e.g., Group Triple P), sample criteria, measurement time points, sample size, study approach (universal, targeted, or treatment), child age and age range, percentage of boys, level of developer involvement, country in which the study was conducted, attrition rates at post-intervention, number of fathers included, parent and child outcome measures); and moderator analyses (target child developmental disability if present, pre-intervention scores on child measures, whether study was published or not, delivery format, program variant, length of longest follow up period, and coding information for rating on the Downs and Black scale). • Effect sizes were calculated.
Staff Qualifications	• Not addressed
Key Findings	<u>Qualitative results</u> • Early studies found that parents could "generalize" their skills for managing child behavior in one setting, to another setting. • Early studies assessed the program across a range of issues ("children with oppositional defiant disorder, conduct disorder, children with chronic headaches, children with persistent sleeping difficulties, children with a developmental disability, and children who were frequently stealing and lying") and found positive results. • A quasi-experimental study of Level 4 Group Triple P found that participating parents reported "significantly fewer conduct problems (d= 0.83), less dysfunctional parenting (d= 1.08), and lower levels of parental distress (d = 0.38) and marital conflict (d = 0.19)" than comparison parents, at post-intervention and at follow-up one and two years after the intervention. • The Every Family study, which incorporated different levels of Triple P in 10 catchment areas (over a two year period), was associated with parents who reported "greater reductions in behavioral and emotional problems in children (22% reduction), coercive parenting (32% reduction), and parental depression and stress (26% reduction)" than parents who lived in catchment areas where Triple P was not available.

- In South Carolina, 18 counties were randomly assigned to Triple P (while other counties had a "care-as-usual" approach). The Triple P counties, after intervention, "observed significantly lower rates of founded cases of child maltreatment (d= 1.09; 16% lower than comparison counties, slowing the growth of cases), hospitalizations and injuries due to maltreatment (d = 1.14; 22% lower than comparison counties), and out-of-home placements due to maltreatment (d = 1.22; 17% lower than comparison counties."

Quantitative Results

Short-Term Results

- The study team found a significant, medium effect size for child-level social, emotional, and behavioral (SEB) outcomes (d=.473, p<.001); for parenting practices (d=.578, p<.001); for parenting satisfaction and efficacy (d=.519; p<.001); and for child observational data (d=.501, p<.001).
- There was a small-to-medium effect size for parental adjustment (d=.340, p<.001).
- There was a small effect size for parental relationship (d=.225, p<.001).
- There was "no significant overall effect size" for parent observational data (d=.026).

Individual Triple P Levels

- There were significant effect sizes for Levels 2 to 5, on all outcomes except parent observational data and Level 3 child observational data.
- There were significant effect sizes for Level 1 on SEB outcomes and parenting satisfaction and efficacy.

Long-Term Results

- There was an overall medium effect size for SEB outcomes (d=.525, p<.001); parenting practices (d=.498, p<.001; parenting satisfaction and efficacy (d=.551, p<.001); parental adjustment (d=.481, p<.001); and child observational data (d=.400, p=.009).
- There was an overall significant small effect size for parental relationship (d=.230, p<.001) and parent observational data (d=.249, p=.013).

Moderators

- The study team examined 15 moderator variables, across the five outcomes. The team found that "While most of the variables acted as a significant moderator in the data for at least one of the outcomes, there were no consistent moderators across all outcomes. The moderators that contributed unique effects after controlling for other significant moderators varied across outcomes and were: study power, study approach, Triple P level, and severity of initial child problems."

Review of Descriptive and Non-Experimental Studies

None

End Notes

[i] Sanders, M. R., Kirby, J. N., Tellegen, C. L., & Day, J. J. (2014). The Triple P-Positive Parenting Program: A systematic review and meta-analysis of a multi-level system of parenting support. Clinical Psychology Review, 34, pp. 337–357.

Additional Resources

Nowak, C., & Heinrichs, N. (2008). A comprehensive meta-analysis of Triple P-Positive Parenting Program using hierarchical linear modeling: Effectiveness and moderating variables. Clinical Child and Family Psychology Review, 11, pp. 114-144.

Triple P America. (n. d.). [Website]. Retrieved from http://www.triplep-america.com.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

ECE

Mentoring

Goals

The goals of mentoring are the following: 1) to enhance the mentee's skills and knowledge and 2) to increase the individual's professional capacity.

Mentoring Snapshot

- **EC Profile Indicator:** PLA40 - Average Star Rating for Children in 1-5 Star Care and Percent of Children in 4 and 5 star care or PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
- **Research supports** use within the early childhood professional community for a range of outcomes of interest including improved quality of child care and improved job and career satisfaction.
- **Related Smart Start outcomes:**
  - Increase/ maintain program quality
  - Improved teacher-child interaction
- **Staff qualifications:** North Carolina TA Level 11 and TA Endorsement

Practice Features

Mentoring pairs a new or less experienced early childhood professional with a peer in the same role, but who has a great deal more experience. The mentor uses a relationship-based process to provide guidance and support based on his or her experience in a similar role to the less-experienced mentee.

The ideal match between a mentor and mentee is one that is agreed upon by both parties since establishing and maintaining a positive, trusting, and respectful relationship is one of the most important features of the mentoring process.[1] The process is enhanced by establishing role clarity, setting goals, and having both planned contacts and unplanned contacts when needed by the mentee. The duration of this process in ongoing and should build on previous learning.

Mentoring programs offer new early childhood professionals a practical and supportive way to learn and grow on the job. For experienced professionals, mentoring programs create an opportunity to advance their own skills, knowledge and career goals.

Target Audience

Early care and education professionals

Documented Outcomes

	Type of Study	Improved program quality*	Improved teacher practices*	Improved teacher-child interactions**
Fiene 2002[i]	Experimental	✓	✓	✓
Zan & Donegan-Ritter (2014)[ii]	Experimental		✓	✓
Ota & Austin (2013)[iii]	Quasi-experimental		✓	
Abell et.al. (2014)[iv]	Non-experimental	✓		
Doherty et.al. (2015)[v]	Non-experimental	✓		
Korkus-Ruiz (2007)[vi]	Non-experimental	✓		✓
Onchwari & Keengwe (2008)[vii]	Non-experimental		✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase/maintain program quality*

**Aligned with Smart Start outcome *Improved teacher-child interaction*

Research Summary for Mentoring

- Mentoring has been linked to improved quality of care, teacher practices, teacher-child interactions, and job-satisfaction or positive career outcomes.

Review of Experimental and Quasi-Experimental Studies

Citation	**Fiene, R. (2002). Improving child care quality through an infant caregiver mentoring project. Child and Youth Care Forum, 31, pp. 79-87.**
Population and Sample	The study team followed 52 infant teachers from 27 child care centers (7 accredited by NAEYC). Teachers were randomly assigned to mentoring or non-mentoring groups.
Methodology	Experimental
Purpose	The study targeted the extent to which mentoring improved child care quality.
Measures & Assessments	• Infant Toddler Environment Rating Scale (ITERS) • Arnett Caregiver Observation Scale • Knowledge of Infant Development (KIDI) • Bloom Scales of Organization Climate
Study Implementation	• The treatment group received intensive mentoring from September to December 2000. • The mentoring model was a "problem-solving approach." • The comparison group did not receive mentoring during the study period but did have access to workshops and training. The comparison group received mentoring from March to June 2001.
Staff Qualifications	The study noted that the mentors were experienced early childhood professionals with at least 5 years of experience and experience as both a director and teacher. Further, the mentors spent time observing the treatment group participants and building a relationship with the participant, prior to offering advice and guidance (i.e., mentorship).
Key Findings	• The study team found the mentoring group of teachers had higher program quality at the end of the four-month mentoring project, using the Infant Toddler Environment Rating Scale and Arnett's Caregiver Interaction Scale. More specifically: o There were no significant differences for the treatment or comparison group on the overall ITERS, Arnett, KIDI, Bloom Scale Scores, between pre- and post-assessment. o Within the treatment group, there was a significant and positive change on the ITERS subscales (a) routines and (b) learning activities. o Within the treatment group, there was a significant and positive change on the Arnett subscales (a) sensitivity and (b) appropriate discipline. o Within the control group, there was a significant and positive change on the ITERS subscale interactions.

Citation	**Zan, B., & Donegan-Ritter, M. (2014). Reflecting, coaching and mentoring to enhance teacher–child interactions in Head Start classrooms. Early Childhood Education Journal, 42(2), pp. 93-104.**
Population and Sample	19 mentors from 4 Head Start sites (all in Iowa) were selected and trained. 60 teachers and assistant teachers comprising 30 teams from 30 classrooms were randomly assigned to treatment (n=38) or comparison (n=22) groups.
Methodology	Experimental
Purpose	This study assessed an 8-month program that consisted of monthly self-reflection, peer coaching, and mentoring along with bimonthly workshops that targeted Classroom Assessment Scoring System (CLASS) elements. The study addressed the following questions: (1) Do preschool teachers who participate in an eight-month long program of intensive [professional development] PD improve their interactions with children? (2) Do teachers who possess a bachelor's degree or higher make the same gains as teachers who have lower educational attainment?
Measures & Assessments	Classroom Assessment Scoring System (CLASS)
Study Implementation	• The CLASS was used to track changes in teacher-child interactions on a monthly basis. • Completed teacher reflection guides, peer coaching guides, and mentoring guides served as an indicator of implementation fidelity and dosage.
Staff Qualifications	• Head Start education supervisors selected by directors to be trained as mentors; they received training in coaching skills and ongoing support on a monthly or as-needed basis

Key Findings	• The study team found significant increases in behavior management, productivity, language modeling and quality of feedback skills, with the treatment group exhibiting significantly higher gains than the comparison group. Findings were robust across teachers with and without college degrees. • The authors concluded that teachers who received the professional development program were more likely to appropriately implement desired behaviors. • The study team found that the treatment group exhibited statistically significant changes in four of ten CLASS domains, between pre- and post-assessment. More specifically: o Mean scores in the Behavior Management domain increased significantly from 5.4 in September to 5.8 in April (p = .008). o In the Productivity domain, the intervention group's mean score increased significantly from 5.4 in September to 5.9 in April (p = .008). o Quality of Feedback increased among intervention group participants from 3.2 in September to 4.1 in April (p = .004). o Language modeling increased in the intervention group from 3.3 in September to 3.9 in April (p = .004). • The study team found that the comparison group exhibited statistically significant changes in two of ten CLASS domains. More specifically: o Negative Climate increased from a mean score of 1.1 in September to a mean score of 1.5 in April (p = .005) (Negative Climate is reverse-scored). o Regard for Student Perspective decreased in the comparison group from a mean score of 4.9 in September to a mean score of 4.4 in April. o CLASS scores in the instructional support domain did not change significantly over the course of the year. • The study team found that degreed and non-degreed teachers "teachers showed identical patterns of uptake of the PD." More specifically, the study team found that "significant differences were found in both groups for the domains of Behavior Management, Productivity, Quality of Feedback, and Language Modeling. No significant differences were found in the other six dimensions for either group. These results indicate that the CAMP Quality PD approach was equally effective for both degreed and non-degreed teachers."

Citation	**Ota, C. L., & Austin, A. M. B. (2013). Training and mentoring: Family child care providers' use of linguistic inputs in conversation. Early Childhood Research Quarterly, 28(4), pp. 972-983.**
Population and Sample	The study enrolled family child care providers at 48 sites (23 family homes, 25 family group homes), along with children who wore audio recorders to capture language practices. Teachers were assigned to either the training alone (n=32), training plus mentoring (n=32), or a control group (n=32).
Methodology	Quasi-experimental
Purpose	This quasi-experimental study targeted the effectiveness of training alone versus training in combination with mentoring. The study addressed the following questions: (1) Is there a significant difference in the frequency of family child care provider linguistic inputs after provider participation in a 10 hour training program as compared to a control group? (2) Is there a significant difference in the frequency of family childcare provider linguistic inputs after provider participation in a 10 hour training program combined with on-site mentoring as compared to a control group? (3) Is one model (training or training plus mentoring) associated with a greater increase in the frequency of provider linguistically stimulating inputs in family child care programs?
Measures & Assessments	Language practices were measured at three points in time using the LENA technology.
Study Implementation	• Communication logs maintained by mentors served as a measure of fidelity for the training plus mentoring group • The LENA technology records child and adult conversations and calculates frequencies of "child turns." • The study team noted that "A minimum of 30 min of free-choice time was recorded, although the total recording time varied for each program depending on the length of the free-choice time at each program. Programs that had fewer than 30 min of free-choice were asked to extend their free-choice to meet the 30 min minimum. All programs complied with this request."
Staff Qualifications	• Early Care and Education specialists with 4-year degrees provided training. • Three of the four mentors held early childhood related 4-year degrees; all had previous child care and mentoring experience as a center- or family-care provider, trainer, and mentor.

Key Findings	• The study team found that both training alone and training plus mentoring produced improved language behaviors. However, the training plus mentoring cohort exhibited greater gains than the training only group. • Of interest, mentoring services appeared relatively well-structured. There were both on-site and off-site activities including role modeling, mentor-mentee discussions, and direct feedback. Six mentoring consultations were provided (typically on-site at the child care facility) over a 12-week period with an average length of 75 minutes.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Abell, E., Arsiwalla, D. D., Putnam, R. L., & Miller, E. B. (2014). Mentoring and facilitating professional engagement as quality enhancement strategies: An overview and evaluation of the family child care partnerships program. Child & Youth Care Forum, 43(5), pp. 569-592.**
Population and Sample	There were two studies. Study 1 incorporated licensed family child care providers and family group homes, who had been or were currently enrolled in Family Child Care Partnerships (FCCP) from June 2000 to December 2007. There were 456 providers who participated in the program during this time period and 365 (78 %) completed enrollment surveys and permitted the quality of their caregiving to be observed. Study 2 incorporated a sub-sample of the participants from Study 1. Study 2 participants provided additional information about their professional contacts and behaviors as part of an examination of provider professional and social support networks. The study team contacted 165 providers who had supplied professionalism data during program enrollment. Of these, 109 agreed to provide follow-up data, for a participation rate of 66%.
Methodology	Study 1: Non-experimental Study 2: Non-experimental
Purpose	**The study focused on a family child care mentoring program that provided weekly home visits to participating programs. Of note, the program mentors also served as a point of contact for accessing fiscal, professional development, informational, and tangible resources. The study team investigated two outcomes: Global Quality and Professional Engagement. Study 1 was designed to assess whether FCCP program participants exhibited a significant increase in the observed overall quality of their child care practices over the course of their participation. Study 2 was designed to assess whether participants' increases in observed overall quality were associated with increases in their self-reported professional engagement.**
Measures & Assessments	• Family Day Care Rating Scale • Study interview and questionnaires
Study Implementation	• Mentors were described as working with 10-15 sites on a weekly to biweekly basis with an average visit length of 2 to 2.5 hours. Mentoring consisted of a number of services including observations, needs assessment, action planning, facilitated assistance and training. Training consisted of a variety of techniques including "demonstration, modeling, reflective feedback, discussion, one-on-one teaching, and joint review of print materials or audio/visual resources." • Study 1 data were collected at two time points. Time point 1 data were captured during standard FCCP program enrollment procedures. Then, within the first three months of participation in FCCP, program mentors assessed the quality of participant child care practices, using the standardized instrument. Additional observations occurred every three-four months thereafter. Time point 2 data were the latest observational assessment data on file for each participant. • Study 2 data were collected at two time points. Time point 1 data were captured from the initial enrollment survey. Then, information about participant contacts with child care professionals was collected via face-to-face interviews with mentors, during the first three months of program participation. A social network grid was used to identify the relationship of each contact to the participant. Time point 2 data were collected via a self-administered questionnaire.
Staff Qualifications	• The study team noted that FCCP mentors "have been with the program an average of nearly 9

	years (ranging from 3 to 13 years). FCCP mentors are regionally-based, drawn from communities throughout the state and selected based upon the following qualifications: (a) expertise in the areas of early child development and/or early childhood education; (b) knowledge of developmentally appropriate practice; (c) knowledge about family child care; (d) prior experience as a mentor or teacher of adult learners; and (e) the ability to work independent of direct supervision." • Mentors were trained by the FCCP Managing Director. There were three intensive days of pre-service training followed by field-based observations of other mentors. Key parts of this preparation included: (a) specific mentoring and relationship-building skills; (b) observational skills; (c) the use of a standardized rating scale of quality family child care practices; (d) knowledge of benchmarked accreditation quality standards developed by NAFCC; and (e) observation of in-home visits conducted by seasoned mentors. • Mentors also attended approximately three two-day in-service training sessions per year, typically conducted by the FCCP management team. • The FCCP management team provided support for mentors as well as oversight, feedback, and reflective supervision. The team included a Managing Director, Accreditation Specialist, and Program Specialist. • FCCP encouraged providers to network with other child care professionals and further their professional development.
Key Findings	• The study team reported that mentoring participants demonstrated significant improvements in quality (as assessed using the Family Day Care Rating Scale). More specifically: o The average number of months between Time 1 and Time 2 data points was approximately 21 months. o The average FDCRS score at Time 1 was 4.3 and the average FDCRS score at Time 2 was 5.2. o There was significant pre-to-post change in child care quality from Time 1 to Time 2 ($p<.001$). o When the number of months in the program was added as a control, a higher number of months in the program was associated with lower Time 1 global quality ($p<.01$) and predicted positive change in quality from Time 1 to Time 2 ($p<.001$). o The significant negative association between Time 1 quality and change in quality at Time 2 indicated that lower initial level of quality at program entry was associated with a higher increase in quality at Time 2. o Thirty-seven percent of the variance in change in global quality was predicted by the final model ($p<.001$). • The study team reported that there was a positive increase in membership in professional engagement (as assessed by number of professional contacts and membership in a professional organization). More specifically: o The subsample of participants in Study 2 participated a longer time in the program—41 months (range = 11–73 months). o There was a significant increase pre-to-post change in child care quality from Time 1 to Time 2 ($p<.001$). o Unstandardized coefficients indicate that providers' average quality rating increased by one full point. o The significant negative association between Time 1 quality and change in quality at Time 2 ($p<.001$) indicates that higher quality at Time 1 was associated with a lower rate of change in quality at Time 2. o After time was added as a control, there was significant change in both quality ($p<.001$) and the number of associations ($p<.001$) from Time 1 to Time 2, after accounting for other variables in the model. o The average number of associations was .82 and the number of associations increased by .62 from Time 1 to Time 2. o An increase in caregiving quality was associated with a simultaneous increase in the number of associations ($p<.05$). o Fifty-four percent of the variance in change in global quality ($p<.001$) and 39 % of the variance in change in provider engagement ($p<.001$) was predicted by the final model. o The number of professional contacts at Time 1 was negatively associated with change in professional contacts ($p<.001$), and there was a significant increase in quality from Time 1 to Time 2 after accounting for other variables in the model. o Professional contacts did not change significantly over time and there was no association between changes in global quality and changes in professional contacts.

Citation	**Doherty, G., Ferguson, T. M., Ressler, G., & Lomotey, J. (2015). Enhancing child care quality by director training and collegial mentoring. Early Childhood Research & Practice, 17(1).**

Population and Sample	The program enrolled 403 directors or assistant directors from 28 locations across Ontario, ensuring representation across urban and rural locations. 340 of the original 403 participants completed the project. For the study, a sub-sample of 10 of 28 participating areas was selected, to allow for on-site pre- and post-training observations at centers. A total of 71 centers agreed to be observed, but 14 sites did not complete all observations, for a final sample of 57 centers.
Methodology	Non-experimental
Purpose	The study focused on the processes and potential impacts of providing child care directors with training in administration and leadership skills. The study addressed the following questions: (1) To what extent did graduation from the program enhance directors' administrative practices? (2) To what extent did graduation from the program enhance the classroom global quality in directors' centers? (3) Did the program study groups result in local director support networks that continued after graduation?
Measures & Assessments	• Program Administration Scale • Early Childhood Environment Rating Scale – Revised
Study Implementation	• The study utilized both a formal training curriculum (developed by Bloom and colleagues at the McCormick Center for Early Childhood Leadership at National-Louis University) and mentoring (Partners in Practice Mentoring Model). Key aspects of the mentoring program included a focus on peer support and collegial learning, use of facilitated study groups, year-long monthly 3-hour meetings, participation self-reflection and journaling, and group or team work on shared assignments. • The study team noted that the facilitators were "college instructors with child care education and/or management experience and were hired to be responsible for program delivery in a specific area." Facilitators received two days of group orientation before the program started. • All participating directors (mentors and mentees included) received 21 hours of preparation (across three days) at the start of the program, including "an orientation to MPCC, introduction to key concepts (e.g., leadership, mentoring, reflective practice, career development, and systems thinking), and review of the training methods and tools they would be using." • Mentors received an additional several hours of preparation, including "training in mentoring techniques and facilitating reflective practice. Both participant orientations were provided by the facilitators for the group of participants they would be working with." • The program involved study groups, which ranged in size from six to 22 participants. Study groups met monthly, for three-hours meetings, from February to December. • Facilitators received a facilitator manual for use during the program.
Staff Qualifications	• Mentees were directors or assistant directors with less than five-years' experience. Mentors were more experienced directors from the same geographic area. Mentor-mentee pairing was based upon factors such as nature and extent of formal professional training, areas in which mentees identified needs and mentors identified strengths, and teaching-learning style preferences for both mentor and mentee.
Key Findings	• Primary study outcomes were statistically significant improvements in leadership and administration skills as assessed using the Program Administration Scale and improvements in program quality as assessed using the Early Childhood Environment Rating Scale—Revised. Moderate effect sizes were calculated for both outcomes. Administrative Practices • The study team noted that, post-intervention, there were significantly higher scores on the total PAS and seven of its subscales (d=.57, p<.001). More specifically: o The most significant PAS changes occurred in those areas where directors have the most control: human resources development, use of technology, and marketing and public relations. o Change was not significant for two subscales: child assessment and personnel cost and allocation, which includes salaries and benefits. Classroom Global Quality • The study team noted that "director graduation from [the program] was associated with significant enhancement of global classroom quality on the total ECERS-R scale (p<.01)...and four of its subscales." More specifically: o The effect size for the total ECERS-R was d = 0.44, p < .01. o The most significant changes occurred in the ways space and furnishings were used, personal care routines, provision of activities to support child development, and provisions for meeting

	staff needs. o There was little change in adult-child interaction which, with a pre score of 6.0, was already good. Development of Director Support Networks • The study team noted that, 18 months after the program ended, "most graduates reported they were still in contact with their study group members and reported having sought and given assistance and been involved in joint projects. These projects included (a) providing training sessions for other directors on the Occupational Standards for Child Care Administrators and/or using the PAS to evaluate one's own administrative quality and identify areas needing attention, (b) developing and circulating a list of directors in their area who were available for informal support, (c) mentoring assistant directors interested in becoming directors, and (d) reaching out to new or nonparticipating directors to engage them in director support networks."

Citation	**Korkus-Ruiz, S., Dettore, E., Bagnato, S. J., Yeh-Ho, H. (2007). Improving the quality of early childhood education programs: Evaluation of a mentoring process for staff and administrators. Early Child Services, 1(1), pp. 33-48.**
Population and Sample	The study incorporated six child care centers and nine family daycare centers. A total of 45 caregivers and five child care administrators participated in mentoring. The study team also noted that 11 teachers from two communities received mentoring over an 18-month period.
Methodology	Non-experimental
Purpose	**The study assessed the impact of a mentoring program on teacher behavior and overall program quality.**
Measures & Assessments	• Early Childhood Environment Rating Scale—Revised (ECERS-R) • Infant-Toddler Environment Rating Scale (ITERS) • Family Day Care Environment Rating Scale (FDCERS) • Caregiver Interaction Scale (modified for the study; CIS)
Study Implementation	• The mentoring activities were focused on director and teacher capacities (e.g., administration and leadership, classroom environment). • The mentors "conducted classroom observations, completed a program quality assessment, developed a quality enhancement plan, and collaborated with teachers and center directors to address the strategies and goals identified in the enhancement plans." • Assessments were completed at five time-points throughout the study, at six month intervals.
Staff Qualifications	• Program quality was assesed by early childhood professionals from universities, agencies, and professional organizations, and early childhood education undergraduate students. • Follow-up assessments were completed by early childhood professionals, including project consultants, quality assurance coordinators, assistant teachers from other programs, early intervention specialists and project directors.
Key Findings	• **The study team reported significant improvements in overall quality and several subscales in particular, including space and furnishings, personal care routines, language and reasoning, learning activities, and adult needs. The study team also noted improvements on the Caregiver Interaction Scale.** • **While all classroom types exhibited improvements, the greatest improvements were noted in infant-toddler classrooms.** Classroom Quality • **The study team noted that program participants exhibited statistically significant increases in mean scores on the ECERS-R, ITERS, FDCERS, and CIS. More specifically, there were statistically significant increases in:** o **Seven of seven ITERS subscales (Furnishings and Displays, Personal Care Routines, Listening and Talking, Learning Activities, Interaction, Program Structure, Adult Needs, and Total Score)** o **Five of seven ECERS-R subscales (Space and Furnishings, Personal Care Routines, Activities, Program Structure, Parents and Staff, Total Score)** o **Four of six FDCER subscales (Space and Furnishings, Personal Care, Language and Reasoning, Learning Activities, Total Score)** Teacher-Child Interactions • **The study team noted that there were not improvements in interactions or social development, as assessed with the ECERS-R and FDCERS.**

	• The study team noted significant changes in permissive, punitive, detached, social, and cognitive subscales, as well as total score.

Citation	Onchwari, G., & Keengwe, J. (2008). The impact of a mentor-coaching model on teacher professional development, Early Childhood Education Journal, 36(1), pp. 19-24.
Population and Sample	44 Head Start teachers in two mid-western states, with a focus on teachers who participated in the Early Literacy Mentor-Coaches program
Methodology	Qualitative
Purpose	The study assessed the impact of the Early Literacy Mentor-Coaches program. Six interview questions were used: (1) Is the mentor–coach initiative continuing in your program? (2) What forms of training and materials did you receive or have you received in the process of the mentor–coach initiative? (3) How often did you receive this support during the mentor coach process? (4) How helpful was the mentor–coach initiative in supporting and enhancing your literacy practices? (5) What are some of the aspects of the mentor–coach initiative training that you have implemented in your teaching and classrooms? (6) What challenges did you face in implementing the strategies learned in the mentor-initiative; what other concerns do you have about the initiative?
Measures & Assessments	• Interviews
Study Implementation	• The study incorporated teachers who received mentoring from the Early Literacy Mentor-Coaches. • The study team conducted one-on-one interviews with each participating teacher. • The study team also conducted classroom observations after the interviews
Staff Qualifications	• The study team noted a "train the trainer" model was used to develop mentors and that enrollment in the Mentoring-Coaching program was slow at first but gained momentum among Head Start teachers over time. • Mentors were teachers who attended a training developed by the Center for Improving the Readiness of Children for Learning and Education (CIRCLE) for the Strategic Teacher Education Program (STEP) Early Literacy Mentor–Coach initiative model. • In the training, the participating teachers learning a number of literacy-supportive techniques, including "ways of providing appropriate literacy environments and routines, phonological awareness, written expression, language development, print and book awareness, motivation to read, read aloud, letter knowledge, and literacy mentoring areas strategies." • After completing the training, the teachers were considered Early Literacy Mentor-Coaches and expected to provide support to two or more teachers in their programs. • Ongoing support was provided by regional centers. The regional Quality Improvement Center (QIC) supplied Mentor–Coach Specialists (MCS) to provide additional support and training on STEP materials.
Key Findings	• The study team reported that, within 6 months of participating in the Mentoring-Coaching program, participants provided positive feedback about the program (23 of 44 indicated the program was very helpful and 15 of 44 indicated the program was somewhat helpful) and were able to identify program-related improvements in classroom literacy practices.

End Notes

[1]National Association for the Education of Young Children, & National Association of Child Care Resource and Referral Agencies. (2011). Early childhood education professional development: Training and technical assistance glossary. Washington, DC: Authors. Retrieved from http://www.naeyc.org.

[i] Fiene, R. (2002). Improving child care quality through an infant caregiver mentoring project. Child and Youth Care Forum, 31, pp. 79-87.

[ii] Zan, B., & Donegan-Ritter, M. (2014). Reflecting, coaching and mentoring to enhance teacher–child interactions in Head Start classrooms. Early Childhood Education Journal, 42(2), pp.

93-104.

[iii] Ota, C. L., & Austin, A. M. B. (2013). Training and mentoring: Family child care providers' use of linguistic inputs in conversation. Early Childhood Research Quarterly, 28(4), pp. 972-983.

[iv] Abell, E., Arsiwalla, D. D., Putnam, R. I., & Miller, E. B. (2014). Mentoring and facilitating professional engagement as quality enhancement strategies: An overview and evaluation of the family child care partnerships program. Child & Youth Care Forum, 43(5), pp. 569-592.

[v] Doherty, G., Ferguson, T. M., Ressler, G., & Lomotey, J. (2015). Enhancing child care quality by director training and collegial mentoring. Early Childhood Research & Practice, 17(1).

[vi] Korkus-Ruiz, S., Dettore, E., Bagnato, S. J., Yeh-Ho, H. (2007). Improving the quality of early childhood education programs: Evaluation of a mentoring process for staff and administrators. Early Child Services, 1(1), pp. 33-48.

[vii] Onchwari, G., & Keengwe, J. (2008). The impact of a mentor-coaching model on teacher professional development, Early Childhood Education Journal, 36(1), pp. 19-24.

Additional Resources

Fixsen, D. (2009). Scaling-Up Brief: Intensive technical assistance. Frank Porter Graham Child Development Institute: Chapel Hill North Carolina.

Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. Personnel Psychology, 58, pp. 367-408.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Kindergarten Transitions

Goals

The goal of kindergarten transition activities is to promote and enhance the ease and constructiveness of a child's transition into kindergarten.

Theory of Change

The underlying theory of change is that specific, definable activities can be implemented in the year and months prior to kindergarten entry. By implementing these activities, there is enhanced and increased communication among parents, child care providers or preschool teachers, and kindergarten teachers and staff. Better communication, in turn, helps a child's caregivers prepare the child for the transition into kindergarten.

Kindergarten Transitions Snapshot

- **EC Profile Indicator:** KEA10 - Kindergarten entrance assessment
- **Clearinghouse rating:** None
- **Research supports** use with children entering kindergarten
- **Related Smart Start outcomes:**
  - Increase in coordination of early childhood system
  - Or depends on the approach taken, make sure aligned with research evidence
- **Training required:** Depends on approach taken

Program Features

Kindergarten transition programs vary as to specific activities and strategies. It is common for programs to provide opportunities for communication among parents and teachers, to promote or facilitate the transfer of information or documents among these individuals, and to provide activities, games, and events that help ease a child's (and parent's) anxiety about entering kindergarten and build familiarity both with the school environment but also the kindergarten teacher. Transition programs also may include activities that occur after the beginning of the kindergarten year, to welcome the child and family and encourage communication and, sometimes, participation in the classroom through volunteer activities, etc.

According to early childhood education researcher, Dr. Robert Pianta, there are five guiding principles for successful kindergarten transition activities including:

1. Foster relationships as resources
2. Promote continuity from preschool to kindergarten
3. Focus on family strength and engagement
4. Tailor practices to individual needs
5. Form collaborative relationships

See his book published in 2003 *Successful Kindergarten Transition: Your Guide to Connecting Children, Families, and Schools* for more insights into why research shows these are important features of kindergarten transition.

Bohan-Baker and Little (2004)[i] summarized what was known about kindergarten transition practices when they stated "What "works" in one community may not be effective in another. Therefore, we have chosen to frame this section in terms of *promising* practices rather than *best* practices in an effort to underscore the dynamic and ecological nature of transition." Their promising practices included:

- Contact with preschool families
- Contact with preschool children
- Kindergarten visits
- Home learning activities
- Informational meetings
- Partner with local PTAs
- Information dissemination
- Home visits
- Parent support groups
- Maintain informal contact with preschool "graduates"
- Facilitate early registration
- Staff ECE and kindergarten with bilingual teacher aides as needed

Bohan-Baker and Little (2004) also noted that kindergarten transition activities may best be implemented as a collaboration among key partners, representing elementary schools (and districts), child care and prekindergarten programs (including Head Start), parents and children, and other community stakeholder groups. In fact, the authors described the concept of a community-level "transition team," whose responsibilities might include the coordination and implementation of district-level objectives at the parent and school level, stressing the importance of including parents in transition planning and activities.

Target Audience

Children entering kindergarten; child care providers, preschool teachers, and families of children entering kindergarten.

Special Note for Smart Start

Smart Start developed a Ready Schools initiative in 2011 which supported the importance of involving the local school system in transition activities. A comprehensive approach including kindergarten teachers and the local education agency (LEA) is encouraged. However, Smart Start funds may not be used for kindergarten transition activities that focus solely on kindergarten teachers. More information about Ready School can be found here http://www.smartstart.org/ready-schools-toolkit/.

Documented Outcomes

	Type of Study	Parent outcomes		Child outcomes		Teacher or transition coach outcomes	
		Favorable perceptions of staff	Use of transition practices	Child language or pre-literacy skills*	Child numeracy skills*	Enhanced perceptions of child skills	Use of transition practices
LoCasale-Crouch et al. (2008)[ii]	Non-experimental					✓	✓
Early et.al. (2014)[iii]	Non-experimental			✓	✓		✓
Early et.al. (2015)[iv]	Non-experimental		✓				✓
Rous et.al. (2010)[v]	Non-experimental						✓
Pianta el.al. (2001)[vi]	Non-experimental	✓					✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for Kindergarten Transitions

- A variety of kindergarten transition activities may be appropriate for different parents and children. Well-rounded transition programs may include multiple strategies and modes of communication.
- Consult the research studies below for specific practices that achieved results. In particular, the more practices used together achieved more results, especially when practices directly involved children.
- While many of the studies show that training or other characteristics are related to the use of transition practices, this is different than showing that the use of these practices leads to positive outcomes for children, families, and schools. When reviewing the research, focus on

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**LoCasale-Crouch et al. (2008). Pre-kindergarten teachers' use of transition practices and children's adjustment to kindergarten. Early Childhood Research Quarterly, 23, pp. 124–139.**
Population and Sample	The study included 214 prekindergarten classes that also participated in the National Center for Early Development and Learning's Multi-State Prekindergarten study. The classes included 722 children from six states, each with a history of investing in prekindergarten initiatives.
Methodology	Non-experimental

Purpose	The study's goal was to assess the use of kindergarten transition activities in prekindergarten classrooms and determine the extent to which transition activities could be associated with assessments of child social, self-regularly, and academic skills upon the child's transition into kindergarten. There were three research questions: 1. To what extent do pre-kindergarten teachers use transition practices? 2. Is the use of transition practices during pre-kindergarten associated with kindergarten teachers' perceptions of children's socio-emotional and academic competencies at the start of kindergarten? 3. Does prekindergarten teachers' use of transition practices moderate the associations between child risk factors (family poverty, race/ethnicity, less educated mothers) and kindergarten teachers' perceptions of children's academic and social competencies?
Measures & Assessments	• Classroom Assessment Scoring System (used to assess prekindergarten classroom quality) • Teacher–Child Rating Scale • Academic Rating Scale
Study Implementation	The study focused on nine transition activities: (1) pre-kindergarten children visit a kindergarten class, (2) pre-kindergarten teacher visits kindergarten class, (3) kindergarten teacher visits pre-kindergarten class, (4) spring kindergarten orientation for pre-kindergarten children, (5) spring kindergarten orientation for pre-kindergarten children's parents, (6) school-wide elementary school activity for pre-kindergarten children, (7) individual meetings with parents about kindergarten, (8) share written records about children's prekindergarten experience with elementary school and (9) contact with kindergarten teacher about curriculum and/or specific children. Data were collected from pre-kindergarten and kindergarten teachers. Pre-kindergarten teachers reported on the extent to which they used the nine transition activities. Kindergarten teachers reported on the children who were taught by the pre-kindergarten teachers and rated the children with regard to kindergarten classroom adjustment which included: displays of social competence (e.g., frustration tolerance, peer social skills, task orientation), problem behaviors (e.g., conduct problems, learning problems), and language and literacy skills.
Staff Qualifications	N/A
Key Findings	• Prekindergarten classrooms used, on average, six of the nine transition practices. • There was an association between kindergarten assessment of social competence and problem behaviors and use and number of transition activities (specifically, discussions regarding curricula or discussions regarding specific children). • There was an association between kindergarten teacher perception of child social competence and the use and number of transition activities in which the child directly experienced the transition activity especially for children with economic and social risks. • Contact between the prekindergarten and kindergarten teacher about curricula or a specific child was consistently and positively associated with kindergarten teacher perception of child skills Pre-kindergarten Teacher Use of Transition Activities • On average, pre-kindergarten teachers reported using 5.95 activities. • The most frequent activity (78% of respondents) was "sharing written records about children's pre-kindergarten experiences with the elementary school." The least frequent activity (42% of respondents) was "kindergarten teachers visiting pre-kindergarten classes." Association of Transition Activities with Kindergarten Teacher Perceptions About Children • The study team included multiple controls or covariates in analyses, including: child gender, ethnicity, family poverty level, child's maternal education level, pre-kindergarten location, pre-kindergarten Head Start status, pre-kindergarten classroom quality, and state variables. • The study team found that "contact between the pre-kindergarten and kindergarten teacher about specific children and/or curricula" was the one transition activity that "was associated with kindergarten teachers' perceptions of positive social competence and less negative behavior problems." • The study team also found "that there is a positive influence of greater numbers of transition activities that is independent of the influence of direct contact between pre-kindergarten and kindergarten teachers," although the test of an 8-item transition list (after excluding contact between the pre-kindergarten and kindergarten teacher about specific children and/or curricula) and teacher perceptions was not statistically significant. Transition Practices as Moderators • The study team found that transition activities moderated risk factors (family poverty, race/ethnicity, child's low maternal education) and kindergarten teacher perceptions of child "social–emotional and academic competencies." The study team reported: "significant interactions between children's family poverty status and transition practices were found, such that the positive influence of pre-kindergarten transition practices on

	kindergarten teachers' ratings of social competencies was stronger among children from poor families compared to children from non-poor families," and "compared to Caucasian children, more transition practices had a stronger influence on kindergarten teachers' positive judgments of children's social competence for African-American children and on kindergarten teachers' less negative judgments of behavior problems for children with other race/ethnicity." Finally, the study team found that "the positive influence of transition practices on kindergarten teachers' ratings of children's language and literacy skills was stronger for children whose mothers had lower levels of education."

Citation	**Early, D. M., Maxwell, K. L., LaForett, D. R., Pan, Y., Kraus, S., & Hume, K. (2014). Evaluation findings from Georgia's 2013 rising kindergarten and rising pre-kindergarten summer transition programs. Chapel Hill: The University of North Carolina, FPG Child Development Institute.**
Population and Sample	The study included 126 children transitioning into kindergarten and participating in Georgia's Risking Kindergarten (RK) Summer Transition Program. Sixty Rising Kindergarten classrooms were assessed, along with 19 Rising Prekindergarten classrooms.
Methodology	Non-experimental
Purpose	The study was an evaluation of Georgia's transition programs for rising kindergarten and prekindergarten children.
Measures & Assessments	• Classroom Assessment Scoring System • Questionnaires • Items from the Individual Growth and Development Indicators (IGDI) • Story and Print Concepts • Counting Bears and Color Bears • Children were assessed on letter naming, picture naming, rhyming, alliteration, story and print concepts, counting bears, number naming, and color bears
Study Implementation	• The Rising Kindergarten program was free, occurred over six weeks from June to July 2013, and served children from low-income families. • Rising Kindergarten classrooms were designed to serve, at most, 16 students. Each classroom had a lead and an assistant teacher. The Opening the World of Learning (OWL) curriculum was used. • Each classroom received additional support from a half-time transition coach. The coach worked with families, providing "parent educational activities." • Classrooms also provided art activities as well as professional development in arts integration for teachers. • Services for families included parent conferences, home visits, workshops and family activities, family participation opportunities, and other services and supports. • Data on lead and assistant teacher education, experience, certifications, and professional development were collected as part of the study, as were child-level pre- and post-assessments.
Staff Qualifications	• Rising Kindergarten lead teachers were required to have, at a minimum, a Bachelor's degree. Assistant teachers were required to have "some college" or an Associate's degree. • The study team reported that 64% of lead teachers had a degree in early childhood education (Associate's, Bachelor's, or Master's degree). In addition, 37% of assistant teachers had "some college" while 24% had a degree in early childhood education (Associate's, Bachelor's, or Master's degree). As the study team reported "Assistant teachers in the RK Program generally had 'some college' (37%) or an Associate's degree." • The study team reported that 35% of transition coaches had a degree in early childhood education (Associate's, Bachelor's, or Master's degree) and that coaches "generally held at least a Bachelor's degree."

Key Findings	• Pre- and post-assessment child data indicate statistically significant improvement in child skills over the course of the summer. Similar gains have been observed over a three-year period of program implementation. Effect sizes ranged from small to moderate.
	• Specific child-level scores are as follows:
	  • The pre-assessment mean for the Letters Naming "Total letters correctly named" was 14.77; the post-assessment mean was 16.71 ($p<.001$; $d=.18$).
	  • The pre-assessment mean for the IGDI "Picture Naming Score" was 18.80; the post-assessment mean was 21.10 ($p<.001$; $d=.28$).
	  • The pre-assessment mean for the IGDI "Rhyming Score" was 4.59; the post-assessment mean was 6.99 ($p<.001$; $d=.49$).
	  • The pre-assessment mean for the IGDI "Alliteration Score" was 2.33; the post-assessment mean was 3.75 ($p<.001$; $d=.42$).

	• The pre-assessment mean for the Story and Print Concepts "Book knowledge sum" was .40; the post-assessment mean was .51 ($p<.001$; $d=.56$). • The pre-assessment mean for the Story and Print Concepts "Book comprehension sum" was .88; the post-assessment mean was 1.25 ($p<.001$; $d=.50$). • The pre-assessment mean for the Story and Print Concepts "Print awareness sum" was 1.09; the post-assessment mean was 1.53 ($p<.001$; $d=.37$). • The pre-assessment mean for the Counting Bears "Highest number counted" was 21.49; the post-assessment mean was 24.46 ($p<.001$; $d=.26$). • The pre-assessment mean for the Number Naming "Total numbers named correctly" was 6.04; the post-assessment mean was 6.78 ($p<.001$; $d=.21$). • The pre-assessment mean for the Color Bears "Number colors named" was 8.64; the post-assessment mean was 8.92 ($p<.001$; $d=.13$).

Citation	**Early, D. M., Maxwell, K. L., LaForett, D. R., Kraus, S., & Hume, K., (2015). Evaluation findings from Georgia's 2014 Rising Kindergarten and Rising Pre-Kindergarten Summer Transition Programs. Chapel Hill, NC: The University of North Carolina at Chapel Hill, FPG Child Development Institute.**
Population and Sample	The study incorporated data from 62 Rising Kindergarten classrooms, including lead and assistant teachers and parents of enrolled children. The study also incorporated 56 transition coaches.
Methodology	Non-experimental
Purpose	The study is an evaluation of the Rising Kindergarten (RK) Summer Transition program. The 2014 evaluation had several goals: 1. Describe the quality of the teacher-child interactions in RK classrooms; 2. Learn about parent's perceptions of the services they and their children received; 3. Describe the services provided by the RK Programs to participating children and their families; 4. Characterize the RK Program's efforts to recruit children into the programs and challenges they experienced in recruiting children; and 5. Understand reasons that attendance in the RK Programs may be lower than during the school year.
Measures & Assessments	• Classroom Assessment Scoring System (CLASS) • Parent Questionnaire (most sites distributed the questionnaire in the 4th program week but some distributed in the 3rd or the 5th program week) • Lead and assistant teacher questionnaires. • Transition coach questionnaire.
Study Implementation	• The study team a trained team of four individuals who collected data for the study. • The Rising Kindergarten program operated for six weeks in June-July 2014. The free program served children from low-income families. • Rising Kindergarten classrooms were designed to serve, at most, 16 students. Each classroom had a lead and an assistant teacher. The program used the Opening the World to Learning (OWL) curriculum. • Each classroom was supported by a half-time transition coach who worked with families to "meet transition needs and to offer parent educational activities." • Each classroom provided arts activities.
Staff Qualifications	• The study team reported that all lead teachers (n=61) had at least a Bachelor's degree. • Seventy-four percent of lead teachers had a degree in early childhood education (Associate's, Bachelor's, or Master's degree). Further, "all lead teachers (100%) had taken at least one college course in early childhood/child development." • Lead teachers, on average, had 5.6 years of experience as a lead teacher in a Georgia pre-kindergarten classroom. • The study team reported that, of 61 assistant teachers, 39% of assistant teachers had "some college" while 29% had an Associate's degree. • Twenty-eight percent of assistant teachers had a degree in early childhood education (Associate's, Bachelor's, or Master's degree). Seventy-seven percent had "taken at least one college course in early childhood/child development." • Assistant teachers, on average, had 4.9 years of experience as an assistant teacher in a Georgia pre-kindergarten classroom, and 1.3 years of experience as a lead teacher. • The study team reported that, of 56 transition coaches, 86% had at least a Bachelor's degree. • Thirty-two percent of transition coaches had a degree in early childhood education (Associate's, Bachelor's, or Master's). Further, 94% had "taken at least one college course in early childhood/child development."

Key Findings	Classroom Assessment Scoring System • The study team reported that, across classrooms, the mean scores were "6.1 for the Emotional Support domain, 6.1 for the Classroom Organization domain, and 3.5 for the Instructional Support domain." Parent Questionnaire Findings • The most common form of help received from the transition coach was help regarding kindergarten registration. • Parents reported that, during the summer, the most common transition activity was "provision of written information and supplies." Less common was "visiting and meeting with teachers." Family Workshops and Activities • Parents who returned questionnaires had a "generally favorable" perception of family workshops and activities. Family Participation • Parents who returned questionnaires reported that the most common means of participation was "Went to a social activity for families at school/center, like pizza night." Less common was "Read to the children in class." Transition Coach Perceptions on how Programs are Helping Transitions • All transition coaches reported "providing written materials to families about transitions in general." Smaller percentages reported: "providing children with school supplies to take to kindergarten (75%); sharing information about the child with the new school or classroom (71%); giving parents the child's portfolio to take to kindergarten (65%); and inviting kindergarten teacher to visit preschool classroom (56%). Less common practices included meeting with parents and kindergarten teacher together (41%) and taking children to the kindergarten (25%)."

Citation	**Rous et al. (2010). Practices that support the transition to public preschool programs: Results from a national survey. Early Childhood Research Quarterly, 25, pp. 17–32.**
Population and Sample	The study included 2,434 public school preschool teachers who responded to a survey. The survey was distributed to a stratified random sample of 9,167 public school preschool teachers nationally. The study team reported that respondents had the following characteristics: 50.2% reported that their highest education level was a Bachelor's degree; 73.9% reported being white/non-Hispanic.
Methodology	National survey using a stratified random sample of public school preschool teachers
Purpose	The study's goal was to describe the prevalence and use of 25 transition practices, which were organized into five groups: (a) individualized practices before school starts, (b) whole class practices before school starts, (c) individualized practices after school starts, (d) whole class practices after school starts, and (e) coordination practices. Practices also were organized into intensity categories: (a) low-intensity practices included those designed for large groups or whole class (e.g., a form letter or open house), and (b) high-intensity practices included individualized practices (e.g., meeting with a family, or a home visit) or practices which required coordination across programs and/or the community (e.g., coordinated curriculum). There were two primary research questions: 1. What is the overall frequency of use of transition practices by preschool teachers in public school programs? 2. What is the relation between selected classroom characteristics, teacher characteristics, and school characteristics and the use of transition practices in public school preschool settings?
Measures & Assessments	• Public Preschool Transition Practices Survey
Study Implementation	The study is one component of a larger set of studies conducted through the National Early Childhood Transition Center (NECTC).
Staff Qualifications	• N/A
Key Findings	Categorization of Practices • The study team identified low- and high-intensity practices, wherein: "low-intensity practices included those designed for large groups or whole class (e.g., a form letter or open house) and "high-intensity practices included individualized practices (e.g., meeting with a family, or a home visit) or practices which required coordination across programs and/or the community (e.g., coordinated curriculum)." As a result, there were nine practices identified as low-intensity and 16 practices identified as high-intensity. Use of Transition Practices • On average, respondents used 12.81 of 25 pre-defined transition practices. • Twelve of the 25 transitions practices were used by 70% of more of the survey respondents. The rate

	of use of specific practices ranged from 22% to 95%. The most common practices included (a) talking with parents after school starts; (b) talking with parents before school starts; and (c) sending a letter to parents after school starts. The least common practices included (a) visits to incoming children's programs; (b) calling the child after school starts; and (c) sending a letter to the child after school starts. • Use of transition practices was associated with (a) training on use of the specific practice; (b) classroom composition; and (c) school context. • Respondents with more than eight years of experience reported using more transition practices.

Citation	**Pianta et al. (2001). Collaboration in building partnerships between families and schools: The National Center for Early Development and Learning's Kindergarten Transition Intervention. Early Childhood Research Quarterly, 16, pp. 117–132.**
Population and Sample	The study included 110 families, along with school and university staff. The children represented by this study were enrolled in two preschool programs and were in a cohort for whom kindergarten transition was at risk of being challenging. The original cohort consisted of 110 children, 62 were males and 48 were females; 70 were African-American, 31 were white, and 3 were Hispanic, and 6 had other ethnic backgrounds. Ninety-one of the children qualified for the free or reduced lunch program.
Methodology	Non-experimental
Purpose	The study's goal was to describe a collaborative effort among university staff, preschool staff, elementary school staff, and parents to develop, implement, and study a kindergarten transition initiative. The study team indicated that "One of the primary research goals of this effort was to gather information from the participants involved in the intervention concerning their perceptions of the transition activities being promoted and their perceptions of one another's roles and activities in the transition process." Further, "There were numerous participants involved—parents (mostly mothers), children, teachers, family workers, and principals. How they each viewed the collaborative process and relationships with each other and the extent to which they found various transition practices useful or not were important perspectives to describe and integrate into our research on processes related to changing transition outcomes."
Measures & Assessments	• Transition to Kindergarten Activities Questionnaire • Home-School Relationship Ratings • Mother interviews
Study Implementation	• The kindergarten transitions initiative was partnership-based and incorporated a "menu-based" collection of transition activities including: (a) activities focused on peer relationships; (b) interactions between preschool and kindergarten children and classrooms; (c) family connections; and (d) fostering and promoting linkages among kindergarten teachers, preschool teachers, child care providers, and child care agencies. The specific activities chosen, as well as the intensity of the activities, were based on specific needs of child, family, teacher, school, and community. • Children were enrolled in one of two preschool four-year-old programs serving children for whom the transition to kindergarten was expected to be challenging. Children were eligible for these programs based on developmental, behavioral, health or financial needs. One program consisted of six classrooms. As one part of the intervention package, these children were grouped in preschool classrooms according to the elementary school they were expected to attend in order to promote peer and family relationships. The second preschool program had four classrooms in four separate elementary schools. The location of these classrooms within the children's own elementary school greatly increased familiarity with the schools for these children and their families. • The Collaborative Design Team (CDT) advocated a menu-based approach to implementing good transition practices. It directed the creation of an open-ended document that described a variety of practices designed to enhance relationships among children, peers, families and schools. These practices followed from the ecological conceptualization of transition that had been embraced by the CDT. The practices focused on relationships among key contexts and persons, they emphasized the importance of continuity over time starting well before entry into kindergarten, and they embraced the principle that interactions had to be based upon mutual respect and support for the child. This partnership-based approach to intervention resulted in a menu-based package of actions that targets sets of relationships in the transition ecology. • The nature, number, and intensity of transition practices employed are based on the needs and strengths of that child, family, teacher, school and community. This approach also enables the transition intervention to be implemented in a variety of school settings, each with its own unique organizational structure and constraints. Because it was devised with the needs of the participating programs in mind, flexibility in implementation was essential. Thus, the intervention was applicable, not only to the schools involved in the Kindergarten Transition Intervention, but to other programs, as well.
Staff Qualifications	There were ten preschool teachers involved in the study in the first year. Of these, eight were white and two were African American. All ten were women. Seven had Bachelor degrees and three had Masters degrees. The level of experience ranged from one to 26 years, and the mean for years of experience was

	ten years. Thirty-one kindergarten teachers participated in the first year; all were women. Seven family workers participated, six were white, one was African American, and all seven were women. Five of the seven had Masters degrees and the remaining two had Bachelor degrees. Family workers level of experience as family workers ranged from three and a half months to three and a half years, with the mean level of experience to be one and half years.
Key Findings	• Different participants had different perceptions of transitions practices • Parents and preschool teachers had mutually positive views of each other • Preschool staff served as important sources of support for parents • Shared mission, communication, mutual respect, and collaboration all are important drivers • One important conclusion was that there should be a focus on individual family needs, more so than a "one-size fits all" approach. Teacher Views • Among preschool teachers, the most common transition practice was "visiting kindergarten classrooms with preschool children." • Among kindergarten teachers, the most common transition practice was "visiting kindergarten classrooms with preschool children." • For more than 50% of preschool teachers and more than 75% of kindergarten teachers, visits were made to the kindergarten classroom that children would attend. • Preschool and kindergarten teachers frequently also conducted orientation meetings (which occurred in the spring of a child's preschool year) and "activities in the elementary school designed to familiarize children and parents." • The strategies that were less frequently reported by teachers were "Individual contact between preschool and kindergarten teachers either in the form of kindergarten teacher visits or meetings to discuss curriculum or specific children." • The study team found that teachers reported used the practices that they found useful. Mother and Preschool Staff Perceptions • As regards ratings on the Home-School Relationships Scale (which were completed by teachers, family workers, and mothers, and assessed effectiveness of nine aspects home-school relationships), preschool staff tended to perceive parents "less positively" than others perceived preschool staff. • Mothers "almost always" reported that preschool staff were doing a "good job" on the nine aspects of home-school relationships. In contrast, preschool staff reported that parents were "relatively less competent in teaching skills and participating in the child's education." • In general, the ratings indicated that "although preschool staff saw parents as somewhat less effective than mothers viewed school staff, the general pattern was for participants to mutually acknowledge the good work of the other." • The study team reported that mothers rated the preschool staff as "more helpful" than other sources of social support—a finding which occurred in fall, winter, and spring ($p<.01$ in each). Further, "preschool staff were viewed as increasingly helpful from fall to spring" (but not other sources of social support; $p<.01$).

Resources

Pianta and Kraft-Sayer (2003). Successful kindergarten transition: Your Guide to Connecting Children, Family, and Schools. PH Brookes Publishing.

Hindman et al. (2013) Teacher outreach to families across the transition to school: An examination of teacher practices and their unique contributions to children's early academic outcomes. Early Childhood Education Journal, 41, pp. 391-399.

End Notes

[i]Bohan-Baker, M. and Little, P.M.D. (2004). The Transition to Kindergarten: A Review of Current Research and Promising Practices to Involve Families. Harvard Family Research Project. Retrieved from: **https://www.pakeys.org/uploadedcontent/docs/**ELinPA/Transition%20Toolkit/

Reviewofcurrentresearch.pdf

[ii] LoCasale-Crouch et al. (2008). Pre-kindergarten teachers' use of transition practices and children's adjustment to kindergarten. Early Childhood Research Quarterly, 23, pp. 124–139.

[iii]Early, D. M., Maxwell, K. L., LaForett, D. R., Pan, Y., Kraus, S., & Hume, K. (2014). Evaluation findings from Georgia's 2013 rising kindergarten and rising pre-kindergarten summer transition programs. Chapel Hill: The University of North Carolina, FPG Child Development Institute.

[iv] Early, D. M., Maxwell, K. L., LaForett, D. R., Kraus, S., & Hume, K., (2015). Evaluation findings from Georgia's 2014 Rising Kindergarten and Rising Pre-Kindergarten Summer Transition Programs. Chapel Hill, NC: The University of North Carolina at Chapel Hill, FPG Child Development Institute.

[v] Rous et al. (2010). Practices that support the transition to public preschool programs: Results from a national survey. Early Childhood Research Quarterly, 25, pp. 17–32.

[vi] Pianta et al. (2001). Collaboration in building partnerships between families and schools: The National Center for Early Development and Learning's Kindergarten Transition Intervention. Early Childhood Research Quarterly, 16, pp. 117–132.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Inclusive Child Care

Smart Start funds can be used for technical assistance for child care classrooms. This section provides background information on inclusive child care which is one type of classroom that might receive technical assistance. The Pyramid Model is a common approach to TA to support inclusion. See the sections on TA-Consultation and Coaching as well the Pyramid Model for evidence levels.

Goals

Inclusive child care classrooms provide opportunities for typically developing children to co-experience early education with children who have special learning or developmental needs. As a result, inclusive programs may improve feelings of belonging and an appreciation for diversity.

Program Features

Inclusive classrooms are characterized by the percent of children with typical learning needs (50 percent or more) compared to the percent of enrolled children with special learning or developmental needs. Inclusive classrooms may provide or require specialized training or support to classroom teachers, as well as opportunities to individualize the program to the special learning or developmental needs that are present.

Inclusive Child Care Snapshot

- **EC Profile Indicator:** KEA10 – Kindergarten Entrance Assessment
- **Research supports** use with children with a range of special learning and developmental needs as well as early educators and child care professionals
- **Related Smart Start outcomes:**
  - More children on track for typical and/or enhanced development
- **Smart Start guidance:** Funds would be used for TA coaching and mentoring to support inclusive classrooms. The Pyramid Model is a common approach to support the TA work.
- **Staff qualifications:** North Carolina TA Level 11 and TA Endorsement
- **Suggested Assessments:** See Pyamid Model

Target Audience

Children ages birth through five with special learning or developmental needs whose needs can be accommodated in the standard classrooms

Documented Outcomes

	Type of Study	Child Outcomes				
		Improved general knowledge/ cognitive ability*	Improved overall development	Improved language development*	Improved social skills/competence/ development*	Number of friendships
Buysse et. al. (2002)[i]	Quasi-experimental				✓	✓
Guralnick et. al. (2008)[ii]	Quasi-experimental	✓		✓		
Holahan & Costenbader (2000)[iii]	Quasi-experimental		✓		✓	
Hughett et. al. (2013)[iv]	Quasi-experimental				✓	
Justice et. a1. (2014)[v]	Quasi-experimental			✓		
Rafferty et. al. (2003)[vi]	Quasi-experimental			✓	✓	
Recchia & Lee (2004)[vii]	Non-experimental				✓	
Strain & Bovey (2011)[viii]	Quasi-experimental	✓		✓	✓	

* Aligned with Smart Start Outcome *More children on track for typical and/or enhanced development*

Research Evidence for Inclusive Child Care

- Existing research show mixed results but inclusive child care classrooms can result in better social and academic outcomes.

Review of Experimental and Quasi-Experimental Studies

Citation	**Holahan, A., & Costenbader, V. (2000). A comparison of developmental gains for preschool children with disabilities in inclusive and self-contained classrooms. Topics in Early Childhood Special Education, 20(4), pp. 224-235.**
Population and Sample	• Study 1: 15 children with disabilities, 15 without disabilities in 15 inclusive and 15 self-contained classrooms • Study 2: 66 participants (30 from Study 1); 29 in inclusive (11 half-day, 18 full-day) and 37 in self-contained classrooms (16 half-day, 21 full-day)
Methodology	Quasi-experimental, pre/post and matched comparisons groups
Purpose	Two studies examined developmental outcomes associated with services in inclusive and self-contained preschool classrooms. Study 1 was to explore the relationship between initial level of developmental delay and setting (inclusive versus self-contained) on the rate of developmental and social progress achieved by preschool children with disabilities. Study 2 was to explore the relationships between developmental progress and the length of the school day and the amount of related services received per week.
Measures & Assessments	• Brigance Diagnostic Inventory of Early Development (criterion referenced)
Study Implementation	A modified High Scope Curriculum was used in all classrooms. Before High Scope was implemented and 6 months prior to this study, all teachers had taken part in three full-day training sessions on the curriculum provided by representatives of the High Scope Foundation. A fourth full-day session, also attended by all teachers, had addressed ways to modify the High Scope Curriculum for exceptional learners. The self-contained classrooms of 12 children had a child to adult ratio of 4:1, while the inclusive classrooms of either 16 or 21 children had a child to adult ratio of approximately 5:1. Each classroom was served by a team of related services personnel: one occupational therapist (OT), one physical therapist (PT), and one speech therapist (ST).
Staff Qualifications	Each classroom was staffed by a master's level certified special education teacher, assisted by one teacher's assistant and one teacher's aide. Some of the inclusive classrooms also had a general early childhood education teacher.
Key Findings	<u>Study 1:</u> • Children functioning at a lower level of social and emotional functioning performed equally well in inclusive and specialized settings, while children functioning at a relatively higher level performed better in inclusive settings than in specialized settings. <u>Study 2:</u> • Children in full-day classrooms had greater developmental delays but achieved higher rates of progress than their half-day peers in the areas of social and emotional development and overall development.

Citation	**Buysse, V., Goldman, B. D., & Skinner, M. L. (2002). Setting effects on friendship formation among young children with and without disabilities. Council for Exceptional Children, 68, pp. 503-517.**
Population and Sample	333 preschool children (120 with disabilities and 213 typically developing) The 120 children with disabilities ranged in age from 19 to 77 months, with a mean age of 47.5 months. Of the 120 with disabilities, 48 had a severe disability in at least one domain on the ABILITIES Index; 39 of the 48 with a severe disability were enrolled in specialized settings and 9 in child care. Forty-three children with special needs (36%) were female. With respect to the ethnicity of children with disabilities, 39 (33%) were African American, 75 (63%) were European American, and 6 (5%) were another ethnicity. The 213 typically developing children ranged in age from 21 to 65 months, with a mean age of 44.8 months. Of the 213 typically developing children, 118 (55%) were female. With respect to the ethnicity of typically developing children, 41 (19%) were African American, 152 (71%) were European American, and 20 (9%) were another ethnicity.
Methodology	Quasi-experimental with comparison groups
Purpose	To examine the effects of social setting on the friendship formation of 333 preschool children enrolled in inclusive early childhood programs. The study addressed three principal questions: (a)

	How many playmates and friends were reported by teachers for children with and without disabilities in two types of inclusive settings; (b) What child and program characteristics predicted the reported number of playmates and friends; and (c) What characteristics defined children's friendship dyads?
Measures & Assessments	• ABILITIES Index to describe children's functional abilities across nine domains: audition, behavior, intellectual functioning, limbs, intentional communication, tonicity, integrity of physical health, eyes, and structural status. • Playmates and Friends Questionnaire for Teachers to document the number and nature of children's relationships with peers in early childhood settings. • Teacher Ratings of Children's Social Development scale to measure children's social competence with peers. • A variation of the Benefits and Drawbacks of Early Childhood Inclusion Rating Scale to assess general attitudes and beliefs about inclusion among early childhood teachers.
Study Implementation	The children were enrolled in one of two types of inclusive early childhood settings representing the predominant models used to implement inclusion: (a) inclusive specialized programs (n = 9) in which, for all but one program, the majority of children enrolled had disabilities; or (b) inclusive child care programs (n = 9) in which the majority of children enrolled were typically developing. The specialized programs were administered through local early intervention agencies and originally were designed to serve young children with disabilities exclusively. The child care centers were administered through various for-profit and not-for-profit organizations and originally served primarily typically developing preschool children. All 18 of the centers were full-day programs with the highest rated child care license awarded by the state at the time the study was conducted. In addition, all of the centers offered a full-inclusion model (i.e., children with disabilities were enrolled in these classrooms and participated in all aspects of the curriculum, rather than sharing joint activities with typically developing children for a portion of the day).
Staff Qualifications	The teachers included 25 general early childhood educators from 9 child care centers and 20 early childhood special educators from 9 specialized programs in North Carolina. With one exception, all of the early childhood professionals in both groups were female. Among the general early childhood educators, 24% held master's degrees, 48% held bachelor's degrees, 12% held associate degrees, and 16% had high school diplomas. Among the early childhood special educators, 10% held master's degrees, 85% held bachelor's degrees, and 5% held associate degrees. Among the general early childhood educators, 72% were European American, 24% were African American, and 4% were another ethnicity. Among the early childhood special educators, 95% were European American and 5% were African American.
Key Findings	• Typically developing children in specialized classrooms had significantly more friends than children with disabilities in the same settings. In childcare settings, the difference between the reported number of friendships in typically developing children and children with disabilities were not statistically significance. Additionally, there were more available playmates in childcare classrooms for children with and without disabilities. • The severity of a child's disability was not related to the number of reported friends, but subsequent analysis suggested that children with disabilities enrolled in child care were 1.73 times more likely to have at least one friend than children with disabilities in specialized classes, even after controlling for severity of disability. • Children with disabilities in childcare were more likely to have typically developing friends than children with disabilities in specialized settings. However, the type of setting had no effect on the probability of having friends with or without a disability for typically developing children.

Citation	**Rafferty, Y., Piscitelli, V., & Boettcher, C. (2003). The impact of inclusion on language development and social competence among preschoolers with disabilities. Exceptional Children, 69(4), pp. 467-479.**
Population and Sample	96 preschoolers with disabilities in inclusive (n=68) and segregated (n=28) classes in a community-based preschool program The children consisted of 96 preschoolers with disabilities attending a community-based preschool program in New York State. Overall, 71% were male and 87% were Caucasian. Their ages ranged from 33 to 57 months (M = 47.9). Their ages when they began to receive services ranged from 2 to 55 months (M = 30.5). Most (65%) had received early intervention services prior to entering the preschool program (M = 14.9). The majority (71%) was in inclusion classes (n = 68).
Methodology	Quasi-experimental, pre/post and comparison groups
Purpose	This study examined the developmental progress of preschoolers with disabilities in inclusive and segregated classes focusing on language ability (auditory comprehension and expressive language) and social competence (social skills and problem behaviors). Two research questions were addressed: 1.

	Which specific attributes of the child, parent, and family show positive relationships with children's developmental abilities at (a) pretest and (b) at posttest, controlling for pretest abilities? 2. Does placement type (inclusion vs. segregated) interact with degree of disability (not severe vs. severe) in predicting developmental progress from pretest to posttest, controlling for pretest ability? Specifically, do children with less severe disabilities make greater progress in inclusion classes, and do children with more severe disabilities make greater progress in segregated classes?
Measures & Assessments	• The Preschool Language Scale-3 (PLS-3) • Social Skills Rating System-Teacher Form (SSRS-Teacher) • Wechsler Preschool and Primary Scale of Intelligence-Revised (WPPSI-R) • Bayley Mental Development Index (MDI) • Vineland Daily Living Skills
Study Implementation	The preschool was a private, agency-run, community-based program that provided services for young children from birth to 5 years of age. The inclusion classes contained 12 to 18 children, 1 special education teacher, and 1 early childhood teacher. The proportion of children with disabilities in the inclusion classes ranged from 53% to 75% (M = 64.4). The segregated classes contained 6 children with disabilities, 1 special education teacher, and 1 aide. Some children had individual paraprofessionals to assist them. Most of the special education teachers (82%) had obtained a master's degree. Their years of teaching experience ranged from 1 to 25 years (M = 9.6). Most of the early childhood teachers had an associate's degree (78%) and 2 to 13 years of teaching experience (M = 5.5).
Staff Qualifications	• Special education teacher • Early childhood teacher • Aides
Key Findings	• Children with higher levels of functioning were more likely to be placed in inclusive classes and children with lower levels of functioning were more likely to be placed in segregated classes. • Preschoolers with less severe disabilities did not make greater gains in inclusion settings, and children with more severe disabilities did not make greater gains in segregated settings. • Inclusion and segregated classes did not have a differential impact in terms of either language ability or social competence for children with not severe disabilities. • Children with severe disabilities in inclusion classes had greater language development and social skills at posttest, as well as more problem behaviors, than their peers in segregated classes. • Pre-intervention level of development or degree of delay at pretest was the strongest and most consistent predictor of gains in developmental outcome variables.

Citation	**Guralnick, M.J., Nevile, B., Hammond, M. A., & Connor, R. T. (2008). Continuity and change from full-inclusion early childhood programs through the early elementary period. Journal of Early Intervention, 30(3), pp. 237-250.**
Population and Sample	90 preschool and kindergarten children with mild developmental delays in fully inclusive preschool or kindergarten (full inclusion defined as a child with an IEP spending the entire school day in a class where more than 50% of the children required no special educational services); 78 children remained in fully inclusive classrooms in year 2 and were followed into year 3 but data was available by year 3 on 64 children. In addition to the full-inclusion requirement, to be included in the final sample, a child had to meet the following criteria: (a) be between 48 and 78 months of age, (b) have a current IEP, (c) be experiencing difficulties in peer-related social competence as expressed by parent concerns in a structured phone interview, (d) have a primary female caregiver (minimum of a 6-month relationship, as mothers were the primary informants), and (e) obtain a Full Scale IQ (FSIQ) score between 50 and 90 on the Wechsler Preschool and Primary Scale of Intelligence-Revised.
Methodology	Quasi-experimental with comparison groups
Purpose	The purpose of the study was to characterize the possible shift from full-inclusion placements over time and to determine the extent to which specific child and family characteristics within this group of children with mild delays were associated with any placement changes across the transition to the early elementary years.
Measures & Assessments	• Wechsler Preschool and Primary Scale of Intelligence-Revised (WPPSI-R) to obtain a Full Scale IQ (FSIQ) • Wechsler Intelligence Scale for Children-Third Edition (WISC-III) • Test for Auditory Comprehension of Language-Revised (TACL-R) • Expressive One Work Picture Vocabulary Test-Revised (EOWPVT-R)

	• Vineland Adaptive Behavior Scales Survey Form (VABS) • Child Behavior Checklist (CBCL) • Teacher Report Form (TRF), Social Skills Rating System-Parent Form (SSRS-Parent) • Social Skills Rating System-Teacher Form (SSRS-Teacher)
Study Implementation	Not addressed
Staff Qualifications	Not addressed
Key Findings	• By year 3, 25 children remained in fully inclusive classes (2 in kindergarten), 33 were placed in partial-inclusion classes (1 in kindergarten), and 6 in a partial-specialized class; all children in partial-inclusion and partial-specialized classes continued to have an IEP compared to 80% of children in fully inclusive classes • No differences were found in type of placement based on a family socioeconomic status measure (determined using the Hollingshead Four-Factor Index of Social Status), gender, ethnicity, children's chronological age, or grade in school. • The full-inclusion group had significantly ($p<.05$) higher scores than the partial specialized group for FSIQ and TACL-R. • The full-inclusion group had significantly ($p<.01$) higher scores than both the partial-specialized and the partial-inclusion groups for EOWPTVT-R.

Citation	**Strain, P. S., & Bovey II, E. H. (2011). Randomized, controlled trial of the LEAP model of early intervention for young children with autism spectrum disorders. Topics in Early Childhood Special Education, 31(3), pp. 133-154.**
Population and Sample	• 28 inclusive preschool classrooms randomly assigned to receive 2 years of training and coaching to fidelity in the LEAP preschool model, and 28 inclusive classes were assigned to receive intervention manuals only. • 177 intervention classroom children and 117 comparison classroom children Able sites shared these commonalities: (a) intensity of services provided, (b) enrollment of children with ASD in inclusive settings, (c) minimum ratio of adults to children (1:5), and (d) minimum ratio of typical peers to children with ASD (2:1). Across all sites and all years, we had the following study participants: (a) 123 experimental teachers and 107 comparison teachers and (b) 177 experimental children with ASD and 117 comparison children with ASD.
Methodology	Experimental – cluster randomized
Purpose	The purpose of this study was to document the efficacy of LEAP (Learning Experiences and Alternative Program for Preschoolers and Their Parents) preschool model. The overall study had five primary research questions: (1) Do differential child outcomes occur across study groups after 2 years of LEAP implementation? (2) What is the relationship between implementation fidelity and child outcomes? (3) Are teacher's characteristics correlated with child outcomes? (4) Does child performance at the beginning of intervention predict ultimate outcomes at 2 years? (5) How do teachers rate the social validity of their experience implementing LEAP?
Measures & Assessments	• Procedural rating scale (QPI). • Childhood Autism Rating Scale (CARS) • Mullen Scales of Early Learning • Preschool Language Scale (4th ed.; PLS-4) • Social Skills Rating System-Teacher Form (SSRS-Teacher) • Social validity measure based on Kohler and Strain's (1992) review of practice dimensions shown to influence long-term use of evidence based practices
Study Implementation	The LEAP model has a number of unique features that contribute to its effectiveness and relatively lower costs. These features include the following: 1. Inclusion begins full-time from Day 1 in LEAP preschool classrooms. 2. The design of LEAP classrooms begins with establishing a setting of high quality for typically developing children. 3. Typically developing children play a major intervention role in LEAP. 4. Learning objectives are written in such a fashion that teaching continues until generalized behavior change is achieved. 5. Skill training for families focuses on providing adult family members with the behavioral teaching strategies sufficient for them to experience less stress and more pleasure in daily routines, such as meals, bedtime, dressing, and community outings. 6. Intensity in the LEAP model is not defined by hours per week that individuals are paid to deliver service.

	7. LEAP is unique in that we utilize a variety of science-based intervention approaches, including (a) peer-mediated interventions, (b) errorless learning, (c) time delay, (d) incidental teaching, (e) pivotal response training, (f) picture exchange communication system, and (g) positive behavior support. Preschools assigned to the comparison condition were provided LEAP's intervention manuals, videos, and training presentation materials (Power Point presentations) for (a) family skill training, (b) social skills training, and (c) design and operation of the inclusive classroom. We provided no follow-along training to these sites. However, we did interview district administrators on a yearly basis to track the amount and type of general, district-provided training afforded to staff. Preschools assigned to the full LEAP replication protocol entered into a 2-year training and mentoring relationship with our staff. For the full replication classrooms, including all types of support, settings received approximately 23 full days of training and coaching support over 2 years. The implementation protocol in found the form of a procedural rating scale (QPI). The QPI consists of eight content areas (Classroom Organization and Planning, Teaching Strategies, Teaching Communication Skills, Promoting Social Interactions, Providing Positive Behavioral Guidance, IEPs and Measuring Progress/Data Collection, and Interactions With Children and Interactions With Families) with each content area having four to six unique indicators. Classrooms are scored on each indicator on a 1 = *needs work* to 5 = *full implementation* scale, and an average is taken from these indicators to provide a score for each content area. The QPI is scored for a classroom as a whole and thus is not dependent on specific staff that may be present or not at assessment times. Such ratings occurred at study onset and then at approximately 6-month intervals at all sites thereafter. This 6-month interval was based on 14 years of prior replication work that showed that changes on the QPI were not likely to occur prior to this interval. Training staff had access to these data and they used this information to guide follow along coaching for the intervention classrooms.
Staff Qualifications	Not addressed
Key Findings	• After 2 years, experimental class children were found to have made significantly greater improvement than their comparison cohorts on measures of cognitive, language, social, and problem behavior, and autism symptoms. • Behavior at entry did not predict outcome nor did family socioeconomic status. • The fidelity with which teachers implemented LEAP strategies did predict outcomes. • Social validity measurement showed that procedures and outcomes were favorably viewed by intervention class teachers.

Citation	**Hughett, K., Kohler, F. W., & Raschke, D. (2013). The effects of a buddy skills package on preschool children's social interactions and play. Topics in Early Childhood Special Education, (32(4), pp. 246-254.**
Population and Sample	• 3 children with special needs • 6 typically developing children
Methodology	Quasi-experimental, pre/post and comparison groups
Purpose	The purpose of this study was to examine the impact of a buddy skills package on the social and play interactions between three preschoolers with developmental delays and their peers. Each child participated in sociodramatic play activities with two peers who exhibited age-appropriate social and play skills. Following baseline, the children participated in three sessions of training on the strategies of stay, play, and talk with your friends. The intervention consisting of teacher feedback, praise, and picture cards was then used to support children's social interactions and play.
Measures & Assessments	• Observations of child behaviors • Observations of adult prompts
Study Implementation	All children were enrolled in a half-day inclusive program for children aged 3 to 5 years. The program operated 5 days a week from 8:10 a.m. to 1:30 p.m. and was housed in a K-4 elementary building in a midwestern state. The school served a large number of low-income families, with 85% of students receiving free or reduced lunches. The preschool classroom included a total of 15 children including 5 who received Head Start services and 5 with Individualized Educational Plans. The study occurred during a 50-min period that occurred on 4 days during most weeks and included 10 different activities that were set up in the classroom (dramatic play, blocks, art, sand and water, art, etc.). Each 10-min session was monitored by a paraeducator who had 5 years of experience. The children were expected to remain in the activity throughout the 10-min session. All experimental sessions were videotaped and then coded with a 15-s partial interval coding system. A variety of child and teacher behaviors were monitored and recorded. A variation of the buddy skills package described by English, Goldstein, Kaczmarek, and Shafer (1996) was implemented. The first step of intervention included teaching the skills of stay, play, and talk with one's

	friends. The paraeducator conducted three 10-min lessons with each group and used visual prompt and role-play cards. Lesson 1 focused on staying in the activity and in close physical proximity with one's friends. Lesson 2 focused on playing with one's buddies, which involved engaging in one of the three to four forms of thematic play that were appropriate for that activity. Lesson 3 focused on talking to one's friends, which included making comments about one's own play as well as the actions of other children. All formal data collection was discontinued during these three sessions of buddy skills training.
Staff Qualifications	Paraeducators
Key Findings	• The buddy skills package increased cooperative play between three preschoolers with developmental delays and their peers. • The intervention produced increases in the frequency of children's verbal comments. Child talk reached levels of 60% to 70% during intervention, which represents a significant increase from baseline. • Each playgroup continued to engage in high levels of cooperative play and talk during a final maintenance phase that extended from 4 to 16 sessions for the three playgroups.

Citation	**Justice, L. M., Logan, J. A. R., Lin, T.J., & Kaderavek, J. N. (2014). Peer effects in early childhood education: Testing the assumptions of special-education inclusion. Psychological Science, 25(9), pp. 1722-1729.**
Population and Sample	670 preschoolers (mean age=52 months) in 83 early childhood classrooms with 55% of the children having disabilities 670 preschool-age children enrolled in 83 ECSE classrooms in multiple school districts in a single Midwestern state over the course of a single school year. The children had an average age of 4 years 4 months, and the majority of the children were boys (65%, n = 433). Most of the students were White (65%); 9% were African American, 4% were Latino, and 2% were Asian. The remaining 20% were of other races or their parents provided no data. The students primarily spoke English (84%; < 1% spoke Spanish; data were not available for 15%). Annual family income was $30,000 or less (22%), $30,001 to $60,000 (22%), $60,001 to $85,000 (17%), $85,001 or more (22%), or was not reported (17%).
Methodology	Quasi-experimental with comparison groups
Purpose	This study examined whether peer effects were dependent on a child's disability status, a child's language skills relative to the other children within the classroom, or both. Disability status was determined on the basis of whether the child had an IEP. Two research questions were addressed: First, to what extent are peer effects observed in inclusive ECSE classrooms? Second, if such peer effects do occur, are they observed for both children with disabilities and typically developing children?
Measures & Assessments	• Descriptive Pragmatics Profile (DPP) of the CELF: P-2 language battery • Peer effect was estimated by calculating the average level of language skill exhibited by all children in the fall and then using peer skill to predict children's language development (peer skill being a classroom-level rather than child-level construct)
Study Implementation	All of the classrooms in which the children were enrolled served both children with disabilities and children without disabilities; the mean class size was about 13 children.
Staff Qualifications	The 83 lead teachers in these classrooms had chosen to participate in the study. The majority were female (99%, n = 82) and White (94%, n = 78), and 3% were African American (n = 2), 3% were Native American (n = 2), and 1% were Asian (n = 1). The teachers had an average of 12 years' teaching experience, and most held a master's degree (73.5%, n = 61).
Key Findings	• Peers' skills strongly predicted children's spring language scores (coefficient=0.64, p<.001) after controlling for relative skill status in the fall (coefficient=0.79, p<.001), confirming that children's spring language scores were significantly related to the language skills of their classmates. • Statistics showed that peer effects were significant even after controlling for disability status (coefficient=0.52, p<.001) and that the effect of peers' skill level depended on disability status (coefficient=0.18, p=.01). The results indicate that among children whose classmates have relatively low language skills, children with disabilities are more likely to be influenced by the skills of their peers than are those children without disabilities.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Recchia, S. L., & Lee, Y. (2004). At the crossroads: Overcoming concerns to envision possibilities for toddlers in inclusive child care. Journal of Research in Childhood Education, 19(2), pp. 175-188.**
Population and Sample	3 toddlers with developmental and their caregivers in an inclusive child care centers
Methodology	Qualitative case study
Purpose	The purpose of this study was to explore the child care experiences of three toddlers with special needs in an inclusive infant toddler child care center, with particular attention on parents' initial concerns, caregivers' perceptions of their growing relationships with the toddlers, and the children's experiences with peers. The following research questions were explored in the study: (1) What thoughts and feelings do these parents express regarding their children's entrance into inclusive child care? (2) How do the caregivers describe their developing relationships with these toddlers with special needs? (3) How are the issues raised by parents and caregivers reflected in children's social experiences in the classroom?
Measures & Assessments	• Parent, therapist, and teacher interviews • Caregiver journals • Child observations
Study Implementation	This study was part of a larger study focused on caregiver-child relationships conducted at a university-based infant and toddler child care program that served as a training site for graduate students studying infant and toddler development and practice. The program provided relationship-based care within the context of an early education setting. Caregivers learn to observe and interpret children's cues, and respond contingently to their needs and requests on an individualized basis, while supporting their integration into the infant-toddler classroom. Care was provided within an inter-age group for up to 10 children, ages six weeks to 36 months, with a consistent adult-child ratio of at least one adult to three children. The mixed age group provided a natural context for daily adaptations to the curriculum.
Staff Qualifications	Students, as opposed to lead teachers, were selected as participants for this study.
Key Findings	• Parents and caregivers expressed strong feelings of possibility for children with disabilities in the inclusive child care center, and on many levels, the children were very capable of being integrated into this environment. Successful integration was enhanced by a high level of support from the caregivers and open communication with parents. • Children with disabilities initiated less frequently and in more subtle ways, and were often less appropriately responsive to their peers. They relied on their caregivers for social support at a much higher level than most of the typically developing children at the center. • Although each of the children made consistent positive gains in social development, their social experiences with peers remained qualitatively different.

End Notes

[i] Buysse, V., Goldman, B. D., & Skinner, M. L. (2002). Setting effects on friendship formation among young children with and without disabilities. Council for Exceptional Children, 68, pp. 503-517.

[ii] Guralnick, M.J., Nevile, B., Hammond, M. A., & Connor, R. T. (2008). Continuity and change from full-inclusion early childhood programs through the early elementary period. Journal of Early Intervention, 30(3), pp. 237-250.

[iii] Holahan, A., & Costenbader, V. (2000). A comparison of developmental gains for preschool children with disabilities in inclusive and self-contained classrooms. Topics in Early Childhood Special Education, 20(4), pp. 224-235.

[iv] Hughett, K., Kohler, F. W., & Raschke, D. (2013). The effects of a buddy skills package on preschool children's social interactions and play. Topics in Early Childhood Special Education, (32(4), pp. 246-254.

[v] Justice, L. M., Logan, J. A. R., Lin, T.J., & Kaderavek, J. N. (2014). Peer effects in early childhood education: Testing the assumptions of special-education inclusion. Psychological Science, 25(9), pp. 1722-1729.

[vi] Rafferty, Y., Piscitelli, V., & Boettcher, C. (2003). The impact of inclusion on language development and social competence among preschoolers with disabilities. Exceptional Children, 69(4), pp. 467-479.

[vii] Recchia, S. L., & Lee, Y. (2004). At the crossroads: Overcoming concerns to envision possibilities for toddlers in inclusive child care. Journal of Research in Childhood Education, 19(2), pp. 175-188.

[viii] Strain, P. S., & Bovey II, E. H. (2011). Randomized, controlled trial of the leap model of early intervention for young children with autism spectrum disorders. Topics in Early Childhood Special Education, 31(3), pp. 133-154.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Nutrition and Physical Activity Self-Assessment for Child Care
Go NAP SACC

Goals

The goals of Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) are the following: 1) to improve the nutritional quality of food served, 2) to improve the amount and quality of physical activities, 3) to improve child care center nutrition and physical activity policy, and 4) to encourage staff-child interactions.

Go NAP SACC Snapshot

- **EC Profile Indicator:** H60 - Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports** use with early care professionals and preschool children 2 to 5 years of age
- **Related Smart Start outcomes:**
  - Increase in the provider practice of healthy behaviors
  - Increase in child practice of healthy behaviors
- **Purveyor training required:** Yes
- **Staff qualifications:** Smart Start funded Technical Assistance staff must meet TA Practitioner Qualifications
- **Minimal service threshold:** Completion of at least 1 cycle of the 5 steps of NAP SACC
- **Suggested Assessments:** Go NAP SACC assessment
- **Implementation Guidance:** http://www.napsacc.org/.

Program Features

NAP SACC interventions include the following components:

- Self-Assessment: The child care director and key staff complete the NAP SACC self-assessment tool, assessing the center on areas of nutrition and physical activity. The self-assessment is completed every six months.
- Action Planning: Based on self-assessment answers, with guidance and support from the NAP SACC consultant, centers choose three to four areas for improvement and create an Action Plan for making the improvements.
- Workshops: The NAP SACC consultant delivers four workshops to the child care center staff covering the topics: 1) childhood overweight, 2) nutrition for children, 3) physical activity for children, and 4) personal health and wellness for the staff.
- Targeted technical assistance: NAP SACC consultants maintain regular contact with the centers to provide support and guidance in making the improvements.

Evaluate, Revise, and Repeat: The NAP SACC self-assessment instrument is completed a second time to see where improvements have or have not been made. At this time the Action Plan is revised to include new goals and objectives and technical assistance continues.

Go NAP SACC is an updated version featuring new tools on an interactive website that builds on the foundation set by NAP SACC. Updates inlcude resources for children birth – 5 years, a new focus on breastfeeding and infant feeding, screen times, and outdoor play. This updated version can be tailored for different child care settings including family child care homes.

For more information regarding Nutrition and Physical Activity Self Assessment for Child Care use this link: http://www.napsacc.org/.

Target Audience

Early care professionals and preschool children ages birth to 5 years of age

Documented Outcomes

	Type of Study	Outcomes		
		Improved provider policies or practices related to nutrition or physical activity*	Increase in children's physical activity**	Increase in parent knowledge about nutrition or physical activity***
Alkon et.al. (2014)[i]	Experimental	✓	✓	✓
Battista etl.al. (2014)[ii]	Descriptive	✓		
Benjamin et.al. (2007)[iii]	Quasi-experimental	✓		
Benjamin Neelon et. al. (2014)[iv]	Experimental	✓		
Ward et.al. (2007)[v]	Experimental	✓		

*Aligned with Smart Start outcome *Increase in the provider practice of healthy behaviors*
**Aligned with Smart Start outcome *Increase in children's practice of healthy behaviors*
***Aligned with Smart Start outcome *Increase in parent knowledge*

Research Evidence for Nutrition and Physical Activity Self-Assessment for Child Care

- The program is most often linked to improved provider policies or practices related to nutrition and physical activity.

Review of Experimental and Quasi-Experimental Studies

Citation	**Benjamin, S. E., Ammerman, A., Sommers, J., Dodds, J., Neelon, B., & Ward, D. S. (2007). Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC): Results from a pilot intervention. Journal of Nutrition Education and Behavior, 39(3), pp. 142-149.**
Population and Sample	19 child care centers (15 intervention, 4 comparison) located in 8 counties in North Carolina
Methodology	Experimental
Purpose	To determine the feasibility, acceptability, and reported impact of Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC), a nutrition and physical activity environmental intervention in child care.
Measures & Assessments	• Self-assessment instrument developed for the study
Study Implementation	• The NAP SACC consultant worked with the centers to develop an action plan to improve at least 3 areas from the pre self-assessment instrument. Those selected were not necessarily those with the lowest scores but those that would result in the most fitting and lasting environmental changes at the centers. • The trained NAP SACC consultant delivered three 30-minute workshops to center directors and interested providers in the centers on childhood overweight, healthful eating, and physical activity. Attendees were awarded continuing education credits. • Ongoing TA (visits and calls) was provided by the NAP SACC consultant to center directors to support center policy and practice changes. • Post self-assessments were completed at the end of the 6-month intervention period.
Staff Qualifications	• Child Care Health Consultants
Key Findings	• Intervention centers rated themselves higher on the NAP SACC at follow-up than at baseline, and relative to comparison centers, reported a variety of environmental nutrition and physical activity improvements confirmed by research staff.

Citation	**Ward, D. S., Benjamin, S. E., Zimmerman, A. S., Ball, S. C., Neelon, B. H., & Bangdiwala, S. I. (2007). Nutrition and physical activity in child care: Results from an environmental intervention. American Journal of Preventive Medicine, 35(4), pp. 352-356.**
Population and Sample	• 29 child care health consultants randomly assigned to intervention (n=20) or delayed-intervention control groups (n=9) • 82 child care centers (56 intervention, 26 control) recruited as a convenience sample from consultants' caseloads
Methodology	Experimental; Randomized control trial
Purpose	To evaluate the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) intervention program.
Measures & Assessments	• Environment and Policy Assessment and Observation (EPAO) – administered pre and post training
Study Implementation	• The intervention included 5 steps: o Trained observers administered the EPAO before the intervention; o The NAP SACC consultant worked with the centers to develop an action plan with the goal of affecting about 20% of the nutrition and physical activity components contained in the assessment. o Center staff attended continuing education workshops; o TA was provided by the consultants; and o Trained observers completed the re-assessment following the intervention of about 6 months. • Field observers were blinded to center group assignment (intervention, control). • Implementation fidelity was considered as a possible moderating factor but fidelity was not measured in a systematic way.
Staff Qualifications	• Child Care directors implemented the activities; Child Care Health Consultants provided training and technical assistance to child care directors
Key Findings	• Of the 56 centers included in the intervention group, 41 completed most or all of the intervention and were included in the analysis. • The intervention centers showed an 11% improvement (not significant) from baseline to follow-up on the EPAO, while no change was observed in the control centers. • There was a significant pre/post difference on the EPAO between intervention groups that implemented the program and control groups for the nutrition items. • For the EPAO physical activity score, there was a positive change for the intervention group and a negative change for the control group. The difference between groups was not significant.

Citation	**Alkon, A., Crowley, A. A., Benjamin Neelon, S. E., Hill, S., Pan, Y., Nguyen, V., Rose, R., Savage, E., Forestieri, N., Shipman, L., & Kotch, J. B. (2014). Nutrition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. BMC Public Health, 14(215), pp. 1-13.**
Population and Sample	552 3-to-5-year olds (260 intervention, 292 control) 137 child care providers (76 intervention, 61 control)
Methodology	Experimental; Randomized control trial
Purpose	The purpose of this study was to evaluate the impact of the NAP SACC intervention conducted by trained nurse child care health consultants (CCHC) in licensed child care centers in three states. CCHCs are child health professionals with specialized training in child care health and safety issues. They conduct health and safety assessments, provide educational workshops in child care, consult with the directors on health and safety issues, and provide resources to help the center improve the quality of their health and safety policies and practices.
Measures & Assessments	• Diet Observation in Child Care (DOCC) • Environmental Physical Activity Observation (EPAO) • California Childcare Health Program (CCHP) Health and Safety Policies Checklist • Observation System for Recording Activity in Preschools (OSRAP) • Provider and Parent Questionnaires • Child height and weight measurements
Study Implementation	• Centers in the intervention group received $500 for their participation and were asked to purchase equipment or supplies to support physical activity. Control centers received NAP SACC intervention in year two. • CCHCs facilitated five one-hour workshops for child care providers and other staff (e.g., cooks, administrators) at the intervention centers on childhood obesity, healthy eating for young children,

	physical activity for young children, personal health and wellness and working with families to promote healthy behaviors. • Seven intervention centers also received the "Raising Healthy Kids: parent workshop at their center locations. • CCHCs worked with center directors to write or update their nutrition and physical activity policies. They also provided at least monthly on-site consultations and additional phone or email consultations, and distributed posters and information sheets on nutrition and physical activities. Posters were displayed at the centers and information sheets were given to providers and parents. • Data collection occurred at baseline and seven months post-intervention at all centers. • Research assistants in each state, who were blinded to group assignment, completed observations of physical activity and nutrition and assessments of centers' written policies and child-level height and weight measurements. • One additional research assistant, also blinded to group assignment, was trained to complete the NAP SACC measures of nutritional intake and physical activity based on observations of individual children in all three states. A 90% inter-rater reliability with the co-investigator was achieved prior to baseline data collection. • Center directors, child care providers, and parents completed demographic questions including information on ethnicity, education, and employment. • CCHCs completed a daily encounter form to report on consultation activities. • Child care director, provider, other staff, and parent knowledge were measured before and immediately after each workshop using four multiple choice questions per workshop.
Staff Qualifications	• Trained nurse child health professionals and child care providers
Key Findings	• Results showed significant increases in providers' and parents' knowledge of nutrition and physical activity, center-level improvements in policies, and decrease in child-level mean BMI for the treatment sites and participants with complete data relative to the control sites.

Citation	**Benjamin Neelon, S. E., Taveras, E. M., Ostbye, T., & Gillman, M. W. (2014). Preventing obesity in infants and toddlers in child care: Results from a pilot randomized controlled trial. Maternal Child Health Journal, 18, 1246-1257.**
Population and Sample	Convenience sample of 32 child care centers randomly assigned to intervention (n=16) and control (n=16) groups
Methodology	Experimental; Randomized control trial
Purpose	This study evaluated a pilot intervention, Baby Nutrition and Physical Activity Self-Assessment for Child Care (Baby NAP SACC), to improve the nutrition and physical activity environments of child care centers serving infants and toddlers.
Measures & Assessments	• Environment and Policy Assessment and Observation (EPAO) • Child Care Director Survey
Study Implementation	• A self-assessment, completed by directors at all intervention centers at the onset of the study, was developed for the study as an intervention instrument to highlight the best practice response and spark change in intervention centers at the onset of the study. • Based on the self-assessment intervention consisted of five steps: 1) self-assessment; 2) action planning; 3) technical assistance; 4) training; and 5) re-assessment. • Trained interventionists worked with directors to choose four targets areas (two nutrition and two physical activity) for improvement based on the self-assessments and to create an action plan to make these changes. • Centers received ongoing technical assistance provided at least monthly by the interventionist during the 6-month intervention period. TA included training, research, and intervention materials focused on the behavioral targets. • During months two through four of the intervention, interventionist delivered two workshops to center staff focused on infant and toddler feeding and physical activity. • Center directors completed a follow-up self-assessment at the end of the intervention period. • The Registered Dietitian, who provided regular feedback and support to the interventionists, supervised all intervention activities.
Staff Qualifications	• Child care directors • Of the two interventionists, one had an MPH degree in health education and one had a BS degree in Nutrition and was also a certified athletic trainer. They received four weeks of training on nutrition and physical activity for infants and toddlers.
Key Findings	• Intervention centers improved their obesity-related policies and practices, mostly driven by changes in physical activity.

	• At follow-up, EPAO score had increased by a mean of 12.8 points in the intervention group and decreased by 4.2 points in the control group. • For the physical activity domain, sedentary time, physical activity environment, and physical activity staff behaviors were the primary domains contributing to improved EPAO sub-score. • Based on follow-up questions of the 12 intervention directors, 92% reported being "satisfied" or "very satisfied" with the Baby NAP SACC intervention and 83% reported they would recommend the intervention to other center directors.

Review of Meta-Analyses

None

Review of Descriptive Studies and Non-Experimental Studies

Citation	**Battista, R., Oakley, H., Weddell, M. S., Mudd, L. M., Greene, J. B., & West, S. T. (2014). Improving the physical activity and nutrition environment through self-assessment (NAP SACC) in rural area child care centers in North Carolina. Preventative Medicine, 67, pp. S10-S16.**
Population and Sample	29 child care centers with mini-grants to improve nutrition and/or physical activity at their center. School district-affiliated centers included only elementary school pre-kindergarten (Pre-K) programs for those aged 3–5 years. Unaffiliated centers included infants through children aged five years and were classified as private child care centers such as family, non-profit centers, and/or Head Start Program with sliding fee scales and are subsidized through the federal Child and Adult Care Food Program (CACFP).
Methodology	Pre/post within group
Purpose	To determine if child care centers in rural, Western North Carolina met recommendations for nutrition and physical activity, if focusing on nutrition and physical activity practices and policies was effective in improving the center environment, and if differences existed between centers affiliated or unaffiliated with schools.
Measures & Assessments	• Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC)
Study Implementation	• Local health departments recruited child care centers to participate in the study by soliciting mini-grants or requests for proposals ranging from $1,000 to $8,000 to be used for improving nutrition and/or physical activity at their centers. Funding was provided by the Centers for Disease Control Communities Putting Prevent to Work. • Center directors completed the initial self-assessment. • Following the pre-self-assessment, child care centers were awarded their grant money but were not allowed to purchase equipment until workshops were completed with 100% attendance. • CCHCs worked with center directors to choose three specific focus areas (one in nutrition, one in physical activity, one of their choice focused on either nutrition or physical activity) for improvement and to develop action plans. • CCHCs presented a series of three 2-hour workshops covering five topic areas within the first two weeks of the intervention. Workshops were designed to improve child care staff's knowledge of nutrition and physical activity and to present strategies to change current practices and policies. Staff was provided with continuing education units for participating in the workshops. • Post assessment was completed approximately six months after the initial assessment.
Staff Qualifications	• Child care center directors and trained NAP SACC consultants
Key Findings	• At baseline, over 95% of the centers met all recommendations. However, post-intervention, results indicated significant improvement across center types in five out of 37 nutrition and seven out of 17 physical activity standards following the intervention. • Centers unaffiliated with schools made significant changes in ten nutrition standards, while those affiliated with schools improved in only two standards and decreased on one standard. • Overall, rural child care centers in Western North Carolina that were meeting standards were still able to strengthen policies and practices by following NAP SACC. This was especially true for centers unaffiliated with schools. • Continued financial support may assist centers in sustaining increased physical activity in children.

End Notes

[i] Alkon, A., Crowley, A. A., Benjamin Neelon, S. E., Hill, S., Pan, Y., Nguyen, V., Rose, R., Savage, E., Forestieri, N., Shipman, L., & Kotch, J. B. (2014). Nutrition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. BMC Public Health, 14(215), pp. 1-13.

[ii] Battista, R., Oakley, H., Weddell, M. S., Mudd, L. M., Greene, J. B., & West, S. T. (2014). Improving the physical activity and nutrition environment through self-assessment (NAP SACC) in rural area child care centers in North Carolina. Preventative Medicine, 67, pp. S10-S16.

[iii] Benjamin, S. E., Ammerman, A., Sommers, J., Dodds, J., Neelon, B., & Ward, D. S. (2007). Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC): Results from a pilot intervention. Journal of Nutrition Education and Behavior, 39(3), pp. 142-149.

[iv] Benjamin-Neelon, S. E., Taveras, E. M., Ostbye, T., & Gillman, M. W. (2014). Preventing obesity in infants and toddlers in child care: Results from a pilot randomized controlled trial. Maternal Child Health Journal, 18, 1246-1257.

[v] Ward, D. S., Benjamin, S. E., Zimmerman, A. S., Ball, S. C., Neelon, B. H., & Bangdiwala, S. I. (2007). Nutrition and physical activity in child care: Results from an environmental intervention. American Journal of Preventive Medicine, 35(4), pp. 352-356.

Additional Resources

University of North Carolina Center for Health Promotion and Disease Prevention. (n. d.). Nutrition and Physical Activity Self Assessment for Child Care (NAP SACC). Retrieved from http://www. napsacc.org/.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Consultation/Coaching

Goals

The goals of consultation/coaching are to engage in a process where the experience of an expert is used to help a child care professional to address a specific topic or issue and/or to develop a liaison with a child care professional to enhance the teacher's classroom skills and behaviors.

Practice Features

Coaches are experienced professionals, often with specific training in a coaching model or approach, who work with other professionals in the field to improve professional knowledge and practice.

According to the National Association for the Education of Young Children (NAEYC[1]), coaching is relationship-based. Coaches strive to develop a relationship with a more novice professional and use that relationship as a basis for facilitating professional improvements. For instances, coaches commonly observe the coachee in the practice of an activity and then give feedback. This occurs repeatedly over time. Coaching may also incorporate the steps and benchmarks necessary to achieve specific professional goals.

Consultation/Coaching Snapshot

- **EC Profile Indicators:**
  - PLA40 - Average Star Rating for Children in 1-5 Star Care and Percent of Children in 4 and 5 star care or
  - PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
- **Clearinghouse rating:** None
- **Research supports** use within the early childhood professional community for a range of outcomes of interest including improved teaching practices and teacher-child interactions
- **Related Smart Start outcomes:**
  - Improved ECE program environment
  - Improved teacher-child interaction
- **Staff qualifications:** North Carolina TA Level 11 and TA Endorsement
- **Suggested Measures:** Program Star Levels, CLASS

Coaching can be typified more by the nature of the learning relationship between coach and coachee rather than by any particular approach. As shown in the research below, there are a wide range of activities that coaches may draw upon in promoting a desired change in professional behavior. What appears to be consistent, however, is the nature of the coach—coachee relationship in which a coach is an experienced, or "master", professional with the ability to observe practices and provide specific guidance and advice in support of goals or improvements. The coach—coachee may have regular interactions over a period of time spanning months, if not years.

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[1]Both coaching and mentoring are relationship-based as defined by the National Association for the Education of Young Children. However, in mentoring the relationship is peer-to-peer versus the more hierarchical relationship that typifies coaching. Further, mentoring often incorporates the development of concrete professional skills as well as social and emotional support and outlets. In contrast, coaching tends to incorporate the steps and benchmarks necessary to achieve specific professional goals. However, it is important to note that mentoring and coaching often are used interchangeably and may encompass a broad suite of activities and support. (Early Childhood Education Professional Development: Training and Technical Assistance Glossary. 2011. National Association for the Education of Young Children, National Association of Child Care Resource & Referral Agencies)

Target Audience

Early care and education professionals

Documented Outcomes

	Type of Study	Outcomes	
		Improved teacher practices*	Improved teacher-child interaction**
Zan & Donegan-Ritter (2014) [i]	Experimental		✓
Kretlow & Bartholomew (2010)[ii]	Meta-analyses	✓	
Hemmeter et.al. (2015)[iii]	Non-experimental	✓	✓
Onchwari & Keengwe (2008)[iv]	Non-experimental	✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with the Smart Start outcome *Improved ECE program environment*
**Aligned with the Smart Start outcome *Improved teacher-child interaction*

Research Evidence for Coaching

- Coaching has been linked to the improvement of teacher-child interactions as well as a wider range of teacher behaviors such as literacy practices and implementation to fidelity of the Pyramid Model.

Review of Experimental and Quasi-Experimental Studies

Citation	**Zan, B., & Donegan-Ritter, M. (2014). Reflecting, coaching and mentoring to enhance teacher–child interactions in Head Start classrooms. Early Childhood Education Journal, 42, pp. 93–104.**
Population and Sample	The study involved the directors of four Head Start programs (Iowa), who selected 4-6 supervisors for mentor training (n=19). Sixty teachers (60) from 30 classrooms received the intervention. Directors of four Head Start grantees in Iowa were contacted by project staff to discuss the opportunity for their staff to participate in an intensive eight month long program of CLASS-based PD. Each agreed to participate. Two of the grantees were located in urban areas and two were located in primarily rural areas. Participants in the project included mentors (the education supervisors) and teachers (both lead and assistant).
Methodology	Experimental with random assignment to intervention
Purpose	The study's goal was to assess the impact of the professional development series on the quality of teacher-child interactions. The goals of the CAMP Quality project were: (a) to increase the effectiveness of Head Start teachers in promoting the language, academic, social, and emotional development of children: (b) to increase the effectiveness of Head Start supervisors in mentoring Head Start teachers, and (c) to improve the educational and social-emotional outcomes of Head Start children. The research questions were: (a) do preschool teachers who participate in an eight month long program of intensive PD improve their interactions with children? and, (b) do teachers who possess a bachelor's degree or higher make the same gains as teachers who have lower educational attainment?
Measures & Assessments	Classroom Assessment Scoring System (CLASS)
Study	The intervention was Coaching and Mentoring for Preschool Quality (CAMP Quality). CAMP

Implementation	incorporated an eight-month cycle of (a) monthly video-based self-reflection, (b) monthly peer coaching, (c) monthly mentoring sessions, and (d) bimonthly workshops. The focus of all professional development activities was classroom interactions, as defined in the Classroom Assessment Scoring System (CLASS). The first month's focus was broad and served to introduce participants to the self-reflection, peer coaching, and mentoring process. The second month's coaching and mentoring focused on emotional supports, given that this was typically an area of strength for teachers. Two months of coaching and mentoring focused on classroom organization. Four of the eight months of coaching and mentoring focused on the instructional support domain of CLASS.
Staff Qualifications	The project made a deliberate decision to use Head Start supervisors as coaches or mentors, rather than outside experts. The project provided training in coaching skills and ongoing support on a monthly or as-needed basis. The supervisors who assumed the role of mentor each worked with one classroom team that was a part of their assigned caseload. Each classroom team was comprised of a lead teacher and an assistant teacher or two co-teachers. Before the start of the project, mentors participated in a two-day training, conducted by project staff, to use CLASS with reliability. The mentors from each grantee met monthly with their assigned project staff in a small group setting to develop mentoring skills (e.g., effective communication, descriptive praise). During these mentor development meetings they often viewed DVDs of classroom observations in order to closely observe specific interactions, discuss ways to coach teachers in the change process, and address issues that mentors raised (such as overcoming resistance). The meetings allowed project staff to model collaboration by sharing resources and engaging in open communication with the mentors. The project staff, certified as CLASS trainers, also conducted regular CLASS reliability drift checks during these meetings.
Key Findings	• Teachers in the intervention (n=38) scored significantly higher than comparison teachers (n=22) at the close of the professional development series. • Significant improvements were observed in four dimensions: (a) behavior management, (b) productivity, (c) language modeling, and (d) quality of feedback. • Improvements were identified in intervention teachers who did and did not have college degrees. • Head Start education supervisors, when trained and provided with ongoing support, provided effective mentoring and coaching for the improvement of teacher practices.

Review of Meta-Analyses

Citation	**Kretlow, C. C., & Bartholomew, A. G. (2010). Using coaching to improve the fidelity of evidence-based practices: A review of studies. Teacher Education and Special Education, 33(4), pp. 279–299.**
Population and Sample	13 studies met inclusion criteria and were included. Inclusion criteria included: (a) studies that used a research design that allowed for causal inference; (b) it was published in a peer-reviewed journal; (c) participants were preservice or in-service teachers in general or special education working with students from preK to Grade 12; (d) the independent variable was coaching (i.e., supervisory or side-by-side); (e) the dependent variable was a direct, observable measure of specific instructional characteristics; and (f) coaching was related to an evidence-based practice with support for improving academic performance or appropriate classroom behavior.
Methodology	Literature review and synthesis
Purpose	The study's goal was to determine whether or not coaching had an impact on preservice and in-service teachers' implementation of evidence-based practices.
Measures & Assessments	Varied across study
Study Implementation	Varied across study
Staff Qualifications	Varied across study
Key Findings	• Coaching was associated with implementation of practices such as Class-Wide Peer Tutoring, Direct Instruction, Learning Strategies, and Positive Behavior Support • Critical coaching components include highly engaged, small-group initial training followed by observations, feedback, and modeling • Studies associate coaching with improvements in teaching accuracy • Some studies associate coaching with improvements in student achievement

Review of Descriptive and Non-Experimental Studies

Citation	**Hemmeter, M. L., Hardy, J. K., Schnitz, A. G., Adams, J. M., & Kinder, K. A. (2015). Effects of Training and Coaching With Performance Feedback on Teachers' Use of Pyramid Model Practices. Topics in Early Childhood Special Education, 35(3), pp. 144–156.**
Population and Sample	The study incorporated three teachers from an urban school district. The teachers had been control group members in a prior study. The study took place in blended preschool classrooms in three elementary schools. All classrooms had between 14 and 16 children, about half who had disabilities, and all classrooms had a lead teacher and an assistant teacher. Each teacher had 2 to 4 children with persistent, ongoing challenging behavior and a high percentage of children receiving free or reduced price lunch (87.5%–93.8%).
Methodology	Non-experimental, gains within treatment group Multiple probe design across sets of practices, replicated across teachers
Purpose	The study's goal was to assess the impact of coaching and performance feedback on implementation of the Pyramid Model practices. The study also sought to assess how well the targeted professional practices were generalized and maintained. The following research questions were addressed: Research Question 1: Is training and coaching effective for increasing teachers' use of practices related to the *Pyramid Model*? Research Question 2: Do teachers generalize the use of coached practices to activities other than those in which they were coached? Research Question 3: Do teachers maintain practices after coaching on those practices end? Research Question 4: Does implementing the *Pyramid Model* practices with fidelity decrease classroom-wide instances of challenging behavior? Research Question 5: Does implementation of the *Pyramid Model* overall improve when teachers receive training and coaching on specific *Pyramid Model* practices? Research Question 6: What are teachers' perspectives of the coaching process, coaching relationship, and sustainability of the *Pyramid Model* practices?
Measures & Assessments	• Pyramid Model checklists • Class-Wide Challenging Behavior Observation Tool • Teaching Pyramid Observation Tool (TPOT)
Study Implementation	• Coaching in the Pyramid Model wherein there was a baseline phase (the coach did not provide any feedback) and an intervention phase (the coach provided coaching and performance feedback focused on a specific practice). The intervention required the teachers to become proficient; coaching was provided until the teacher could demonstrate the desired professional practice to specifications. The coaching strategies included: (a) providing materials, (b) modeling, (c) helping in the classroom, (d) problem-solving, (e) reflective conversation, (f) environmental arrangement, (g) side-by-side verbal or gestural support, (h) goal setting and planning, and (i) graphing. • Observations took place in the classrooms during the regular school day. Coaching sessions took place in the classroom, during naptime or after school. • The primary behaviors of interest were the teacher's use of specific practices associated with the *Pyramid Model*. These behaviors were measured through the use of researcher-designed checklists that were based on an earlier version of the TPOT. Nine checklists were developed, and each checklist contained 7 to 10 indicators related to the practice, with precise criteria for receiving credit for each indicator. These data were collected approximately 1 to 2 times per week. During each observation, the coach collected data on the teacher's current set of targeted practices. In addition, the coach collected intermittent probe data on the other sets of targeted practices during at least 30% of data collection observations. • A different data collector observed and collected data periodically throughout the intervention phase for each targeted practice. The teacher was unaware of the purpose of these observations, and the coach was not present during these observations. These data will hereafter be referred to as alternate observer checks. In addition, inter-observer agreement (IOA) data were collected on at least 33% of the observation sessions to ensure that the coach's data were reliable. • During the study, IOA data were collected for all teacher, classroom, and child measures. At least 30% of observations using each measure were conducted with a primary and reliability data collector. The percentage agreement between the two data collectors was calculated using a point-by-point formula: • The number of agreements divided by the number of agreements plus disagreements was multiplied by 100.

	• Procedural fidelity data were collected on at least 20% of each type of coaching session for each coach (i.e., goal setting, training and action planning, debriefing, email, closing). All coaching sessions were audio recorded, and all coaching emails were saved. Coaching sessions and emails were randomly selected to be reviewed by a procedural fidelity data collector. The data collector used a checklist when listening to the audio recordings and viewing the emails to determine if the coach followed the protocol for each type of session. Procedural fidelity percentages were calculated by dividing the number of items present by the number of items possible and multiplying by 100. • In addition, to ensure procedural fidelity was completed reliably, another data collector independently completed the procedural fidelity checklists for at least 20% of all sessions that were reviewed for procedural fidelity. IOA between the two procedural fidelity data collectors was calculated using point-by-point agreement.
Staff Qualifications	Before the study began, data collectors were trained on each tool and practiced using each tool in non-participating classrooms. They were required to be reliable on each tool prior to collecting data for the study. For teacher checklists, each data collector was required to complete two observations (paired with two different observers) at 80% reliability for each checklist to be considered reliable. To be considered reliable on classroom and child measures (i.e., TPOT and CCBOT), each data collector had to complete three observations with an already trained data collector, with at least 80% agreement on the measure being used.
Key Findings	• An intensive and individualized coaching model (coaching provided at least 2-3 times per week in person or by email) is effective at improving teacher use of targeted Pyramid Model practices. • Teachers did not uniformly translate targeted practices into areas in which they had not received specific support. • Teachers can maintain targeted practices after receiving coaching; check-ins and reminders may facilitate maintenance of desired practices. • Group coaching also may be a viable model for improving teacher practices.

Citation	**Onchwari, G., & Keengwe, J. (2008). The impact of a mentor-coaching model on teacher professional development. Early Childhood Education Journal, 36, pp. 19–24.**
Population and Sample	The study involved 44 Head Start teachers from two mid-western states; participating teachers had participated in the Early Literacy Mentor-Coaches program.
Methodology	Non-experimental, gains within treatment group
Purpose	The study's goal was to assess the success of a mentor-coach program on improving teacher literacy practices among Head Start teachers. Six open ended questions were used. 1. Is the mentor–coach initiative continuing in your program? 2. What forms of training and materials did you receive or have you received in the process of the mentor–coach initiative? 3. How often did you receive this support during the mentor coach process? 4. How helpful was the mentor–coach initiative in supporting and enhancing your literacy practices? 5. What are some of the aspects of the mentor–coach initiative training that you have implemented in your teaching and classrooms? 6. What challenges did you face in implementing the strategies leaned in the mentor-initiative; what other concerns do you have about the initiative?
Measures & Assessments	• Teacher interview • Early Language and Literacy Classroom Observation toolkit (ELLCO)
Study Implementation	The intervention was the Strategic Teacher Education Program (STEP) Early Literacy Mentor–Coach initiative model. Mentor teachers received training in appropriate ways to mentor and support other teachers in literacy practices, including "*providing appropriate literacy environments and routines, phonological awareness, written expression, language development, print and book awareness, motivation to read, read aloud, letter knowledge, and literacy mentoring areas strategies*." Mentor teachers then provided support to two or more teachers. Mentor teachers received training from Mentor-Coach Specialists from regional Quality Improvement Centers, twice a month, for four-hours a session, over a five-month period. Teachers that received mentoring from the Early Literacy Mentor-Coaches were targeted. Participating programs were visited and one-on-one interviews with each participating teacher were held. The interviews focused on obtaining the teachers' views about the success of the mentor coach initiative in their programs. Classroom observations were also carried out after interviews to ascertain aspects of the training teachers had implemented in their classrooms.
Staff Qualifications	Not addressed

Key Findings	• Head Start programs experienced a positive impact mentor–coach initiative within the 6 months that it was implemented. • Following observations that were made, it was evident that classrooms had the materials required as outlined in the ELLCO toolkit. Nearly half of the classrooms observed had the same supplies of the STEP literacy materials stocked in their shelves. A difference was noted, however, in the use of materials. While most of the classrooms had the same materials, most of the materials were stocked up in shelves. It is important that teachers are given training and support to effectively adopt materials into their daily teaching. • Just over 50% of teachers reported that the initiative was very helpful for improving literacy practices, followed by 34% of teachers who reported the initiative was somewhat helpful for improving literacy practices. • Some teachers believed the program provided instruction and support in domains in which they already had received training (i.e., in college courses). • Some teachers questioned whether the initiative used practices that were developmentally-appropriate for preschoolers.

End Notes

[i] Zan, B., & Donegan-Ritter, M. (2014). Reflecting, coaching and mentoring to enhance teacher–child interactions in Head Start classrooms. Early Childhood Education Journal, 42, pp. 93–104.

[ii] Kretlow, C. C., & Bartholomew, A. G. (2010). Using coaching to improve the fidelity of evidence-based practices: A review of studies. Teacher Education and Special Education, 33(4), pp. 279–299.

[iii] Hemmeter, M. L., Hardy, J. K., Schnitz, A. G., Adams, J. M., & Kinder, K. A. (2015). Effects of Training and Coaching With Performance Feedback on Teachers' Use of Pyramid Model Practices. Topics in Early Childhood Special Education, 35(3), pp. 144–156.

[iv] Onchwari, G., & Keengwe, J. (2008). The impact of a mentor-coaching model on teacher professional development. Early Childhood Education Journal, 36, pp. 19–24.

Additional Resources

Artman-Meeker, K., Fettig, A., Barton, E. E., Penney, A., & Zeng, S. (2015). Applying an evidence-based framework to the early childhood coaching literature. Topics in Early Childhood Special Education, 35(3), pp. 183–196.

Lloyd, C. M., & Modlin, E. L. (2012). Coaching as a key component in teachers' professional development improving classroom practices in Head Start settings. OPRE Report 2012-4, Washington D.C.: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

National Association for the Education of Young Children, & National Association of Child Care Resource and Referral Agencies. (2011). Early childhood education professional development: Training and technical assistance glossary. Washington, DC: Authors. Retrieved from http://www.naeyc.org.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Communities of Practice

Goals

The goal of a Community of Practice is to provide a space and opportunity, whether face-to-face or virtual, for shared learning and inquiry among professionals.

Practice Features

Wenger (2011) defined a Communities of Practice as *"groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly."* Wenger further reported that Communities of Practice were identified by three characteristics: (a) shared domain of interest; (b) members who "engage in joint activities and discussions, help each other, and share information. They build relationships that enable them to learn from each other"; and (c) a sense of practice (shared resource, experiences, tools, advice, guidance, etc.).[i]

By participating in a Community of Practice, providers gain from each other's knowledge and experience in a mutually supportive environment, thereby advancing their own knowledge and practice as well as that of their Community of Practice peers and the profession.

The Communities of Practice studied in the research consulted for this review each used designated facilitators.

Target Audience

Early care and education professionals

Communities of Practice Snapshot

- **EC Profile Indicators:**
  - PLA40 - Average Star Rating for Children in 1-5 Star Care and Percent of Children in 4 and 5 star care or
  - PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
  - EDU 10 - Percent of children enrolled in 1-5 star centers that have at least 75% of lead teachers with college degrees
  - EDU 20 – Percent of children enrolled in 1-5 star centers that have directors with college degrees
- **Research supports** use within the early childhood professional community
- **Related Smart Start outcomes:**
  - Improved teacher/director knowledge
  - Improved ECE program environment
- **Training required:** Yes, typically for the facilitator
- **Frequency:** Generally once a month or more

Documented Outcomes

	Type of Study	Improved provider attitudes	Improved practices*	Improved trust among participants
Haine-Schlagel et al. (2013)[ii]	Non-experimental	✓	✓	
Thornton & Cherrington (2014)[iii]	Non-experimental, case studies			✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Improved ECE program environment*

Research Evidence for Communities of Practice

- A small case study of four communities of practice suggests that the practices of the professional leader and the level of relational trust among the members of the group have an impact on the effectiveness and sustainability of Professional Learning Communities (PLCs).[iv]
- Participants responded positively in an examination of learning communities in the mental health arena with reported changes in in attitudes, and individual and organizational practices.[v]

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Haine-Schlagel, R., Brookman-Frazee, L., Janis, B., & Gordon, J. (2013). Evaluating a learning collaborative to implement evidence-informed engagement strategies in community-based services for young children. Child Youth Care Forum, 42, pp. 457–473.**
Population and Sample	• 29 providers from four hospital-based early childhood intervention programs in teams of 5-11 members; 26 provided demographic information: o 26 females ranging in age from 23 to 49 o 42% Caucasian, 35% Hispanic/Latino, 23% African American, Asian American, mixed, or other o 38% with Bachelor's degrees or less, 50% with Master's, 12% with Doctorates
Methodology	Non-experimental
Purpose	This study on examined the feasibility and effectiveness of using the Breakthrough Series Collaborative-based learning collaborative (LC) to implement evidence-informed attendance engagement strategies in community-based early intervention programs. The study utilized a train-the-trainer model and the LC was facilitated by a trainer certified on the attendance engagement intervention over a 9-month period.
Measures & Assessments	• Pre Learning Collaborative (LC) Survey • Participant Perceptions of the LC Process: Satisfaction • Participant Perceptions of Impact on Client Attendance: Perceived Improvement on • Attendance

	• Participant Attitudes Towards EBPs: Modified Practice Attitudes Scale (MPAS) • Participant Adoption of TIES Strategies: Self-Reported Practice Changes • Team Fidelity to TIES Strategies: Plan-Do-Study-Act Form (PDSA) • Participant Plans to Sustain Practice Changes • Team Plans to Sustain Practice Changes
Study Implementation	• Providers received a one-day collaborative-based training in evidence-based practices, including evidence-informed attendance engagement interventions, using Training Intervention for the Engagement of Families (TIES). The training was available to all employees from four early intervention programs. • Following the training, LC teams were selected by program leaders and monthly meetings were held to encourage systematic implementation of the TIES strategies. The meetings involved 3 action cycles consisting of a 3-hour learning session and 2 1-hour check-in sessions held over a 9-month period. Participants were required to attend the learning sessions in person but had the option to attend the check-in meetings in person or by phone. Learning sessions included training on improvement strategies and methods for implementing and sustaining organizational change, opportunities for programs to examine their current processes and develop ideas and plans to implement changes, and opportunities to provide feedback to each other. Check-in sessions included progress reporting and opportunities for participants to provide feedback and troubleshoot challenges. LC teams submitted monthly Plan-Do-Study-Act reports to the LC facilitator. • A Google Group was established for cross-program sharing and feedback. • A pre LC Perceptions Survey and a measure of attitudes about EBPs were completed by 26 of 29 participants at the first LC learning session. Both surveys were completed at the end of the LC by 22 of 27 participants. • Team Fidelity to TIES Strategies: Plan-Do-Study-Act Form (PDSA) was submitted monthly to the LC facilitator.
Staff Qualifications	• The first author was a certified trainer and a paid consultant of Danya International, owner of the TIES training and LC implementation protocols. The first author co-conducted the training with Dr. McKay and independently facilitated LC.
Key Findings	• Early intervention providers engaged in the learning collaborative, which was associated with improvements in attendance and an increase in attitudes towards EBPs. • 82% of participants reported improvement in family attendance as a result of LC. • Post MPAS scores were significantly higher at the end of the LC, indicating improved participant attitudes about EBPs. • 91% of participants reported that they had improved their approach to engaging families as a result of the LC. The most common changes in individuals include an increased focus on collaboration and alliance with parents and caregivers (e.g., encouraging parent and caregiver participation in decision making and goal setting, tailoring services to the family, having patience and focusing on the individual), improved clarity of communication with families, and being receptive to parent and caregiver feedback and trying new strategies. Organizational level changes include improving data collection and reporting and changes to policies and procedures (e.g., consistency across staff/sites, streamlining processes) to support parent and caregiver engagement. • All participants reported they were likely to continue the change in approach to interacting with families.

Citation	**Thornton, K., & Cherrington, S. (2014). Leadership in professional learning communities. Australasian Journal of Early Childhood, 39(3), pp. 94-102.**
Population and Sample	35 teachers from 18 sites in four Professional Learning Communities
Methodology	Case studies
Purpose	The study focused on leadership in different models for professional learning communities (PLCs) in the early childhood profession. The goal of the study was to explore the factors that contribute to effective PLCs in early care and education, particularly organizational and structural factors, as key influences on the effectiveness of PLCs including leadership.
Measures & Assessments	• PLC blogs • Individual reflective journal entries and online discussions • Pre/post online surveys • Group interviews
Study Implementation	• Four PLCs were formed and facilitated over a period of six months. Two involved one facility with all members of the teaching team focused their action research on an area of interest to their

	facilities. The other two were 'cluster' PLCs that included teaching staff from several different facilities. These PLCS focused on the interest of the researchers, with one being leadership and the other being reflective practice. • All four PLCs met regularly and worked on action research projects between meetings. A research assistant was available to provide support, take meeting minutes, video-record practice, and collect observational data. Meeting notes and final group interviews were transcribed. • Each PLC established a Moodle site with related resources, discussion forums for documenting the action research process, blogs, and reflective journal entries (only accessible to individual PLC members and the researchers). • All data were content analyzed for patterns and themes relating to leadership practice.
Staff Qualifications	• Participating services were required to have all teachers qualified and registered. • This study involved two researchers and one research assistant. • Head teachers or managers served as professional or designated leaders.
Key Findings	• Survey results indicated that shared leadership and relational trust increased through participation in the PLCs. • Professional leader support is necessary for the effective functioning of PLCs and for embedding any change in practice. • The study highlighted the importance of several factors on the effectiveness of PLCs: o Sharing a learning focus o Cultivating involvement and distributed leadership o Nurturing respectful, trusting relationships o Promoting collaborative inquiry o Ensuring supportive structures o Drawing on external facilitators and critical friends • The authors cautioned that findings from this small-scale case study into leadership in PLCs cannot be transferred to other ECE contexts

End Notes

[i] Wenger, E. (2011). Communities of Practice: A Brief Introduction.

ii Haine-Schlagel, R., Brookman-Frazee, L., Janis, B., & Gordon, J. (2013). Evaluating a learning collaborative to implement evidence-informed engagement strategies in community-based services for young children. Child Youth Care Forum, 42, pp. 457–473.

iii Thornton, K., & Cherrington, S. (2014). Leadership in professional learning communities. Australasian Journal of Early Childhood, 39(3), pp. 94-102.

[iv] Ibid

[v] Haine-Schlagel, R., Brookman-Frazee, L., Janis, B., & Gordon, J. (2013). Evaluating a learning collaborative to implement evidence-informed engagement strategies in community-based services for young children. Child Youth Care Forum, 42, pp. 457–473.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Color Me Healthy

Goals

The goals of Color Me Healthy are the following: 1) to introduce children at an early age to nutritious foods, 2) to help children explore opportunities for physical activity, and 3) to have young children share nutrition and activity messages with those living in their homes.

Program Features

Color Me Healthy is a program delivered in child care centers, home child care programs, and Head Start classrooms. This curriculum is used with 4- and 5-year-olds and is designed to show children that healthy food and physical activity are fun. This is accomplished through the use of activities designed to stimulate all of the child's senses (North Carolina Division of Public Health, 2012).

Color Me Healthy Snapshot

- **EC Profile Indicator:** H60 - Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse rating:** None
- **Research supports** use with children in child care 4 to 5 years of age and their families
- **Related Smart Start outcomes:**
  - Increase in child practice of healthy behaviors
- **Purveyor training required:** Yes
- **Staff qualifications:** Smart Start funded Technical Assistance staff must meet TA Practitioner Qualifications
- **Frequency:** Minimum weekly
- **Dosage:** 15-30 minutes per session
- **Implementation Guidance:** http://www.colormehealthy.com.

The Color Me Healthy curriculum includes a teacher's guide, picture cards, classroom posters, a compact disk, and cassette tape with seven songs, and reproducible parent newsletters. The teacher's guide contains 12 lessons designed to be used during "circle time" that last 15 to 30 minutes and can be taught daily or weekly. Also included in the kit are six "imaginary trips" that allow children to use their imagination to travel to different places or events. The newsletters are written on a fifth-grade reading level and are designed to provide families with information about healthy eating and physical activity. They also provide suggestions about how the family can be active together and ways to encourage more fruit and vegetable consumption.

Color Me Healthy uses a train-the-trainer approach to support child care provider directed implementation of the program. In the North Carolina counties that offer Color Me Healthy, staff training is provided by N.C. Cooperative Extension agents and a local community partner, usually the county health department.

For more information regarding Color Me Healthy use this link: http://www.colormehealthy.com.

Target Audience

Children in child care 4 to 5 years of age and their families.

Documented Outcomes

	Type of Study	Child Outcomes		
		Increased healthy eating habits*	Increased knowledge related to healthy eating*	Increased physical activity*
Witt & Dunn (2012)[i]	Experimental	✓	✓	
Dunn et al (2006)[ii]	Non-experimental	✓	✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in children's practice of healthy behaviors*

Research Evidence for Color Me Healthy

- This program is linked to increases in healthy practices of children including healthful eating and physical activity.

Review of Experimental and Quasi-Experimental Studies

Citation	**Witt, K. F., & Dunn, C. (2012). Increasing fruit and vegetable consumption among preschoolers: Evaluation of *Color Me Healthy*. Journal of Nutrition Education and Behavior, 44(2), pp. 107-113.**
Population and Sample	Seventeen preschool classrooms located in Boise, Idaho participated in the study. Child care centers were randomly assigned to one of two conditions: children (n=165) in 10 centers received the *Color Me Healthy* (CMH) curriculum and children (n=98) in 7 centers served as a comparison group and did not receive the curriculum. A total of 83 CMH and 70 comparison preschool children received fruit for snack at three time periods and 70 CMH and 52 comparison preschool children received vegetables for snack at three time periods.
Methodology	Experimental
Purpose	To determine whether *Color Me Healthy* increases fruit and vegetable consumption.
Measures & Assessments	• Teacher Surveys • Pre/post (before and after serving snack to children) weights of fruit and vegetable snacks at baseline, one week after the curriculum, and three-months after the curriculum.
Study Implementation	• The study conducted a process evaluation to ensure fidelity of program implementation. • Color Me Healthy was implemented for 6 weeks; 2 circle-time lessons and 1 imaginary trip were taught to the children each week. Lessons were 15-30 minutes in duration. • Color Me Healthy comes in a "toolkit" that includes a teacher's guide, 4 sets of picture cards, classroom posters, a music CD that contains 7 original songs, a hand stamp, and reproducible parent newsletters. • The process evaluation assessed delivery of lessons to the children, children's attendance at the lessons, and the completion of take-home activities.

Staff Qualifications	• The lead teachers were responsible for teaching the CMH curriculum. • The lead teachers from the 10 CMH classrooms attended a training session that was held prior to program implementation. The teachers learned about the curriculum and were instructed on how to teach each lesson and imaginary trip.
Key Findings	• Ninety percent of CMH teachers thought children were eating more fruits and vegetables and all CMH teachers thought children were recognizing more fruits and vegetables since initiating the program. • The study found that children who received CMH increased their consumption of fruit snack by 31.2% and vegetable snack by 24.2% between baseline and the immediate follow up (one week after the program) and increased their consumption of fruit snack by 20.8% and vegetable snack by 33.1% between baseline and the three-month follow up. • The study found a statistically significant difference in the percentage of fruit and vegetable snack consumed between CMH and comparison children at both the immediate (Fruit: CMH=89.9% and Comparison=58.3%; Vegetable: CMH=62.1% and Comparison=33.2%) and three-month follow up (Fruit: CMH=79.5% and Comparison=64.9%; Vegetable: CMH=71.0% and Comparison=34.0%). • Hierarchical linear modeling determined that group assignment (i.e., CMH or comparison) was the only significant predictor of fruit and vegetable consumption.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Dunn, C., Thomas, C., Ward, D., Pegram, L., Webber, K., & Cullitan, C. (2006). Design and implementation of a nutrition and physical activity curriculum for child care settings. Preventing Chronic Disease, 3(2), pp. 1-8.**
Population and Sample	An 8-week follow up survey was sent to 1,023 child care providers in North Carolina who participated in a Color Me Healthy Training. A total of 486 child care providers completed the survey.
Methodology	Non-experimental
Purpose	To evaluate the *Color Me Healthy* curriculum.
Measures & Assessments	Child care provider surveys
Study Implementation	• There was a "Train-the-Trainer" session to teach county representatives how to teach the program to local child care providers. Representatives came from North Carolina Cooperative Extension and the North Carolina Division of Public Health. • Child care providers were asked to rate the training and the materials, after attending a local training session. • More than 85% of providers responding to a follow-up survey reported using 6 out of the 7 program components. 67% of survey respondents reported using the parent newslettters. This may have been due to the cost of duplicating the newsletters for distribution.
Staff Qualifications	• The article did not provide details on specific qualifications for trainers. The program is designed to be implemented by child care providers.
Key Findings	Following 8 weeks of implementing the curriculum: • 92% of providers indicated that using the curriculum increased the physical activity of their students and increased the children's knowledge about movement. • 93% indicated that it increased children's knowledge about healthy eating. • 79% indicated that children were more willing to try new foods. • 82% reported that the curriculum improved children's fruit and vegetable recognition.

End Notes

[i] Witt, K. F., & Dunn, C. (2012). Increasing fruit and vegetable consumption among preschoolers: Evaluation of Color Me Healthy. Journal of Nutrition Education and Behavior, 44(2), pp. 107-113.

[ii] Dunn, C., Thomas, C., Ward, D., Pegram, L., Webber, K., & Cullitan, C. (2006). Design and implementation of a nutrition and physical activity curriculum for child care settings. Preventing Chronic Disease, 3(2), pp. 1-8.

Additional Resources

North Carolina Division of Public Health. Color Me Healthy. 2012. Retrieved from http://www. colormehealthy.com/.

San Bernardino County Department of Public Health. Healthy San Bernardino: Promising Practices database. 2006. Retrieved from http://www.healthysanbernadinocounty.org/modules.php?op=modload&name=PromisePractice&file=index.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Motheread Story Exploring

Goals

Motheread Story Exploring hopes to "foster problem solving, increase comprehension, and nurture a love of books" through its program of targeted reading, writing, listening, and speaking activities (*Source: http://www.motheread.org/ curriculum/story-exploring/)*

Motheread Story Exploring Snapshot

- **EC Profile Indicator:** PLA 40 Average Star Rating for Children in 1-5 Star Care, and Percent of Children in 4 and 5 star care; KEA10 Kindergarten Entrance Assessment
- **Clearinghouse Rating:** None
- **Research supports** use with parents and caregivers working with children ages birth through five
- **Related Smart Start outcomes:**
  - Improved teacher knowledge
  - Increase in the adult's use of recommended reading strategies
  - More children on track for typical or enhanced development
- **Purveyor training required:** Yes,
- **Smart Start information or guidance:** Yes, see LP Central
- **Dosage:** Weekly
- **Implementation Guidance:** http://www.motheread.org/training/story-exploring-training/

Program Features

Story Exploring is a Motheread program designed for use by caregivers such as teachers or early educators. The program was developed to give caregivers strategies that help improve or increase "children's reading comprehension, vocabulary, and translation from spoken language to the written word."

The program provides handbooks, which are available in four reading levels: infants and toddlers, older preschoolers, children in kindergarten through grade 2, and children in grades 3 through 5. There are lessons for adults to use, which include open-ended questions and prompts for child responses, in addition to other activities and props. The curriculum also includes take-home materials to help parents extend the Story Exploring experience into the home; Story Extenders are available in English and Spanish.

For more information regarding Motheread Story Exploring use this link: http://www.motheread.org/curriculum/story-exploring/

Target Audience

Caregivers, early educators, parents

Documented Outcomes

	Type of Study	Child Outcomes		Teacher Outcomes
		Expressive vocabulary*	Story retelling*	Teacher literacy behaviors**
Cleven (2005)[i]	Non-experimental with comparison groups	✓	✓	✓
Gorham & Wright (2013)[ii]	Non-experimental			✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.
*Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*
**Aligned with Smart Start outcome *Improved ECE program environment*

Research Evidence for Motheread Story Exploring

- Motheread Story Exploring has been linked to positive child outcomes in expressive vocabulary and story retelling skills. The program also has been linked to improvements in teacher literacy behaviors.
- There may be a need for ongoing support and assistance to classrooms that are implementing Motheread Story Exploring.

Review of Experimental or Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive Studies

Citation	**Cleven, J. (2005) Training and mentoring childcare providers in story sharing: Effects on vocabulary and story retelling for four-year olds, and story sharing behaviors of childcare providers. Dissertation.**
Population and Sample	The study incorporated 139 participants. Of the 139 participants, 18 were childcare providers, and 121 were children. Of the 18 childcare providers, three had college degrees. Of those, one held a bachelor's degree. The majority of the childcare provider participants in the study had "some college" listed as their educational level. The treatment and comparison groups of children were similar in the demographics considered, with the exception of race. The treatment group had 45% non-white, whereas the comparison group had 10% minority.
Methodology	Non-experimental; pretest-posttest comparison group design.

Purpose	This study was designed to investigate the effects of the Motheread model of training and mentoring on the receptive and expressive vocabulary and story recall of four-year olds, and story reading behaviors of childcare providers as compared to no training and no mentoring. Four questions were addressed: 1) What are the effects of the Motheread story sharing training and mentoring model on receptive vocabulary of four-year olds in a childcare setting? 2) What are the effects of the Motheread story sharing training and mentoring model on expressive vocabulary of four-year olds in a childcare setting? 3) What are the effects of the Motheread story sharing training and mentoring model on story retelling of four-year olds in a childcare setting? 4) What are the effects of the Motheread story sharing training and mentoring model on story sharing behaviors of child care providers as measured by the Teacher Literacy Behavior Observational Checklist?
Measures & Assessments	• Teacher Literacy Behaviors Observation Checklist (TLBOC) • Peabody Picture Vocabulary Test-Revised (PPVT-R) • Expressive One-Word Picture Vocabulary Test (EOWPVT) • Story retelling scores of children, as measured by a retelling rubric
Implementation Fidelity	• The groups consisted of classes of four-year olds in which their childcare providers received (a) training and mentoring (TM), or (b) no training and no mentoring (NTM). • The childcare providers in the training and mentoring group received a six-week training and mentoring intervention. Childcare providers received onsite training in story sharing. The training consisted of an initial two-hour session offered at the childcare center during non-child hours, or during childcare provider release-time. During the training session, childcare providers were introduced to the Motheread story sharing process. The five major parts of the story sharing process presented during training are: (a) introduce the story, (b) read the book, (c) review the book, (d) story sharing activity, and (e) close. • Modeling of the story sharing process followed the detailed introduction of the story sharing model. Childcare providers were encouraged to read daily with their children, and apply the strategies presented in training. Books and curriculum guides were reviewed, and distributed for use in the classrooms. • Follow-up visits during child-hours were made to the childcare centers on a weekly basis. During subsequent site visits, and as part of the mentoring process, childcare providers received feedback on their story sharing behaviors, and were given suggestions for effective ways to deliver story sharing. Modeling was used during the mentoring process to guide childcare providers in using the Motheread story sharing process with their children. Activities that were modeled included using drama or discussion to introduce a book, reading with expression, responding appropriately to student responses, and reinforcing the main idea of the story. Childcare providers were given opportunities for practice and collaboration following modeling presented in training.
Staff Qualifications	• Not addressed
Key Findings	Teacher Literacy Behaviors Observation Checklist • The final research question posed in this study asked whether the Motheread story sharing training and mentoring model had an effect on story sharing behaviors of childcare providers as measured by the TLBOC. • There were no significant differences between treatment and comparison group child care providers, at baseline, with regard to story sharing behaviors. • Using Analysis of Variance, the author found highly significant differences between treatment and comparison group child care providers, following the intervention ($p<.01$). More specifically, the pre-test treatment mean score was 46.2. The pre-test comparison group mean score was 56.3. The post-test treatment mean score was 75.4. The post-test comparison group mean score was 50.1. Peabody Picture Vocabulary Test-Revised • The first research question addressed by this study was whether the Motheread story sharing training and mentoring model had an effect on receptive vocabulary of four year olds in a child care setting. Analysis of Variance revealed no significant difference between pretest and posttest scores for children in the treatment and comparison groups on the PPVT-R. More

	specifically, the pre-test treatment mean score was 99.7 and the pre-test comparison group mean score was 106.3. The post-test treatment mean score was 99 and the post-test comparison group mean score was 105.1. Expressive One-Word Picture Vocabulary Test • The second research questioned posed in this study was whether the Motheread story sharing training and mentoring model had an effect on the expressive vocabulary of four-year olds in a childcare setting. Results showed a significant gain in expressive vocabulary for the treatment group. More specifically, the pre-test treatment mean score was 92.9 and the pre-test comparison group mean score was 99.8. The post-test treatment mean score was 97.9 and the post-test comparison group mean score was 99.8. The author used Analysis of Covariance to control for pre-test scores and found that post-test scores were significantly different (p=.0029). Story Re-Telling • Examining the effects of the Motheread story sharing training and mentoring model on story retelling of four-year olds in a childcare setting was the third research question posed in this study. Results indicated that a highly significant difference existed among gain scores for children in the treatment and comparison groups on the retelling rubric (as assessed with t-tests, p<.001). More specifically, the mean gain score for the treatment group was 12.92. The mean gain score for the comparison group was 2.43, which generated a negative t-score, as it reflects a negative gain score for this group.

Citation	**Gorham, B. M., & Wright, S. (2013). Literacy Invites and Nurtures Kids' Success (L.I.N.K.S.) project assessment.**
Population and Sample	The study incorporated seven child care centers; 16 teachers interviewed. The participating sites were in Wake County North Carolina.
Methodology	Non-experimental
Purpose	The study was conducted to assess teacher's application of Motheread. The study addressed the consistency with which teachers used the approach, as well as the degree to which teacher implementation was consistent with program expectations. The study also addressed whether or not the program was associated with and supportive of "increased student learning and literacy engagement."
Measures & Assessments	• Teacher Interviews • Observations
Implementation Fidelity	• Teachers received a specialized LINKS training using the Motheread approach. • The training was designed to focus on the "effective use of pedagogical practices known to enhance students' literacy development and increased engagement with books."
Staff Qualifications	• Not addressed
Key Findings	Consistency of Application • The study authors reported that "the preponderance of teachers interviewed responded that they were either "somewhat likely" or "very likely" to employ the ... practices learned through their LINKS training program," wherein the practices included: (1) using an introductory activity to begin reading a book selection; (2) analyzing pictures and asking questions for greater understanding; and (3) using read---aloud techniques such as props, puppets, music, drama, and voice to increase students' story engagement; (4) connecting the story with students' personal experiences to increase comprehension; (5) connecting new activities to the story theme to reinforce learning of key concepts and generalizations; (6) introducing and defining new words and concepts; (7) helping children understand and use new vocabulary; (8) using tactics to engage "non---talkers" in conversation; and (9) using turn---taking in conversations to encourage language development and extend dialogue about the story. • There was more variation in teacher use of "practices that focused on extending learning from the classroom to home (e.g., sending home a story summary, activity, or craft for parent interaction in the learning process); leading activities that made connections between spoken and printed words (e.g., demonstrate symmetry between oral and written language); and leading activities that reinforced the sounds of language." • The study authors reported that teachers were consistently using practices "known to enhance student literacy development and print engagement."

	Effectiveness • The study authors reported that participating teachers improved their effectiveness in application of practices that were considered supportive of "student learning and literacy development." The authors also reported that participating teachers "were knowledgeable about the approach and comfortable using the methods learned." • There were improvements in the learning environment, supportive of student reading and engagement with books. • The authors found the need for additional assistance in "teachers' *design* of learning spaces for reading engagement and *system support* from center directors for their efforts." • The authors found that participants' responses may indicate a "hesitancy" to "admit that they are either reluctant to or unfamiliar with knowing how to pursue" activities related to "print and spoken language, sounds, and home (child/parent) interactions." • Teachers reported greater fluency in storytelling. Teachers also reported that they "understood the logic of stories" and "valued the necessity for reading books in their entirety." • The authors reported that participating teachers were (a) more dramatic in their reading of books, (b) incorporated more books in their classes, and (c) related the books to themes, not just in circle time. • The authors suggested that additional assistance may be necessary to "reinforce more complex practices, such as children's literacy engagement in home environments" and "the design of classroom space to accommodate literacy practices. " Additional assistance also may be helpful for center directors on "monitoring, modeling, and reinforcing concepts."

End Notes

[i] Cleven, J. L. (2005). Training and mentoring childcare providers in story sharing: Effects onvocabulary and story retelling for four-year olds, and storysharing behaviors of childcare providers, in Department of Philosophy. North Carolina State University: Raleigh, NC.

[ii] Gorham, B. M., & Wright, S. (2013). Literacy Invites and Nurtures Kids' Success (L.I.N.K.S.) Project Assessment. LINKS is funded by Wake County Smart Start.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Child Care Health Consultant

Goals

The goal of the child care health consultation is to provide information, training, and technical assistance on health and safety aspects in child care facilities.

Program Features

A Child Care Health Consultant (CCHC) is a health professional who works in partnership with staff from a child care facility to promote healthy and safe environments for children in child care. The Child Care Health Consultant can provide a variety of services including, but not limited to, the following: observing and assessing health and safety practices, reviewing policies and procedures and health records, training child care providers in appropriate health and safety practices, providing consultation regarding communicable diseases and medication administration among other topics, as well as resource and referral information to parents or providers.

In North Carolina, a health professional becomes a qualified CCHC upon successful completion of the NC Child Care Health Consultant Training Course through the NC Child Care Health and Safety Resource Center. To be eligible for the course, the health professional should have a degree in nursing and licensure as a Registered Nurse (RN) or a minimum bachelor's degree in health education or a similar related health field. The 6-month training course includes web-based distance learning as well as two on-site training sessions and a final project.

For more information about this model, use this weblink: http://www.healthychildcarenc.org/index.php

Child Care Health Consultant Snapshot

- **EC Profile Indicator:** PLA 40 - Average Star Rating for Children in 1-5 star care, and Percent of Children in 4 and 5 star care
- **Clearinghouse Rating:** None
- **Research supports** use with early care and education directors, staff, and teachers
- **Related Smart Start outcomes:**
  - Increase in the provider practice of healthy behaviors
- **Purveyor or approach training required:** Yes
- **Staff qualifications:** Registered Nurse or Bachelor's degree in Health Education
- **Suggested Assessments:**
  - North Carolina Health and Safety Assessment
- **Implementation Guidance:** http://www.healthychildcarenc.org/?page=nccchc

Target Audience

Early care and education directors, staff, and teachers

Documented Outcomes

	Type of Study	Center Outcomes			Child Outcomes			
		Improved health and safety policies and standards	Improved health and safety practices*	Increase in developmental screening/assessment completed or data on screening appearing in center files**	Higher immunization rates	Increase in child medical homes and health insurance	Reduced upper respiratory illness symptoms	Reduced accidental injuries
Alkon et.al. (2009)[i]	Experimental with random assignment	✓	✓					
Child Care Health Linkages Project[ii] (2001-04)	Non-experimental with comparison groups	✓	✓		✓			
Hanna et. al. (2012)	Non-experimental			✓				
Isbell et.al. (2012)[iii]	Non-experimental, gains within treatment group	✓	✓	✓	✓	✓		
Ulione (1997)[iv]	Non-experimental, convenience sample; gains within treatment time-series design						✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Increase in the provider practice of healthy behaviors*
Aligned with Smart Start outcome ***Increase in developmental screenings or assessments performed*

Research Evidence for Child Health Care Consultant

- Increase in the number and quality of written health and safety policies and standards in child care centers.
- Improved staff competencies and compliance related to health and safety standards
- Improved child health (e.g., increased immunizations, health coverage, decrease in upper respiratory illness and accidental injury rates).

Review of Experimental and Quasi-Experimental Studies

Citation	**Alkon, A., Bernzweig, J., To, K., Wolff, M., Mackie, J.F. (2009). Child Care Health Consultation improves health and safety policies and practices. Academic Pediatrics, 9(5), pp. 366-370.**
Population and Sample	The study included 111 child care centers in five California counties. Counties were selected from strata that included geography (urban, rural, mixed), population density, and poverty rate. There was random assignment to treatment and comparison groups. Seventy-three centers in the treatment group and 38 centers in the comparison group were included in analyses.
Methodology	Experimental with random assignment
Purpose	Child Care Health Consultant services, administered by county level agencies including the Department of Public Health, Child Care Resource and Referral, Education, and community-based organizations addressed topics such as written policies, infection control, hygiene, sanitation, working with children with special needs, and working with ill children. The study's goal was to assess center improvements in health and safety policies and practices, after receiving Child Care Health Consultant services.
Measures & Assessments	• California Childcare Health Program Health and Safety Policies Checklist • California Childcare Health Program Health and Safety Checklist
Study Implementation	• The programs were operated by a variety of agencies, including the Department of Public Health, Child Care Resource and Referral Agency, County Office of Education and a community-based organization. • Health consultants visited an average of 34 centers and averaged 20 contacts per center each year. • Some counties also worked with health advocates; in three counties these health advocates also were child care providers. • Topics included were written policies, infection control, sanitation and hygiene, children with special needs, and inclusion/ exclusion of ill children. • California Childcare Health Program Health and Safety Policies Checklist was completed at baseline and post-intervention by recording whether the program had written health and safety policies and the quality of each policy. • California Childcare Health Program Health and Safety Checklist was completed by observing health and safety practices in one classroom per center for 2 to 4 hours. • A trained research assistant completed observations at centers to collect objective data on health and safety policies and practices.
Staff Qualifications	• The article did not address staff qualifications. However, there is a note that one county could not hire a nurse and instead used a health advocate.
Key Findings	• Policies Checklist: o Treatment centers made significant improvements (over comparison centers) on the number and quality of written health and safety policies, met more national health and safety (NHS) standards, medication administration, care of mildly ill children, exclusion of ill children, cleaning and sanitizing, handwashing, daily health checks, inclusion of children with special needs, emergency preparedness, and staff health. • Health and Safety Checklist: o When consultation model (county or center-based), time in study, and director turnover were controlled for, treatment centers significantly improved health and safety practices for emergency preparedness and handwashing compared with comparison centers o Treatment and comparison centers improved indoor and outdoor facilities and overall Health and Safety Checklist means.

Citation	Child Care Health Linkages Project. California Childcare Health Program UCSF School of Nursing September 2001–June 2004.
Population and Sample	The study included 64 California Child Care Health Consultants, who primarily were nurses, in five California counties. This cohort of CCHC's provided services to more than 4,561 child care centers and 1,398 family child care homes. Study sites were assigned to treatment and comparison groups for the outcomes evaluation.
Methodology	Non-experimental with comparison groups
Purpose	The Child Care Health Linkages project provided several services to participating sites, including (a) a standard training curricula for health and early care and education professionals; (b) 20 Child Care Health Consultation programs (provided services such as health promotion and protection, staffing and health consultation, and activities for healthy development); (c) technical assistance to 20 county-wide CCHC programs; and (d) program evaluation. The study's goal was to assess the outcomes of the Linkages Project in three domains: training outcomes, formative outcomes, and summative outcomes.
Measures & Assessments	• Child Health Record Review • Advocate Daily Encounter Form • CCHP Health and Safety Checklist-Revised • CCHP Health and Safety Policies Checklist • The Child Care Evaluation Worksheet
Study Implementation	• Observations and record reviews were conducted to assess program adherence to key National Health and Safety Performance Standards (NHS standards) and to assess child health status using the CCHP Health and Safety Checklist and the Child Care Evaluation Worksheet • The CCHC program was facilitated by (a) linkages between community agencies and ECE programs, (b) community characteristics unique to each county (e.g., a wealth of resources in urban settings and personal relationships in rural settings), and (c) the lead agency of the consultation program must invest and commit to the consultation program. • Barriers to implementation included (a) a lack of health and safety resources and outreach in the community, (b) ECE providers may not be informed about consultation programs or be able or willing to participate, and (c) geographically expansive and isolated counties make provision of service difficult and access to consultation programs and health and safety resources difficult.
Staff Qualifications	• Health professionals, primarily nurses. • ECE professionals were also trained to become Child Care Health Advocates (CCHAs).
Key Findings	• There were statistically significant changes in CCHC knowledge, after trainings. • Treatment sites had more complete and up-to-date policies and met more NHS health and safety standards • There were significant improvements in mean Health and Safety Checklist scores for the treatment group in practices such as safe storage of staff and children's personal belongings and handwashing, among treatment group sites • There were statistically significant improvements in the percent of infants and toddlers with up-to-date immunizations, among treatment group sites

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	Isbell, P., Kotch, J., Savage, E., Gunn, E., Lu, L., Weber, D. (2012). Improvement of child care program's policies, health practices, and children's access to health care linked to child care health consultation. NHSA Dialog, 16(2), pp. 34-52.
Population and Sample	The study included data from a final sample of 77 North Carolina child care sites (34 centers, 41 homes, and 2 faith-based programs) representing 1,871 children.
Methodology	Non-experimental
Purpose	Child Care Health Consultation services, provided through the Quality Enhancement Project for Infants and Toddlers, operated through 15 Child Care Health and Consultation programs; services provided in 23 North Carolina counties. The study's goal was to determine if Child Care Health Consultation services were associated with (a) improvements in policies and practices and (b) child-level outcomes such as improved access to health care and a reduction in illness and injury.

Measures & Assessments	• Advocate Daily Encounter Form • Evaluation Summary • The Child Care Evaluation Worksheet
Study Implementation	• The Daily Encounter Form was used to track the activities and length of services (i.e., amount of time spent in consultation) provided by CCHCs. This allowed the study team to track the nature, type, and length of services provided across CCHCs, to determine the amount of consultation support provided.
Staff Qualifications	• The CCHC is defined as "a licensed health professional with education and experience in child and community health and early care and education, preferably with specialized training in child care health consultation."
Key Findings	• There was a positive and significant impact on centers' nine written health and safety policies scores • There was significant improvement on centers' four health and safety practice scores • The proportion of children enrolled at centers with screening information in their files increased, including significant increases in (a) developmental, (b) hearing, (c) oral, and (d) vision screenings. • The percentage of children with medical homes, health insurance, and immunizations increased significantly • There were non-significant changes in the percentage of children with well-child physicals and emergency contact information on file.

Citation	**Ulione, M. S. (1997). Health promotion and injury prevention in a child development center. Journal of Pediatric Nursing, 12(3), pp. 148-154.**
Population and Sample	The study incorporated a convenience sample of 29 children enrolled in a university child care center in a major metropolitan location
Methodology	Non-experimental
Purpose	The health program contained three components: (1) signs and symptoms of illness and infection control; (2) prevention of child and staff injuries; and (3) basic first aid for child care. Resources and referrals also were covered. The study's goal was to determine if a nurse-led, health-focused program, targeting child care centers, was associated with improved child health and decreased child injuries.
Measures & Assessments	• Child Health Assessment Inventory
Study Implementation	• The center participants received continuing education credit through the St. Louis Health Department for successful completion of the program. • Anecdotal notes were also taken on any changes that were made in policies, procedures, or the physical layout of the center as a direct result of the consultant's comments.
Staff Qualifications	• The nurse-directed health promotion program was designed specifically for this study by the author and by a pediatric community health nurse who specializes in child care health issues. • A registered nurse evaluated the health of study subjects • The authors suggest that this type of program is a way to integrate nursing care into child care. The authors suggest nurse practitioners, community health nurses, and nurse educators provide consultation to child care providers on health care issues and problems.
Key Findings	• There was a significant reduction in upper respiratory illness symptom rates • There was no difference in diarrhea rates • There was a significant decrease in the number of accidental injuries • Examples of specific changes include: o There were two changes made by the child care staff as a result of the program. The first was an environmental change made after the Health Promotion Program. Before the program wooden blocks were available in the free space area of the 3-year and 4-year-old rooms. After the program, the lead teachers formed semicircle areas with soft padded walls for block play in the 3- and 4-year-old rooms. The blocks had to stay in that enclosed area and were not allowed out in the free play area. o The second change was a policy change that occurred after the results of the intervention were discussed with the child development center director. A policy was implemented recommending that all new staff attend a communicable disease prevention class as part of their orientation to working at the center. The center staff felt the information they received in the health promotion class was very valuable to them in caring for young children.

Citation	**Hanna, H., Mathews, R., Southward, L. H., Cross, G. W., Kotch, J., Blanchard, T., Cosby, A. G. (2012). Use of paid child care health care consultants in early care and education settings: Results of a national study comparing provision of health screening services among Head Start and non-Head Start centers. Journal Pediatric Health Care, 26, pp. 427-435.**
Population and Sample	1,822 child care center directors selected for participation in the study though the use of a stratified random sample of U.S. Licensed child care samples.
Methodology	Non-experimental
Purpose	The study's goal was to determine a potential association between Child Care Health Consultant services and child care center director reports of health and safety practices (maintenance of health records, emergency procedures, and developmental screenings and assessments). The study did not deliver a treatment but followed-up on treatment provided through Child Care Health Consultants in different states and communities
Measures & Assessments	• Telephone survey
Study Implementation	• Child care center directors participated in a telephone-survey conducted between March 20 and April 6, 2006.
Staff Qualifications	The survey asked whether there was a paid health consultant (such as a physician, nurse, nurse practitioner, public health nurse, dentist, or mental health professional) working with the site. The authors noted that Head Start sites can seek volunteer services and other community resources in receiving child care health consultation.
Key Findings	• 73% of respondents reported that they did not employ a CCHC. • Directors (Head Start and non-Head Start) who reported working with a CCHC were more likely to report the use of health-promoting screenings and assessments.

End Notes

[i] Alkon, A., Bernzweig, J., To, K., Wolff, M., Mackie, J.F. (2009). Child Care Health Consultation improves health and safety policies and practices. Academic Pediatrics, 9(5), pp. 366-370.

[ii] Child Care Health Linkages Project. California Childcare Health Program UCSF School of Nursing September 2001-June 2004.

[iii] Isbell, P., Kotch, J., Savage, E., Gunn, E., Lu, L., Weber, D. (2012). Improvement of child care program's policies, health practices, and children's access to health care linked to child care health consultation. NHSA Dialog, 16(2), pp. 34-52.

[iv] Ulione, M. S. (1997). Health promotion and injury prevention in a child development center. Journal of Pediatric Nursing, 12(3), pp. 148-154.

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Published: July 2018

Outdoor Learning Environment (OLE)

Goals

The goals of Outdoor Learning Environments (OLE) are 1) to decrease childhood obesity, 2) to increase the time that children spend outdoors, 3) to increase the level of childhood physical activity, and 4) to improve the quality of outdoor environmental diversity (source: naturalearning.org).

Outdoor Learning Environment Snapshot

- **EC Profile Indicator**: H60 - Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports use** with early childhood professionals and children in child care
- **Related Smart Start outcomes:**
  - Increase in the children's practice of healthy behaviors
- **Purveyor training required:** Yes
- **Suggested Assessments:** Preschool Outdoor Environment Measurement Scale (POEMS)
- **Implementation Guidance:** http://naturalearning.org/content/projects

Program Features

There are several key steps in the development of outdoor learning environments.

The first activity is to train teachers how to use the outdoors to promote physical activity and healthy nutrition.

Second, provide redesign assistance of outdoor play and learning environments that includes preschool staff/volunteers and helps modify these environments to support children's daily nutritional and physical activity needs. Designs should recognize that infants and toddlers have their own separate outdoor learning environment from preschool age children. Spaces should be designed to meet the developmental needs and abilities of each age group.

Third, centers need resources to buy or receive donated plants, tools, and materials to build the OLE. Lastly, volunteers and/or contractors are used to build the actual OLE.

Strong OLE's have a community engagement component which recognizes the project as a vehicle for community empowerment and knowledge transfer, which, in turn, drives the project execution. External professionals are seen as partners in the process and provide technical support and knowledge. Centers receive assistance with design of the outdoor learning environment. Typical improvements include wheeled toy pathways, water and sand play, multipurpose lawns, outdoor classrooms, shade trees, shrubs, permanent edible landscapes, and designated vegetable gardens.

The Natural Learning Initiative (NLI) housed at NC State University provides technical assistance for development of outdoor learning environments. When NLI works with a center, they begin with an assessment of the outdoor learning environment using the Preschool Outdoor Evaluation Measurement Scale (POEMS). Teachers and parents are asked to complete a short survey about what they like and dislike about the outdoor space. Center personnel then attend a full-day workshop where they review their POEMS data, discuss their site, and learn about the process for designing a new outdoor learning environment. A design team discusses the design plans and steps for implementation

For more information regarding outdoor learning environments use this link: http://naturalearning.org/ content/projects

Target Audience

Early care professionals and children in child care

Documented Outcomes

	Type of Study	Outcomes
		Increase in children's physical activity*
Cosco et. al. (2014).[i]	Non-experimental	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with the Smart Start outcome *Increase in children's practice of healthy behaviors*

Research Evidence

- The evidence suggests that the layout of an outdoor site in a childcare center along with teacher training may support an increase in children's physical activity.

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Cosco, N., G., Moore, R. C., & Smith, W. R. (2014). Childcare outdoor renovation as a built environment health promotion strategy: Evaluating the preventing obesity by design intervention. American Journal of health Promotion, 28(3), pp. S27-S32.**
Population and Sample	The study worked with 10 North Carolina county Smart Start Partnerships. The partnerships chose three childcare centers each from a pool of centers participating in childcare quality enhancement programs across the state. The evaluation included 27 centers.
Methodology	Non-experimental; pre/post intervention
Purpose	To evaluate the effectiveness of Preventing Obesity by Design (POD), a childcare center outdoor renovation intervention. POD is based on research that shows (1) children's physical activity is motivated by diverse outdoor environments, (2) active preschoolers retain higher levels of physical activity as school-aged children, (3) the preschool outdoors is a determinant of preschool physical activity, and (4) gardens that support children's engagement with vegetables and fruits and frequency of their consumption are associated with acceptance of diverse tastes as a positive strategy to support healthy eating
Measures &	• Behavior mapping

Assessments	•	Preschool Outdoor Environment Measurement Scale (POEMS) • Center Director Interview
Study Implementation	•	The POD team worked directly with local early education technical assistance professionals and providers, using a train-the-trainers approach to transfer knowledge about designing and managing outdoor environments to support physical activity, increase food awareness, and encourage healthy eating.
Staff Qualifications	•	Not addressed
Key Findings	•	All POEMS ratings were higher post renovation. Physical Environment and Teacher/ Caregiver Role domains were positively associated with preschool activity. These domains assess environmental conditions and teacher expertise in outdoor play and learning, respectively. • Trained teachers allowed children to play freely without interruptions and did not intervene as often. • Changes in the built environment influence children's activity and pathway layout is associated with increased preschool physical activity. • Findings indicate that social interactions in preschool outdoor learning environments were associated with the level of children's activity. • Any type of teacher interaction (including positive) decreased the amount of children's physical activity, as children stop what they are doing when an adult addresses them, engages in a conversation, or coordinates play activities. Therefore, the absence of teacher in the observation zone was associated with increased physical activity. • Lack of interactions with other children was also associated with increased activity possibly owing to the inability of coders to identify play partners when the activity was fast. • Behavior mapping showed that site layout attributes, including looped pathways, coupled with teacher training may support increased physical activity. • Teacher interaction was associated with decreased children's physical activity. Absence of teacher or lack of child/child interaction was associated with increased physical activity. • After renovation, 68% of center directors reported positive changes in children's behavior and 40% mentioned edible plant installations as greatest success.

End Notes

[i] Cosco, N., G., Moore, R. C., & Smith, W. R. (2014). Childcare outdoor renovation as a built environment health promotion strategy: Evaluating the preventing obesity by design intervention. American Journal of health Promotion, 28(3), pp. S27-S32.

Additional Resources

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Boldemann, C., Dal, H., & Wester, U. (2004). Swedish preschool children's UVR exposure: a comparison between two outdoor environments. Photodermatology, Photoimmunology & Photomedicine, 20(1), pp. 2-8.

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Grahn, P., Martensson, F., Lindblad, B., Nilsson, P., & Ekman, A. (1997). Outdoors at a day care centre, Alnarp, Sweden. MOVIUM, Stad & Land 145, Swedish Agricultural University, Alnarp, Sweden, pp. 4-115.

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Place, 15, pp. 1149-1157.

Soderstrom, M., & Blennow, M. (1998). Children in outdoor day care centers have lower absence due to sickness. Lakartidningen, 95, pp. 1670-1672.

Soderstrom, M., Martensson, F., Grahn, P., & Blennow, M. (2004). Outdoor environment in child day care and its influence on outdoor stay and play. Ugeskrift for Laeger. 166(36), pp. 3089-3092.

The Natural Learning Initiative (NLI). (2012). Impact of Preventing Obesity by Design POD. College of Design, NC State University: Raleigh, NC.

The Natural Learning Initiative. (2012). Preventing Obesity by Design. Available from: http://naturalearning.org/content/projects.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Part-Day Child Care

Goals

The goal of part-day, part-week child care is to ensure children have access to high quality (but less than full time) child care and early education experiences.

Practice Features

Typically, programs provide access to early education and learning experiences that are less than full-day (6 or more hours a day) and full-week (5 days a week). The experiences provided should include a curriculum and the types of structured experiences that are associated with high-quality, full-day/full-week programs.

Target Audience

Children ages birth through five

Part-Day Child Care Snapshot

- **EC Profile indicator:** KEA10 - Kindergarten entrance assessment
- **Clearinghouse rating:** None
- **Research supports** use with children ages birth through five
- **Related Smart Start outcomes:**
  - More children on track for typical and/or enhanced development
- **Training required**: See staff qualifications
- **Staff qualifications:** Lead teacher with BA or AA in early education or related field
- **Frequency:** 2 times per week or more
- **Dosage:** At least 120 minutes per session

Documented Outcomes

	Type of Study	Higher reading and/or math scores for center-based care and full-day vs part-day and/or no preschool*	Greater reading and/or math gains for full-day vs part-day and/or no preschool *	Negative behavioral outcomes associated with more hours of center-based care for white children
Loeb, S., Bridges, M., Bassok, D., Fuller, B., & Rumberger, R. W. (2007)[I]	Non-experimental, secondary data analysis	✓		✓
Valenti, J. & Tracy, D. (2009)[II]	Non-experimental, primary data analysis		✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for Part-Day Child Care

- Overall, the more hours of attendance in preschool, the greater the academic benefit for children.
- One study found that more hours of participation was significantly associated more negative behavioral outcomes, which may be directly influenced by age (e.g., children who start child care younger may experience higher rates of negative behavior outcomes).[ii]

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies:

Citation	**Loeb, S., Bridges, M., Bassok, D., Fuller, B., & Rumberger, R. W. (2007). How much is too much? The influence of preschool centers on children's social and cognitive development. Economics of Education Review, 26, pp. 52–66.**
Population and Sample	The study included data from the Early Childhood Longitudinal Study (ECLS-K) for 14,162 children entering kindergarten for the first time in 1998. Children with missing scores on any of the assessments or with no child care information were excluded from the analysis.
Methodology	Non-experimental, secondary data analysis
Purpose	The study used ECLS-K data to assess the duration effects of center-based child care on children's cognitive and social proficiencies when they enter kindergarten. The study examined the optimal age for children to enter center-based programs, the optimal number of hours per week of attendance, and the variation by income and race/ethnicity.
Measures & Assessments	• Child care type (non-Head Start center, Head Start, parental care, and non-parental care including care by non-parent relatives and non-relatives such as a babysitter) • Age of entrance into care • Intensity of care (i.e., 15-30 hours/week for 9 months out of the year, more than 30 hours/week for more than 9 months) • One-on-one reading and math assessments completed by National Center for Education Statistics (NCES) field staff in the fall of kindergarten • Kindergarten teacher reports of social-behavioral skills and problems
Study Implementation	• Data were analyzed controlling for family background characteristics and neighborhood effects (zip code).
Staff Qualifications	• Not addressed
Key Findings	• Overall, center-based care has a significant and positive reading and math scores and has a significant and negative effect for socio-behavioral measures. • Children across all family incomes who start center-based care at between ages two and three experience the greatest academic benefit. • The younger the age at which children enter care, the greater the negative behavioral effects. • English-proficient Hispanic children show more cognitive benefit with no social-behavioral consequences from center-based care than white or black children with similar characteristics. • While the intensity of exposure to center-based care varied across race and income, longer hours of attendance are associated with significant and positive reading and math outcomes but significant and increasingly negative behavioral outcomes. • The study team examined effects aligned with duration and intensity of attendance at center programs. In brief, the team found:

- *The greatest benefit of center care for reading and math skills accrues to children who start center-based programs between the ages of two and three. Interestingly, those who start both before and after that time appear to gain less. Except for those who entered after age five, attending a center remains associated with higher scores than parental care.*

- The study team also examined effects of duration and intensity on social behavior outcomes and found:
  - *The negative behavioral effects are greater the earlier a child enters.*
  - The study team found that these results were consistent across income groups and, for the most part, race or ethnic groups (whites, blacks, and Hispanics). An exception was found in that *"starting a center program early does not seem to have any negative impact on English-proficient Hispanic children in the sample."*
- The study examined child attendance, with attendance categorized as 15-30 hours per week or more than 30 hours per week, for at least nine months a year. The study team found:
  - *Intensity, attending at least 15 h per week, substantially increases the contribution of center programs to cognitive growth.*
  - *Attending for more than 30 h a week is also associated with positive cognitive skills.*
  - *Longer hours are associated with negative behavioral outcomes. Not only do the negative*
  - *behavioral effects appear for those with at least 15 h of care per week, but additional care, as measured by at least 30 h of center care, more than doubles this negative effect, from an effect size of -0.10 – -0.25 SD for the full sample.*
  - *For the low-income group, only children who attend a center program for more than 30 h experience significant gains in pre-reading skills. This same group experiences no negative social-behavioral effects from additional hours in a center.*
  - *At the other extreme, children from higher-income families do not show any significant gains from attending centers for more than 30 h per week and, in sharp contrast to the low-income children, those from higher-income families display increasingly negative behavior the longer they attend a center program each week.*
  - *White children who attend a center program for 15–30 h a week for at least nine months a year show higher cognitive gains than children who have more limited exposure. In contrast, Hispanic children do not seem to gain from extra hours; in fact, more intensive exposure is associated at times with a drop in pre-reading and math performance.*
  - *The results for Black children are more mixed: high intensity attendance is associated with increased pre-reading scores, but not math performance. For behavior, intense exposure to a center has a negatively association for white children, but interestingly has no discernible effect for Black or Hispanic children. It is important to remember that our results for Hispanic children are only generalizable for those with minimal English proficiency.*
  - *Additional hours hold a positive effect on cognitive outcomes when combined with extended months in centers. Moreover, additional months do not appear to have a detrimental effect on behavior, instead it is the long hours of attendance each week that appears to drive the decrements in social behavior.*

Citation	**Valenti, J. E., & Tracy, D. H. (2009). Full-day, half-day, and no preschool effects on urban children's first-grade reading achievement. Education and Urban Society, 41(6), pp. 695-711.**
Population and Sample	• 214 urban, low SES public first grade students of mixed ethnicities o 87 attended full-day preschool o 86 attended half-day preschool o 41 did not attend any preschool
Methodology	Non-experimental, secondary data analysis
Purpose	The study was designed to examine the effects of preschool attendance on first-grade reading achievement.
Measures & Assessments	• Developmental Reading Assessment (DRA), Second Edition
Study Implementation	• Fall and spring DRA scores from first-grade students' cumulative records were analyzed for differences based on preschool attendance. • Gain scores were analyzed based on preschool attendance.
Staff Qualifications	• Not addressed
Key Findings	• No significant differences were found on fall or spring DRA scores for the three groups of children. • Students who attended full-day preschool made significantly greater gains in reading during the first half of first grade than students who did not attend preschool. • Though results were not significant, gains were greater in reading during the first half of first grade for o full-day preschool students compared with half-day preschool students, and o half-day students compared with students who did not attend preschool.

End Notes

[i] Loeb, S., Bridges, M., Bassok, D., Fuller, B., & Rumberger, R. W. (2007). How much is too much? The influence of preschool centers on children's social and cognitive development. Economics of Education Review, 26, pp. 52–66.

[ii] Valenti, J. E., & Tracy, D. H. (2009). Full-day, half-day, and no preschool effects on urban children's first-grade reading achievement. Education and Urban Society, 41(6), pp. 695-711.

Additional Resources

National Association for the Education of Young Children https://www.naeyc.org/

North Carolina Association for the Education of Young Children http://ncaeyc.org/

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Published: July 2018

Professional Development Advising

Goals

The goal of professional development advising is to place more early childhood professionals in coursework that will advance their degrees and qualifications.

Practice Features

Professional development advising is defined as "a one-on-one process through which an advisor offers information, guidance, and advice to an individual about professional growth, career options, and pathways to obtain or meet required qualifications."[i] In particular, advising involves providing information to child care teachers or staff about which college courses may enhance their learning or are needed as part of a certificate or degree. Advising may also include information about scholarships, grants, or loans available to teachers.

Professional Development Advising Snapshot

- **EC Profile indicator:** EDU 10 - Percent of children enrolled in 1-5 star centers that have at least 75% of lead teachers with college degrees or EDU 20 – Percent of children enrolled in 1-5 star centers that have directors with college degrees
- **Clearinghouse rating:** None
- **Research supports use** with early childhood professionals
- **Related Smart Start outcomes:**
  - Improved director knowledge
  - Improved teacher knowledge
- **Staff qualifications:** BA or higher in education or related field

In addition to factual information about coursework, advising can also include guidance and support. An advisor guides teachers as they try to balance work and school and provides encouragement and help to teachers. Advisors also help teachers link their education to opportunities for promotions and increases in wages.

Advising is done by college faculty or staff, or seasoned child care professionals.

Target Audience

Early childhood professionals; preschool and prekindergarten teachers

Documented Outcomes

	Type of Study	Outcomes	
		Improved academic achievement*	Improved retention in college
Kot (2014)[i]	Quasi-Experimental	✓	✓
Young-Jones et.al. (2013[ii])	Non-experimental	✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with the Smart Start outcome *Improved director knowledge* or *Improved teacher knowledge*

Research Evidence for Professional Development Advising

- Studies have found that college students who receive advising are more likely to improve their academic performance and remain in school longer.

Review of Experimental and Quasi-Experimental Studies

Citation	Kot, F. (2014). The impact of centralized advising on first-year academic performance and second year enrollment behavior. Research in Higher Education, 5, pp. 527–563.
Population and Sample	2,745 first-time full-time freshmen matched those using centralized advising with those using no advising
Methodology	Quasi-experimental with comparison group
Purpose	To enhance student success, many colleges and universities have expanded academic support services and programmatic interventions. One popular measure that has been recognized as critical to student success is academic advising. Many institutions have expanded advising by creating centralized units staffed with professional advisors who serve specific student groups. In this study, propensity score matching was used to estimate the impact of using centralized academic advising at a large metropolitan public research university on undergraduate students' first-year GPA and second-year enrollment behavior.
Measures & Assessments	• Records of student demographics and academic preparation characteristics • GPA and enrollment records • Student use of the Advising Center
Study Implementation	• At the study institution, the Advising Center was the only official advising resource available to all undergraduate students until they completed 42 semester credits. After completing 42 credits, students were transferred to academic advising at the college level. • Advising assistance included evaluating transfer work, applying to degree programs, explaining catalog regulations, providing academic counseling, explaining academic standing policies, discussing goals, assisting with degree and major choice, helping students with academic difficulties, and providing guidance on using resources. Advisors also are expected to understand and communicate the core curriculum and university polices and procedures guide and support students in the development of semester course schedules; provide information about and strategies toward meeting students' goals; and assist in gaining responsibility for students' education choices and achievements. • At the time of the study, the student advisor ratio was 700 to 1. • Students were assigned an academic advisor based on the student's major. Advising sessions were scheduled in advance.
Staff Qualifications	• Not addressed
Key Findings	• Students who used centralized academic instead of no advising experienced an increase in their first-term GPA, second-term GPA, and first-year cumulative GPA. • Students who used centralized advising during the second term experienced a decrease in their probability of first-year attrition.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Young-Jones, A. D., Burt, T. D., Dixon, S., & Hawthorne, M. J. (2013). Academic advising: does it really impact student success? Quality Assurance in Education, 21(1), pp. 7-19.**
Population and Sample	611 undergraduate students recruited from psychology department
Methodology	Non-experimental, descriptive
Purpose	This study was designed to evaluate academic advising in terms of student needs, expectations, and success rather than through the traditional lens of student satisfaction with the process.
Measures & Assessments	• Student self-assessment instrument of behaviors and attitude, engagement, and perceptions of social support • Student survey of expectations of advising • Student demographic information form
Study Implementation	• Participants were predominantly white (90.5%) ranging in age from 18-25 years (94.7%). They include college freshmen (59.6%), sophomores (21.1%), juniors (10.9%), and seniors (10.7%). The majority were full-time students (94.9%) with about one-third being first-generation college students. • At the university, advising was required prior to registration each semester until students completed at least 75 of the 125 credit hours required to graduate. • Undecided majors were advised in the Academic Advisement Center by professional advisors who also provided national-recognized training for all advisors on campus. • After students declared a major, they were referred to college or departmental advisors and advisement centers depending on individual educational level and major. Some colleges used professional advisors in college advisement centers and others used faculty members to advise students. Students in the psychology department, where the current study was conducted, advises about 700 majors through a combination of a departmental advisement center (coordinated by a faculty member) and faculty members advising students based on areas of interest within the field. • The measures created for the project were evaluated on a 7-point scale based on the strength of respondents' agreement. • Data were collected through an online tool. Instructors communicated the availability of the measures to students who could voluntarily choose to participate as one among several course assignment options.
Staff Qualifications	• Not addressed
Key Findings	• Six interpretable factors (i.e. advisor accountability, advisor empowerment, student responsibility, student self-efficacy, student study skills, and perceived support) significantly related academic advising to student success.

End Notes

[i] National Association for the Education of Young Children and National Association of Child Care Resource and Referral Agencies, Early childhood education professional development: Training and technical assistance glossary. 2011, Washington, DC: Authors.

[ii]Kot, F. (2014). The impact of centralized advising on first-year academic performance and second year enrollment behavior. Research in Higher Education, 5, pp. 527–563.

[iii] Young-Jones, A. D., Burt, T. D., Dixon, S., & Hawthorne, M. J. (2013). Academic advising: does it really impact student success? Quality Assurance in Education, 21(1), pp. 7-19.

Additional Resources

Bridges, D. R., Davidson, R. A., Odegard, P. S., Maki, I. V., & Tomkowiak, J. (2011). Interprofessional collaboration: Three best practice models of interprofessional education. Medical Education Online, 16, pp. 1-10.

Deutsch, F. M., & Tong, T. L. (2011). Work-to-school mentoring: Childcare center directors and teachers' return to school. Mentoring and Tutoring, 19, pp. 157-177.

Matus-Grossman, L., Gooden, S., Wavelet, M., Diaz, M., & Seupersad, R. (2002). Opening doors: Students' perspectives on juggling work, family, and college. New York, NY: Manpower Demonstration Research Corporation.

National Association for the Education of Young Children and National Association of Child Care Resource and Referral Agencies, Early childhood education professional development: Training and technical assistance glossary. 2011, Washington, DC: Authors.

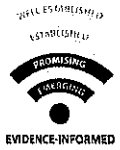
Quimby, J. L., & O'Brien, K. M. (20014). Predictors of student and career decision-making self-efficacy among non-traditional college women. Career Development Quarterly, 52, pp. 323-339.

Summers, M. D. (2003). ERIC Review: Attrition research at community colleges. Community College Review, 30(4), pp. 64-84.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Program Quality Enhancement/Maintenance Incentives



Goals

The goal of program quality enhancement/maintenance incentives is to help programs meet, maintain, and achieve higher quality improvement standards by offering financial incentives.

Practice Features

This includes one-time bonus/awards or periodic/predictable incentives (such as higher reimbursement rate for subsidized care) for participating child care facilities.

Target Audience

Child care facilities

Incentives Snapshot

- **EC Profile Indicator:**
  - PLA40 - Average Star Rating for Children in 1-5 Star Care and Percent of Children in 4 and 5 star care or
  - PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
- **Research supports** use within the early childhood community
- **Related Smart Start outcomes:**
  - Improved program quality
  - Decrease in teacher/director turnover
- **Training required:** No
- **Smart Start information or guidance:**
  - Consult Smart Start cost principles for items or services that are allowed
  - Incentives must be used in combination with consultation/ coaching for facilities below 4 stars

Documented Outcomes

	Type of Study	Outcomes		
		Improved program quality*	Decreased teacher turnover**	Increased application for accreditation
Boller & Del Grosso (2010)[i]	Experimental	✓	✓	
Mitchell (2012)[ii]	Descriptive			✓
Gormley & Lucas (2000)[iii]	Descriptive			✓
Yazejian & Iruka (2015)[iv]	Descriptive	✓		

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with the Smart Start outcome *Improved program quality*
**Aligned with Smart Start outcome *Decrease in teacher turnover*

Research Evidence for Incentives

- Preliminary research shows incentives have been associated with increases in observed quality which may or may not be reflected in actual quality rating system scores.
- However, the strongest study only considered incentives in combination with technical assistance.

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Review of Experimental and Quasi-Experimental Studies

Citation	**Boller, K., Blair, R., Del Grosso, P., & Paulsell, D. (2010). The Seeds to Success modified field test: impact evaluation findings. Mathematica Policy Research, Inc. Retrieved from: http://qrisnetwork.org/sites/all/files/seeds_to_sucess_impact.pdf**
Population and Sample	52 family child care homes and 14 centers in two communities in Washington State; included teachers, directors, and family child care providers.
Methodology	Experimental
Purpose	The study was designed to address whether Seeds: (1) improved the quality of child care available in participating child care businesses; (2) increased the amount of education, training, and technical assistance services accessed by participating child care businesses; and (3) improved the level of education and experience of the workforce employed in participating child care businesses.
Measures & Assessments	• Environmental Rating Scales (ERS) • Group size and child-adult ratio observed during conduct of ERS • Caregiver Interaction Scale • Questionnaires and Interviews
Study Implementation	• Family child care homes and centers were randomly assigned to intervention and comparison groups. • Each group home/center received a Seeds rating based on their scores on two quality categories: curriculum and learning environment and professional development and training. • Intervention group participants received: o **8 hours of coaching per month. Coaching hours for center classrooms were divided between lead teachers and assistants, with more hours intended for lead teachers. Providers and coaches developed quality improvement plans (QIPs) that were used to guide the coaching sessions.** o **Quality improvement grants based on their Seeds rating, with higher-rated programs receiving more funding.** o **Professional development opportunities, including funds for training and course work. In addition, participating providers had access to funds to cover the costs of child care expenses, release time, and books.** • The control group received only professional development opportunities, including **access to funds to cover the costs of child care expenses, release time, and books.**
Staff Qualifications	• Child care specialist, coach, mentor to provide TA
Key Findings	• More center teachers from the intervention groups enrolled in education and training than center teachers from the control group. • The intervention was associated with (a) decreased teacher turnover and (b) higher quality in intervention sites. • Coaching and quality improvement grants did not have a relation with Seeds scores but did impact observed quality.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Gormley, W. T., & Lucas, J. K. (2000). Money, accreditation, and child care center quality. Working Paper Series. Foundation for Child Development, New York, NY.**
Population and Sample	N/A
Methodology	Descriptive
Purpose	The report presented the findings from an NAEYC study that examined the merits of providing higher reimbursement rates to accredited child care sites, as well as the merits of other policies that support and promote higher quality child care.

Measures & Assessments	• Varied across study
Study Implementation	• The NAEYC data were obtained for all centers that first applied for accreditation between January 1, 1995, and October 31, 1999. Centers from Florida, Kentucky, Mississippi, Nebraska, New Jersey, New Mexico, Ohio, Oklahoma, Utah, and Wisconsin were included in the analysis, because differential reimbursement programs had begun in those states during the time period for interest. Although several other states also implemented programs during that time, they occurred too late in 1999 for meaningful interpretation to be possible. • The data were subjected to time-series analysis to calculate the impact of the policy intervention over time while controlling for seasonal variation or other outside effects.
Staff Qualifications	• Not addressed
Key Findings	• In some instances, differential reimbursement was associated with increased accreditation application rates. • Other strategies that may have associations with increased accreditation applications include other monetary incentives and technical assistance.

Citation	**Mitchell, A. (2012). Financial incentives in quality rating and improvement systems: Approaches and effects. QRIS National Learning Network.**
Population and Sample	N/A
Methodology	Descriptive
Purpose	This short paper provides a summary of what incentives are, their uses, and effects
Measures & Assessments	• Varied across study
Study Implementation	N/A
Staff Qualifications	• Not addressed
Key Findings	• There is little research that isolates the effectiveness of incentives (as distinct from other quality enhancement strategies) • Tiered reimbursements appear to be linked to accreditation • There appears to be an association between the presence and amount of an incentive and site participation in a quality rating improvement system (QRIS) initiative • A comparison of QRIS initiatives across states suggests that incentives focus on major cost factors for quality early education, including teacher or professional compensation and the costs of quality enhancement and maintenance • Incentives appear to work best when combined with other state goals, standards, and systems, such as subsidy awards

Citation	**United States General Accounting Office (2002). Child Care: States have undertaken a variety of quality improvement initiatives, but more evaluations of effectiveness are needed. Author: Washington, DC.**
Population and Sample	The study incorporated data from state's reported use of Child Care Development and Block Grant (CCDF) funds.
Methodology	Descriptive
Purpose	The study's goal was to describe state expenditures and related quality improvement initiatives including initiatives supported by the CCDF 4 percent set-aside provision.
Measures & Assessments	• Survey • Case studies
Study Implementation	• Lead state agency officials in the 50 states and the District of Columbia were surveyed asking how much their state spent in each of nine categories, the percentage of funds spent from each funding source in each category, types of providers and caregivers that initiatives targeted, and other information. Responses were not independently verified. • Case studies were conducted in California, Massachusetts, South Dakota, Tennessee, and Wisconsin. Selection was based on geography and population density; representation of a variety of child care quality improvement initiatives; whether a state used tiered reimbursement rates as incentives for quality improvement; population's income distribution, licensing caseloads, use of Temporary Assistance for needy Families funds; and whether state licensing requirements reflect NAEYC recommendations for child-to-staff

	ratios. The purpose of the case studies was to collect data that would explain or enhance data collected by the survey.
Staff Qualifications	• Not addressed
Key Findings	• Some states use the set-aside funding for monetary incentives • Few states have studied the isolated effectiveness of incentives (grants and compensation support) for improving quality • Three states examined whether the incentives were linked to improvements in child development. One state found they were positively linked.

Citation	**Yazejian, N., & Iruka, I. U. (2015). Associations among tiered quality rating and improvement system supports and quality improvement. Early Childhood Research Quarterly, 30, 255-265.**
Population and Sample	The study incorporated data from a tiered quality rating improvement system (TQRIS). The dataset included information on 412 programs, including 342 child care centers and 70 family child care homes. The Miami-Dade sites participated in the TQRIS from 2008 to 2013.
Methodology	Descriptive
Purpose	The study's goal was to assess the relation between Miami-Dade's TQRIS (Quality Counts) and improvement in the quality of Miami-Dade child care facilities.
Measures & Assessments	• Quality Counts rating system
Study Implementation	• The data for the study were from the Quality Counts data system, managed in the web-based Early Learning System (WELS), and analyzed using descriptive and inferential statistics. Data collections for the system included: o Classroom observations conducted by contract agency personnel who were trained by the environmental rating scale (ERS) developers, o Staff and provider qualifications gathered from the state registry system, o Staff education levels obtained from college transcripts and uploaded into the data system, o Ratio and group sizes self-reported by program directors and verified by the contracting agency that conducted classroom observations when they were onsite, and o Family engagement and program administration documents reviewed and verified on site by TQRIS program staff. • The periodic error and missing data checks are conducted and corrections made as necessary but detailed information about the reliability of the data is not documented.
Staff Qualifications	• Not addressed
Key Findings	• Financial support to providers was significantly related to child care center quality improvements. • Future studies should examine both the amount of awards available and specific types of purchases or uses for the funds.

End Notes

[i] Boller, K., Blair, R., Del Grosso, P., & Paulsell, D. (2010). The seeds to success modified field test: impact evaluation findings. Mathematica Policy Research, Inc. Retrieved from: http://qrisnetwork.org/sites/all/files/seeds_to_sucess_impact.pdf

[ii] Mitchell, A. (2012). Financial incentives in quality rating and improvement systems: Approaches and effects. QRIS National Learning Network. Retrieved from: http://www.qrisnetwork.org/sites/all/files/resources/gscobb/2012-05-24%2015:13/Approaches%20to%20Financial%20Incentives%20in%20QRIS.pdf

[iii] Gormley, W. T., & Lucas, J. K. (2000). Money, accreditation, and child care center quality. Working Paper Series. Foundation for Child Development, New York, NY.

[iv] Yazejian, N., & Iruka, I. U. (2015). Associations among tiered quality rating and improvement system supports and quality improvement. Early Childhood Research Quarterly, 30, 255-265.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Provider Education Supports

Goals

The goal of formal education (the acquisition of a two-or four-year degree in an area related to the development and education of young children) is to provide teachers the opportunity to participate in coursework that leads to the acquisition of college credits and ultimately to a college degree.

Provider Education Supports Snapshot

- **EC Profile indicator:** EDU 10 - Percent of children enrolled in 1-5 star centers that have at least 75% of lead teachers with college degrees or EDU 20 – Percent of children enrolled in 1-5 star centers that have directors with college degrees
- **Clearinghouse rating:** None
- **Research supports** use with early childhood professionals; preschool and prekindergarten teachers
- **Related Smart Start outcomes:**
  - Improved director knowledge
  - Improved teacher knowledge
- **Suggested measures:**
  - College course completion with a B or better
  - NC Early Childhood Credential and Related Courses worksheet
  - NC Early Childhood Administration Credential and Related Courses worksheet

Practice Features

All professions are built on a foundation of knowledge (e.g., child care is built on child development theory and research) and skills. When working with young children, professionals need to understand child development, and skills and strategies that positively influence early childhood learning. With this knowledge, child care professionals can provide young children with positive and supportive learning environments that enhance children's learning and development.

One strategy used to promote high-quality early childhood education is supporting early childhood teachers to acquire higher educational qualifications. Smart Start Partnerships have utilized several activities to support access to education including, but not limited to, support for release time so that teachers can attend educational activities; conveniently scheduled courses; on-line courses; and books.

Target Audience

Early childhood professionals; preschool and prekindergarten teachers

Documented Outcomes

	Type of Study	Educator outcomes			Child Outcomes
		Teacher- child interaction*	Increases in completing education/qualifications**	Classroom quality***	Social Behavior
Kelly & Camilli (2007)[1]	Meta-analysis			✓	✓
Zaslow et al. (2010)[2]	Meta-analysis	✓	✓		

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Improved teacher/child interaction*
**Aligned with Smart Start outcome *Improved director knowledge* and *Improved teacher knowledge*
***Aligned with Smart Start outcome *Increase in program quality* and *Maintain high program quality*

Research Evidence for Provider Education Supports

- Studies indicate that professional development supports can be effective when they focus on practice.

Several research reviews found that the level of teacher education did impact the classroom quality in preschool programs.(1,3,4) Other research studies suggest a more complex relationship between early childhood teacher education and child outcomes. For instance, a more recent research synthesis completed in 2007 of seven studies concluded that increasing teachers' education alone was not enough to improve classroom quality or to maximize children's academic gains.(5) Other researchers further explore this complexity. A review by Zaslow and her colleagues discusses research findings that suggest other factors (e.g., level of support and resources in the program) might influence whether or not a higher educational degree impacts classroom quality and emphasizes the need for sophisticated research in this area.(2) Similarly, a large scale study from the National Institute of Child Health and Development (NICHD) found that the level of teacher education has a positive effect on the quality of the caregiving which in turn has a positive relationship with child cognitive and social outcomes. This suggests an indirect effect of teacher education on child outcomes.(6)

There is also an emerging body of evidence for particular strategies to enhance access to teacher education. Several states including North Carolina have made an effort to increase child care quality through improving access to education and higher wages through T.E.A.C.H. Early Childhood®. Through scholarships T.E.A.C.H. Early Childhood increases the level of education for child care professionals, with 47% of scholarship recipients completing 15 or more hours toward a Bachelor's degree.(7) Moreover, for scholarship recipients that received an Associate degree turnover rates ranged between 0-12%, far less than the national average.

Review of Experimental and Quasi-Experimental Studies

None

Review of Meta-Analyses

The following analysis looked at the value of BA degree rather than specific supports to help teachers earn the degree.

Citation	**Kelley, P., & Camilli, G. (2007). The impact of teacher education on outcomes in center-based early childhood education programs: A meta-analysis. NIEER Working Paper. New Brunswick, NJ: National Institute for Early Education Research..**
Population and Sample	32 studies
Methodology	Meta-analysis
Purpose	A key question for early childhood education policy is the extent to which classroom quality could be improved by raising requirements for teacher educational qualifications. Studies generally find a positive relationship between teacher's educational attainment and classroom quality, but conventional reviews do not provide estimates of outcomes that are comparable across studies. This meta-analysis was conducted to provide a quantitative synthesis of research findings on the relationship of teacher educational attainment and measures of classroom quality and child development in center-based early childhood care and education (ECE) settings. The primary focus of this study was whether completion of a bachelor's degree has a positive impact on ECE outcomes.
Measures & Assessments	• Varied across study
Study Implementation	• In conducting a meta-analysis, treatment and control groups were compared using the effect size measure. • A literature search was conducted for studies relevant to the influence of teacher educational qualifications (specifically those with bachelor's degree in any field) on measures of quality and child outcomes in ECE classrooms. • Thirty-two studies met the inclusion criteria for the meta-analysis. • Coding of the studies was conducted and effect sizes calculated.
Implementation Fidelity	• Not addressed
Staff Qualifications	• Teachers had completed either half or completed two-year ECE training programs or had bachelors degrees in early childhood education
Key Findings	• The analysis indicated that effects on quality outcomes from teachers with a bachelor's degree (the treatment group) were significantly different from those teachers with less education (the comparison group). In standard deviation units, the average effect was .16 standard deviations ($p < .05$) higher for teachers with a bachelor's degree than for their non-bachelor's degree counterparts. • There are, however, two caveats. First, the effect size is relatively small, though significant. Therefore, the benefit of requiring that ECE teachers have a bachelor's degree must be seen in light of the potential benefits of using the requisite funds some other way. Second, the research underlying this effect size is correlational in nature. Thus, it is possible that any number of factors, aside from having a bachelor's degree, cause this effect.

The following analysis looked at professional development practices related to increasing child care quality, including general supports for increasing human capital, which could include attainment of higher education.

Citation	**Zaslow, M., Tout, K., Halle, T., Whittaker, J. V., Lavelle, B. (2010). Toward the identification of features of effective professional development for early childhood educators: Literature review. U.S. Department of Education Office of Planning, Evaluation and Policy Development Policy and Program Studies Service.**

Population and Sample	• 37 studies
	  ○ 15 experimental
	  ○ 17 quasi-experimental
	  ○ 4 descriptive
	  ○ 1 not specified

Methodology	Meta-analysis
Purpose	The purpose of the review was to identify core features of effective early childhood professional

	development.
Measures & Assessments	• Varied across study
Study Implementation	• The research reviewed focused on strengthening: (1) educator human and/or social capital, (2) practices at institution or organization providing professional development; (3) early educator practices related to specific child outcomes; and (4) overall quality classroom or group setting. • Summaries of study findings focused on methodology (i.e., research questions, design, sample, measures, rigor of the study); content of professional development and mode of delivery, number, frequency, length, outreach to educator serving disadvantaged children, grounding in research, and linkages with infrastructure; and outcomes (i.e., educator knowledge and practice, child development).
Implementation Fidelity	• Not addressed
Staff Qualifications	• Not addressed
Key Findings	• The review was not able to determine the aspects of implementation of professional development that are causally linked to outcomes. However, evidence suggestions that professional development may be more effective when: o Objectives are specific and articulated; o Practice is an explicit focus, with attention given to linking practice with educator knowledge; o Professional development is provided for teachers from the same classrooms or schools; o Intensity and duration is matched to the content of the professional development provided; o Educators are prepared to conduct child assessments and interpret the results for monitoring the effects of professional development; and o Aligned with organizational context and standards of practice.

Review of Descriptive and Non-Experimental Studies

None

End Notes

1. Kelly, P., & Camilli, G. (2007). The impact of teacher education on outcomes in center-based early childhood education programs: A meta-analysis. NIEER Working Paper. New Brunswick, NJ: National Institute for Early Education Research. Retrieved from http://nieer.org/resources/research/ TeacherEd.pdf
2. Zaslow, M., Tout, K., Halle, T., Whittaker, J. V., Lavelle, B. (2010). Toward the identification of features of effective professional development for early childhood educators: Literature review. U.S. Department of Education Office of Planning, Evaluation and Policy Development Policy and Program Studies Service.
3. Tout, K., M. Zaslow, and D. Berry, Quality and qualifications: Links between professional development and quality in early care and education settings, in Critical issues in early childhood professional development, M. Zaslow and I. Martinez-Beck, Editors. 2006, Brookes: Baltimore. p. 77-110.
4. Whitebook, M., et al., Change and stability among publicly subsidized license-exempt child care providers. 2003, University of California Berkeley, Center for the Study of Child Care Employment: Berkeley.
5. Early, D.M., et al., Teachers' education, classroom quality, and young children's academic skills: Results from seven studies of preschool programs. Child Development, 2007. 78: p.

558-580.

6. NICHD Early Child Care Research Network, Child Care Structure -> Process -> Outcome: Direct and indirect effects of child-care quality on young children's development. Psychological Science, 2002. 13(3): p. 199-206.

7. Child Care Services Association. T.E.A.C.H. Early Childhood and Child Care WAGE$ Project: National Annual Program Report: Fiscal year 2010-2011. 2011 July Retrieved from http://www. childcareservices.org/_downloads/WAGES_StatewideFY11_Full.pdf.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Provider Training

Goals

The goals of provider trainings are to advance early childhood professional knowledge and capacity.

Practice Features

Training provides a one time or focused opportunity to learn about a specific topic with the intent of increasing knowledge that will ultimately change behavior. In early care and education, this type of group training is usually narrow in focus, providing updates on policies or procedures rather than developing a complex set of skills. Frequently the sessions occur once or twice and in a two-hour format. They can be provided in person or online.

The research reviewed defined training as being limited in frequency of occurrence, limited in length, generally very limited in active learner involvement in the training, and most frequently having no follow up to the initial training.

Provider Training Snapshot

- **EC Profile Indicator:** PLA40 - Average Star Rating for Children in 1-5 Star Care and Percent of Children in 4 and 5 star care or PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
- **Clearinghouse rating:** None
- **Research supports** use with early childhood professionals
- **Related Smart Start outcomes:**
  - Improved teacher knowledge
  - Improved director knowledge
  - Increase in program quality
- **Suggested Measure:** DCDEE Evaluation of Authorized In-service Training

Target Audience

Early childhood professionals

Special Note on Smart Start Implementation

Training for child are providers is required by both the state and federal government. At the same time, the research below shows mixed results for training alone. Smart Start local partnerships choosing to allocate funds for training of early childhood educators are highly encouraged to couple training with technical assistance coaching which provides ongoing one on one contact after the training including observation and feedback from a qualified professional knowledgeable in the topic. Research shows coaching is more likely to support longer term improvement in the uptake and use of practices taught in training initiatives. See Consultation/Coaching for more information.

Documented Outcomes

	Type of Study	Self-report of knowledge*	Self-report of attitudes	Improved business and safety practices*	Improved global quality
Clarke (2001)	Meta-study	✓	✓		
Fukkink & Lont (2007)	Meta-study	✓	✓		
Kontos et al. (1996)	Non-experimental with comparison groups			✓	✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Improved director knowledge* and *Improved teacher knowledge*

Research Evidence for Provider Training

- Research evidence supporting trainings for early care and education providers is mixed.[i, ii, iii, iv]
- Early childhood training on child care quality, as measured by the Family Day Care Rating Scale, resulted in high scores on Space and Furnishings, Learning Activities, and Language and Reasoning subscales, as well as on composite scores.[v]

Review of Experimental and Quasi-Experimental Studies

Citation	**Kontos, S., Howes, C., & Galinsky, E. (1996). Does Training Make a Difference to Quality in Family Child Care? Early Childhood Research Quarterly, 11, pp. 427-445.**
Population and Sample	• Study group: 130 providers (68 in California, 31 in North Carolina and Texas) enrolled in one of three Family-to-Family training programs. • Comparison group: representative group of 112 regulated providers from a sample of providers in the same three communities.
Methodology	Non-experimental, pre/post with comparison group
Purpose	The purpose of this study was to identify family child care providers who seek training and drop out of training, and to determine the effects of training on the quality of care provided.
Measures & Assessments	• Arnett Scale of Provider Sensitivity • Adult Involvement Scale • Family Day Care Rating Scale (FDCRS) • Interview • Questionnaire
Study Implementation	• Groups of 15 to 25 providers participated in training three to four times a year. • Each provider was observed using the FDCRS for 3 hours (prior to training for the study group) and again 6 months later. Providers also participated in interviews and completed questions. • Standard Family-to-Family training offered in California, Texas, and North Carolina included either 2.5 or 6-hour sessions, totaling 15 to 25 hours of class time, home visits (number varied by site), and formal recognition at the end of training with certificates presented at graduation ceremonies. • Each site chose different but well-known family child care training curricula that covered the required content. Two of the three sites provided training at a community college; the third at the child care resource and referral agency. • Assessments were completed by trained research assistants.
Staff Qualifications	• Not addressed
Key Findings	• The training group was more likely to see family child care as a means to other employment in the future while the comparison reported family child care as their chosen job. • Results revealed that the training group scored higher on business and safety practices post-

	training than did the comparison group (p< .001). • Groups were similar in structural, process, and global quality but comparison group providers were slightly (not significantly) more likely to care for more children per adult. • Training increased global quality in two out of three sites, with overall post-training scores being higher scores for the comparison group (p< .05). • There was no effect on process quality (sensitivity, harshness, detachment, percentage low involvement, and percentage responsive involvement). • Thirty-five (27%) providers in the training group did not complete training. Providers who completed training were significantly more experienced in family child care (p=.05) and used more business practices than those who dropped out of training (p=.009).

Review of Meta-Studies

	Clarke, N. (2001). The impact of in-service training within social services. British Journal of Social Work, 31, pp. 757–774.
Population and Sample	• 20 U.S. studies o 10 pre/post (1 with comparison group) o 2 pre/post/then o 6 post only (1 with comparison group) o 1 retrospective case control o 1 post/then post
Methodology	Meta-study
Purpose	This meta-study included 20 evaluation studies published between 1974 and 1997 for in-service training programs. Overall, the findings suggest the need for a great deal more research of sufficient rigor to increase our knowledge of this area.
Measures & Assessments	• Varied across study
Study Implementation	• In a search of the literature, the studies selected for inclusion were required to focus on: (1) results of an empirical evaluation of a training program; (2) in-service training programs, defined as training and development programs provided by the employing agency for in-house staff; and (3) in-service training provided by a public social service agency. • Studies were categorized by the absence of any evaluation criteria beyond the levels of either trainee satisfaction or knowledge gain (n=4); the use of self-report data as an indicator of behavior change (n=8); more objective measures of behavioral change (n=8); and on-the-job follow up (n=6).
Staff Qualifications	• Not addressed
Key Findings	• Training may sometimes effect changes in trainees but the change is not always in behavior. In addition, when training had an effect on behavior, it was often only in selective areas. • Almost every study reviewed found positive results of training on either attitudes or knowledge, which often were significant. • Even when changes behavior occurred at the end of training programs, once trainees return to their workplace, the demonstration of such changes do not continue. • Trainees may need to spend time practicing skills and integrating various content areas into their assessment practice before demonstrating improvements.

Citation	**Fukkink , R. G., & Lont, A. (2007). Does training matter? A meta-analysis and review of caregiver training studies. Early Childhood Research Quarterly, 22, pp. 294–311.**
Population and Sample	• 15 studies assessing classroom-based courses, 4 of which included videotaped review and feedback to participants, most included multiple sessions in the course, 9 coupled the course with coaching o 4 experimental with random assignment o 2 matched quasi-experimental o 5 with convenient comparison group o 4 one-group pre/post test
Methodology	Meta-study
Purpose	This study focused on the results from experimental or quasi-experimental studies that reported the effects of specialized caregiver training on caregiver competencies. In this study, caregiver competencies included professional knowledge, attitudes, and skills related to teacher-child interaction.
Measures & Assessments	• Varied across studies
Study Implementation	• In a search of the literature, the studies selected for inclusion addressed specialized caregiver training with a focus on interaction skills with children in a regular childcare setting and in which

		the caregiver was the primary focus of the evaluation. A subset of studies also included data for both caregiver competencies and child behavior. The review excluded studies that (1) focused on children with disabilities, early childhood special education, or residential child care; (2) involved childcare counseling and consultation; or (3) involved teacher competencies not directly related to regular caregiver-child interaction. • Studies were coded on several instructional and methodological characteristics. Instructional characteristics included: whether the training was provided in-service at the center or outside the center, included individual feedback and support provided by a personal trainer or coach, the scope of the training, whether instruction occurred and one or multiple locations, whether the curriculum was fixed or differed between sites or individuals, the setting of the training (i.e., child care center or daycare home), the number and length of sessions, and the focus of the curriculum (i.e., knowledge, skills, attitude, or a combination). Methodological characteristics included the type of publication, type of design, random assignment or matching, pre/post testing; the number of participants and attrition. • Effect sizes were determined.
Staff Qualifications	•	Not addressed
Key Findings	•	There were statistically significant effect sizes for gains in knowledge, attitude, and skills. • Courses with a fixed curriculum appeared to be more effective than courses that differed across sites or individuals. • Findings indicate that training programs provided on a large scale are not very effective. • Caregiver skills showed slightly smaller gains than did combined knowledge and attitude, but the results are statistically significant. Gains also appeared to be slightly larger for attitude as compared to skills and knowledge. • There is limited empirical evidence to support a link between caregiver training, improved competencies, and the influence of competencies on children's behavior.

Review of Descriptive and Non-Experimental Studies

None

End Notes

[i] Clarke, N. (2001). The impact of in-service training within social services. British Journal of Social Work, 31, pp. 757–774.

[ii] Fukkink, R. G., & Lont, A. (2007). Does training matter? A meta-analysis and review of caregiver training studies. Early Childhood Research Quarterly, 22, pp. 294–311.

[iii] Kontos, S., Howes, C., & Galinsky, E. (1996). Does Training Make a Difference to Quality in Family Child Care? Early Childhood Research Quarterly, 11, pp. 427-445.

Additional Resources

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Child Care https://www.acf.hhs.gov/occ

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Published: July 2018

Technical Assistance using the Pyramid Model

Goals

The goals of the Pyramid Model are to provide early care and education professionals: 1) the information and 2) skills to support the social-emotional competence in young children.

Program Features

The Center for Social and Emotional Foundations for Early Learning (CSEFEL) designed the Pyramid Model to prevent and address challenging behaviors of young children in group child care settings. The Pyramid Model builds upon a tiered mental health approach to providing universal supports to all children to promote wellness, targeted services to those who need more support, and intensive services to those who need them.

The tiered approach is depicted as a pyramid with:

- The foundation for all of the practices in the pyramid is the systems and policies necessary to ensure a workforce able to adopt and sustain these evidence-based practices.
- Universal supports for all children through nurturing and responsive relationships and high-quality environments.
- Prevention which represents practices that are targeted social-emotional strategies to prevent problems.
- Intervention which is comprised of practices related to individualized intensive interventions.[i]

Pyramid Model Snapshot

- **EC Profile Indicator:** PLA40 - Average Star Rating for Children in 1-5 Star Care and Percent of Children in 4 and 5 star care or PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
- **Research supports** use with early care and education professionals
- **Related Smart Start outcomes:**
  - Improved teacher/child interaction
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Staff qualifications:** North Carolina TA Level 11 and TA Endorsement
- **Suggested Assessments:**
  - Teaching Pyramid Observation Tool (TPOT)
  - The Pyramid Infant-Toddler Observation Scale (TPITOS)
- **Implementation Guidance:** http://csefel.vanderbilt.edu.

Several of the developers of the Pyramid Model for Supporting Social-Emotional Competence in Infants and Young Children have designed techniques to enhance teachers' use of Pyramid strategies in early childhood classrooms. These technical assistance strategies include high-quality workshops, on-site coaching, and data collection.[ii] Technical assistance is provided to ensure that the Pyramid Model practices are implemented with fidelity.

For more information regarding the Pyramid Model use these links: http://www.challengingbehavior.org and http://csefel.vanderbilt.edu.

Target Audience

Early care and education professionals

Documented Outcomes

		Child Outcomes				Teacher Outcomes		
	Type of Study	Social skills scores*	Problem behavior scores*	Child reading and language skills	Improved teaching practices/ use of the Pyramid Model	Percentage of quality indicators used	Rate of trials attempted	Rate of procedurally correct trials
Hemmeter et.al. (2011)	Experimental with random assignment	✓	✓					
McLean et.al. (2011)[iii]	Experimental with random assignment			✓		✓	✓	✓
Hemmeter et.al. (2015)[iv]	Non-experimental				✓			

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for the Pyramid Model

- Children of teachers implementing the model had fewer problem behaviors and more positive social skills.[v]
- Coaching is associated with improved teacher practices.

Review of Experimental and Quasi-Experimental Studies

Citation	**Hemmeter, M.L., Fox, L., & Snyder, P. (2011). Professional development related to the teaching pyramid model for addressing the social emotional development and challenging behavior of young children. Presentation made at the 3rd conference of the International Society on Early Intervention, New York, NY.**
Population and Sample	• 20 treatment teachers • 20 control group teachers • 2-3 children from each classroom
Methodology	Experimental, with random assignment
Purpose	The presentation summarized findings from a study of the effect of Pyramid Model on child social/emotional development.
Measures & Assessments	• Early Childhood Environment Rating Scale • Teaching Pyramid Observation Tool (TPOT) • Target Child Observation System • Social Skills Intervention System
Study Implementation	• Intervention teachers received 3 days of training (19.5 hours); implementation guides and materials; and weekly observation, coaching sessions, and email feedback. • Control teachers received training at the end of the study. • There were 2-3 target children in each classroom. Target children were identified using the Caregiver Teacher Report Form from the Child Behavior Checklist.
Staff Qualifications	• Not addressed
Key Findings	Target Children • The study team found that there were differences between treatment and control group students with regard to social skills scores, wherein the treatment group adjusted mean score was 88.6 and the control group adjusted mean score was 84 (Cohen's d=.41, p=.069). • The study team found that there were differences in mean problem behavior scores, wherein treatment group students had an adjusted mean score of 108.7 and the control group had an adjusted mean score of 115.5 (Cohen's d=-.52, p=.016). • The study team also found "statistically significant and noteworthy differences in frequency of positive social interactions for interventions classrooms at wave 4," wherein wave 4 was

	the final wave of data collection. Non-Target Children • The study team found that there were differences between treatment and control group students with regard to social skills scores, wherein the treatment group adjusted mean score was 103.8 and the control group adjusted mean score was 96.4 (Cohen's d=.46, p=.009). • The study team found that there were lower mean problem behavior scores, wherein treatment group students had an adjusted mean score of 95.14 and the control group had an adjusted mean score of 99.2.

Citation	**McLean, M., Snyder, P., Sandall, S., and Hemmter, M.L. (2011). Professional Development in Embedded Instruction. Presentation for the annual meeting of the American Education Research Association, April 2011, New Orleans Louisiana.**
Population and Sample	The study incorporated 36 teachers at three preschool sites, with 11 to 13 teachers per site. There were 106 children across the three sites. This included two to three "target" children with disabilities, in each classroom. All children in the study had an Individualized Education Program (IEP).
Methodology	Experimental, with random assignment of teachers
Purpose	The study targeted several questions: (1) What is the relationship between exposure to the professional development intervention and teachers' frequent and accurate use of embedded-instruction practices? In answering this question, the study team focused on (a) developing quality learning targets (LTRS); (b) implementing planned learning opportunities (EIOS); and (c) delivering complete learning trials (EIOS). (2) Do scores on standardized measures of key preschool indicators (pre-academic, literacy, language, and social-emotional behavior) differ among children whose teachers were involved in each of the three experimental professional development conditions? (3) What are teachers' perspectives about embedded instruction and the professional development they received?
Measures & Assessments	• Test of Early Reading Ability—Third Edition (TERA-3) • Preschool Language Scale-Fourth Edition (PLS-4)
Study Implementation	• Embedded instruction was described as a *"multi-component approach to provide intentional and systematic instruction on priority learning targets during typically occurring activities, routines, and transitions to support child engagement and learning."* • The study incorporated three study conditions: (1) Tools for Teachers workshops plus on-site coaching (2) Tools for Teachers workshops plus self-coaching (3) Wait-list control group • Teachers in both of the experimental conditions received 16.5 hours of workshops, implementation guides and materials, and a digital video camera. • On-site coaching consisted of observation, debrief, and email feedback, provided over a mean of 16 sessions. • Wait-list comparison group teachers received workshops, implementation guides, a digital video camera, and access to the web site after the study ended. • Implementation fidelity was facilitated with workshop implementation guides and tracked with a workshop fidelity checklist. The study team also examined the instructional strategies used by the trainer and compared time allocated to time spent. • Proximal outcomes were measured at five time periods: before workshops, after workshops, in the 2nd month of coaching, in the 4th month of coaching, and after the intervention. • Distal outcomes were measured at two time periods: before workshops and after the intervention
Staff Qualifications	• Qualifications for coaching staff were not addressed
Key Findings	• The study team found significant treatment effects when comparing teachers in the coaching versus teachers in the control group. More specifically: o The adjusted mean score for percentage of quality indicators (LTRS) was 70.29 for the coaching group and 56.95 for the control group (Cohen's d=1.32, p<.05). o The adjusted mean score for rate of trials attempted (EIOS) was .55 for the coaching group and .24 for the control group (Cohen's d=1.123, p<.05). o The adjusted mean score for rate of procedurally correct trials (EIOS) was .38 for the coaching group and .09 for the control group (Cohen's d=2.86, p<.05).

- The study team found significant treatment effects when comparing teachers in the self-coaching group versus teachers in the control group. More specifically:
  - The adjusted mean score for percentage of quality indicators (LTRS) was 71.26 for the coaching group and 56.95 for the control group (Cohen's d=1.42, p<.05).
- The study team found significant treatment effects when comparing teachers in the coaching group versus teachers in the self-coaching group. More specifically:
  - The adjusted mean score for rate of trials attempted (EIOS) was .55 for the coaching group and .23 for the self-coaching group (Cohen's d=1.24, p<.05).
  - The adjusted mean score for rate of procedurally correct trials (EIOS) was .38 for the coaching group and .13 for the self-coaching group (Cohen's d=2.54, p<.05).
- The study team found significant treatment effects when comparing the self-coaching and control group teachers. More specifically:
  - The adjusted mean score for the alphabet subscale of the TERA-3 was 8.87 for children in classrooms with teachers conducting self-coaching and 7.54 for children in control classrooms (Cohen's d=.46, p<.05).
  - The adjusted mean score for the meaning subscale of the TERA-3 was 6.59 for children in classrooms with teachers conducting self-coaching and 5.16 for children in control classrooms (Cohen's d=.76, p<.05).
  - The adjusted mean score for the auditory subscale of the PLS-4 was 79 for children in classrooms with teachers conducting self-coaching and 73.3 for children in control classrooms (Cohen's d=.34, p<.05).
- The study team found significant treatment effects when comparing the coaching and control group teachers. More specifically:
  - The adjusted mean score for the meaning subscale of the TERA-3 was 6.56 for children in classrooms with teachers receiving coaching and 5.16 for children in control classrooms (Cohen's d=.74, p<.05).

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Hemmeter, M. L., Hardy, J. K., Schnitz, A. G., Adams, J. M., & Kinder, K. A. (2015). Effects of Training and Coaching With Performance Feedback on Teachers' Use of Pyramid Model Practices. Topics in Early Childhood Special Education, 35(3), pp. 144–156.**
Population and Sample	The study incorporated three teachers from an urban school district. The teachers had been control group members in a prior study. The study took place in blended preschool classrooms in three elementary schools. All classrooms had between 14 and 16 children, about half who had disabilities, and all classrooms had a lead teacher and an assistant teacher. Each teacher had 2 to 4 children with persistent, ongoing challenging behavior and a high percentage of children receiving free or reduced price lunch (87.5%–93.8%).
Methodology	Non-experimental, gains within treatment group Multiple probe design across sets of practices, replicated across teachers
Purpose	The study's goal was to assess the impact of coaching and performance feedback on implementation of the Pyramid Model practices. The study also sought to assess how well the targeted professional practices were generalized and maintained. The following research questions were addressed: Research Question 1: Is training and coaching effective for increasing teachers' use of practices related to the *Pyramid Model*? Research Question 2: Do teachers generalize the use of coached practices to activities other than those in which they were coached? Research Question 3: Do teachers maintain practices after coaching on those practices end? Research Question 4: Does implementing the *Pyramid Model* practices with fidelity decrease classroom-wide instances of challenging behavior? Research Question 5: Does implementation of the *Pyramid Model* overall improve when teachers receive

	training and coaching on specific *Pyramid Model* practices? Research Question 6: What are teachers' perspectives of the coaching process, coaching relationship, and sustainability of the *Pyramid Model* practices?
Measures & Assessments	• Pyramid Model checklists • Class-Wide Challenging Behavior Observation Tool • Teaching Pyramid Observation Tool (TPOT)
Study Implementation	• Coaching in the Pyramid Model wherein there was a baseline phase (the coach did not provide any feedback) and an intervention phase (the coach provided coaching and performance feedback focused on a specific practice). The intervention required the teachers to become proficient; coaching was provided until the teacher could demonstrate the desired professional practice to specifications. The coaching strategies included: (a) providing materials, (b) modeling, (c) helping in the classroom, (d) problem-solving, (e) reflective conversation, (f) environmental arrangement, (g) side-by-side verbal or gestural support, (h) goal setting and planning, and (i) graphing. • Observations took place in the classrooms during the regular school day. Coaching sessions took place in the classroom, during naptime or after school. • The primary behaviors of interest were the teacher's use of specific practices associated with the *Pyramid Model*. These behaviors were measured through the use of researcher-designed checklists that were based on an earlier version of the TPOT. Nine checklists were developed, and each checklist contained 7 to 10 indicators related to the practice, with precise criteria for receiving credit for each indicator. These data were collected approximately 1 to 2 times per week. During each observation, the coach collected data on the teacher's current set of targeted practices. In addition, the coach collected intermittent probe data on the other sets of targeted practices during at least 30% of data collection observations. • A different data collector observed and collected data periodically throughout the intervention phase for each targeted practice. The teacher was unaware of the purpose of these observations, and the coach was not present during these observations. These data will hereafter be referred to as alternate observer checks. In addition, inter-observer agreement (IOA) data were collected on at least 33% of the observation sessions to ensure that the coach's data were reliable. • During the study, IOA data were collected for all teacher, classroom, and child measures. At least 30% of observations using each measure were conducted with a primary and reliability data collector. The percentage agreement between the two data collectors was calculated using a point-by-point formula: • The number of agreements divided by the number of agreements plus disagreements was multiplied by 100. • Procedural fidelity data were collected on at least 20% of each type of coaching session for each coach (i.e., goal setting, training and action planning, debriefing, email, closing). All coaching sessions were audio recorded, and all coaching emails were saved. Coaching sessions and emails were randomly selected to be reviewed by a procedural fidelity data collector. The data collector used a checklist when listening to the audio recordings and viewing the emails to determine if the coach followed the protocol for each type of session. Procedural fidelity percentages were calculated by dividing the number of items present by the number of items possible and multiplying by 100. • In addition, to ensure procedural fidelity was completed reliably, another data collector independently completed the procedural fidelity checklists for at least 20% of all sessions that were reviewed for procedural fidelity. IOA between the two procedural fidelity data collectors was calculated using point-by-point agreement.
Staff Qualifications	Before the study began, data collectors were trained on each tool and practiced using each tool in non-participating classrooms. They were required to be reliable on each tool prior to collecting data for the study. For teacher checklists, each data collector was required to complete two observations (paired with two different observers) at 80% reliability for each checklist to be considered reliable. To be considered reliable on classroom and child measures (i.e., TPOT and CCBOT), each data collector had to complete three observations with an already trained data collector, with at least 80% agreement on the measure being used.
Key Findings	• An intensive and individualized coaching model (coaching provided at least 2-3 times per week in person or by email) is effective at improving teacher use of targeted Pyramid Model practices. • Teachers did not uniformly translate targeted practices into areas in which they had not received specific support. • Teachers can maintain targeted practices after receiving coaching; check-ins and reminders may facilitate maintenance of desired practices. • Group coaching also may be a viable model for improving teacher practices.

End Notes

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[i] Center on the Social and Emotional Foundations for Early Learning. (n. d.). Center on the Social and Emotional Foundations for Early Learning (CSEFEL). Retrieved from: http://csefel.vanderbilt. edu/.

[ii] Snyder, P., Hemmeter, M. L., & Fox, L. (2011). Coaching to support fidelity of implementation of evidence-based practices in inclusive early childhood settings. Presentation made at the 3rd conference of the International Society on Early Intervention, New York, NY.

[iii] McLean, M., Snyder, P., Sandall, S., and Hemmter, M.L. (2011). Professional Development in Embedded Instruction. Presentation for the annual meeting of the American Education Research Association, April 2011, New Orleans Louisiana.

[iv] Hemmeter, M. L., Hardy, J. K., Schnitz, A. G., Adams, J. M., & Kinder, K. A. (2015). Effects of Training and Coaching With Performance Feedback on Teachers' Use of Pyramid Model Practices. Topics in Early Childhood Special Education, 35(3), pp. 144–156.

[v] Hemmeter, M.L., Fox, L., & Snyder, P. (2011). Professional development related to the teaching pyramid model for addressing the social emotional development and challenging behavior of young children. Presentation made at the 3rd conference of the International Society on Early Intervention, New York, NY.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Raising a Reader

Goals

The goals of Raising A Reader (RAR) are the following: 1) to improve the reading readiness of children birth to third grade, 2) to promote parents' use of effective book sharing practices, and 3) to promote family literacy habits (*source: Raising A Reader website*).

Program Features

Raising A Reader (RAR) is a family engagement and early literacy program that is designed to improve the reading readiness skills of children birth through third grade (*source: RAR website*). RAR promotes the literacy of children from birth through kindergarten by means of a weekly rotation of bags filled with books sent to children's homes, providing children and families access to over 100 books per rotation cycle. Book rotation is supplemented with parent training and materials promoting effective book sharing, family literacy habits, and family language skills. Families are linked with their local public library, and children receive a blue bag at the end of the program to encourage library visits.

Raising A Reader is a program that can be started in child care centers, libraries, or other community centers or agencies. Child care centers can also partner with a library. Centers have flexibility in how they implement RAR. Each affiliate must have a trained coordinator in order to access RAR materials.

Raising a Reader Snapshot

- **EC Profile Indicator:** FS 20 Percent of Parents/Guardians Who Report Reading to Their Children Daily
- **Clearinghouse Rating:** None
- **Research supports** use with families with children ages birth through third grade
- **Related Smart Start outcomes:**
  - Increase in frequency of parent and child shared reading
  - Increase in the adult's use of recommended reading strategies
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** Yes
- **Frequency:** RAR book bags (4 books per bag) rotate to children's homes every week during the book distribution cycle; site implementers will facilitate weekly shared reading sessions; two Parent Workshops/Trainings will offered per RAR cycle
- **Suggested Assessments:** Raising a Reader Parent Survey
- **Implementation Guidance:** http://www.raisingareader.org

For more information regarding Raising A Reader use this link: http://www.raisingareader.org.

Target Audience

Families with children ages birth to 5

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Documented Outcomes

	Type of Study	Increase in frequency of parent and child shared reading*	Increased use of library	Increased access to books	Gains in children's literacy outcomes**
Anthony et.al. (2014)[i]	Experimental, with random assignment				✓ (only with addition of Family Nights)
Calhoun Intermediate School District (2013)[ii]	Pre/post with comparison group	✓	✓	✓	✓
Chao et.al. (2015)[iii]	Quasi-experimental with matched control group at the classroom level	✓	✓	✓	✓
Raising A Reader Aspen to Parachute (2013)	Pre/post	✓	✓		✓
Southwest Human Development (2013)	Pre/post	✓	✓		

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.
*Aligned with Smart Start outcomes *Increase in frequency of parent and child shared reading, Increase in the adult's use of recommended reading strategies*
**Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*

Research Evidence for Raising a Reader

- Evidence indicates that RAR participation increases children's access to books, family literacy engagement, and parent-reported outcomes including children's increased enjoyment of shared reading, increased language skills (vocabulary), increased emergent literacy skills (print awareness, letter naming, etc.), increased parent awareness of the importance of shared reading for literacy development, increased shared reading with the child, increased access to books or number of books in the home, and increased use of libraries.[iv, v]
- These outcomes are especially enhanced when combined with parent training sessions in dialogic and interactive reading techniques.[vi]

Review of Experimental and Quasi-Experimental Studies

Citation	**Anthony, J. L., Williams, J. M., Zhang, Z., Landry, S. H., & Dunkelberger, M. J. (2014). Experimental evaluation of the value added by raising a reader and supplemental parent training in shared reading. Early Education and Development, 25(4), pp. 493-514.**
Population and Sample	• 617 English-speaking children in 91 preschool classrooms within 37 schools; classrooms were randomly assigned in year 1 to groups: o Texas Early Education Model (TEEM)/Control = 22 o TEEM plus Raising a Reader (RAR) = 37 o TEEM plus RAR with Family Nights = 32 • New classrooms/teachers were recruited each year but not enough classrooms were available in Houston for all new classrooms each year to participate. Therefore teachers were allowed to continue in the treatment groups each year following the first year of participation while returning control teachers and new classrooms/teachers were randomly assigned to groups each year. No children participated in multiple years. • Children ranged in age from 37 to 69 months and included 49% boys, 51% girls; 54% African American, 27% Hispanic/Latino American, 14% white, 4% multiracial, 1% other
Methodology	Experimental, with random assignment
Purpose	The study examined the value added of parent workshops conducted in collaboration with the Raising a Reader program.

Measures & Assessments	• Expressive One-Word Picture Vocabulary Test (EOWPVT) • Receptive One-Word Picture Vocabulary Test (ROWPVT) • Word Structure from the Clinical Evaluation of Language Fundamentals: Preschool-2nd edition (CELFP-2) • Sentence Structure from the CELFP-2 • Memory for sentences from the Woodcock-Johnson Psycho-Educational Battery-Revised • Print knowledge from the Preschool Comprehensive Test of Phonological and Print Processing • RAR Parent Survey • Evaluation Site Rubric
Study implementation	• The study took place over 4 years. • Classroom teachers were provided with RAR book bags and trained in the RAR book rotation system, tracking of materials, and contents of the "Teacher Attache," which includes shared reading strategies, classroom instructional strategies, and take-home activities. • Research staff conducted the first of two parent meetings at schools during which parents were presented with information about child development, the benefits of reading with children, and the logistics of the RAR program. A demonstration of how to read a wordless picture book was also provided at this time. • University-based RAR coordinators introduced the children to the book bags, which were filled with children's books during a regularly scheduled circle time. • Librarians from nearby branches began visiting classrooms in the middle of the school year to read aloud to the children, describe the library, and role-play visiting the library. They also presented at the second parent meeting and at the time issued library cards, shared reading strategies, and distributed library bags. Certain classrooms also took a field trip to their local library. • Children were assessed on measures of oral language and print knowledge at the beginning and end of the school year. • Analyses controlled or classroom nesting and individual differences in age, ethnicity, and pretest scores. • University-based TEEM coordinators were trained in RAR and implementation followed published RAR guidelines. Coordinators also were trained in conducting family nights. • RAR coordinators visited each classroom weekly to start to ensure fidelity of book rotation and tracking, to answer questions from teachers are parents, and encourage/support teachers' efforts to motivate children and parents. Visits tapered off to every other week after 1 to 2 months and continued until teachers scored satisfactorily on the site fidelity measure. • Assessment administrators included experienced research staff, were trained by the first author, and required to demonstrate competence in administration and scoring during one-on-one test sessions with the principal investigator or another experienced examiner. All assessors were blind to experimental condition.
Staff Qualifications	• Not addressed
Key Findings	• There was no added value associated with Raising a Reader alone. • The TEEM plus RAR with Family Nights was associated with significant gains on oral language and print knowledge ($p<.01$), particularly for children who started preschool behind on school readiness (<.05).

Citation	**Chao, S. L., Mattocks, G., Birden, A., Manarino-Leggett, P. (2015). The Impact of the Raising A Reader Program on Family Literacy Practices and Receptive Vocabulary of Children in Pre-Kindergarten. Early Childhood Education Journal, 43, 427–434.**

Population and Sample	• The study included 148 children 4 to 5 years of age in 12 prekindergarten classrooms with 24 teachers
	  o Treatment group = 100 children in nine classrooms
	  o Comparison group = 48 children in three classrooms
	• Children:
	  o 43% boys and 57 % girls, 97% spoke English and 3% spoke Spanish as their first language
	  o 30 % Caucasian/White, 37% African- American, 14% Hispanic, 2% Multi-ethnic, 4% Asian, 4% Native American
	• Teachers:
	  o 23 females, one male
	  o 3 to 24 years teaching experience

Methodology	Quasi-experimental, matched control group at the classroom level
Purpose	The purpose of the study was to examine the relationship between participating in a Raising a Reader program with children's receptive vocabulary and family reading behavior and visits to the library.
Measures & Assessments	• Parent surveys • Peabody Picture Vocabulary Test-4

Study Implementation	• Due to scheduling and logistical issues with the school system, the program was implemented over a 12-week period rather than the 24-week period recommended by RAR national headquarters. • Treatment group children took home a red bag, each containing four different children's books and a DVD for parents describing the most effective techniques for reading aloud to children. Families kept the bags for 3-4 days. • Bags were rotated in the classroom so that each child received a new set of books every week. Teachers were encouraged to extend the readings with classroom activities using drama, art, and puppetry. • Control group children did not receive any information about the RAR program. • Treatment group parents completed a survey before being made aware of the RAR program and were then invited to attend a kick-off for the program. Following the 12-weeks program, they were asked to complete a post-test survey. Control parents did not complete any surveys. • Treatment and control group children were tested for receptive vocabulary before the RAR program began and 12 weeks after the program ended.
Staff Qualifications	• Not addressed
Key Findings	• There were significant increases in at-home reading routines for the treatment group. • There were significant increases in the quality of shared reading activities, parent shared reading behaviors, and child attention span during shared reading for the treatment group. • The treatment group demonstrated significant decreases in the number of visits to the library but significant increases in the number of children's books in the home, participation in library events, interactions with library staff, and checking out of library resources. • Sixty-eight percent of treatment group children made significant gains in receptive vocabulary skills compared to 39% of control group children.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Calhoun Intermediate School District (2013)**
Key Findings	• Families who participated in RAR showed a statistically significant increase in creating literacy-rich home environments: o The percentage of parents/guardians who checked out children's materials to take home increased from 47% to 54.5%. o The percentage of families having more than 30 books at home increased from 50.2% to 60.2%. o Parents/guardians who read to children for 10-15 minutes daily increased from 26.7% to 32.3%. o Parents who asked children questions about books increased from 54.8% to 64% and children who asked questions about books increased from 55.1% to 62.7%. • In comparison to non-RAR children, RAR children scored 4.6 points higher on letter identification (based on a 54-point Likert scale), 4.6 points higher on sound identification (based on a 54-point Likert scale), 5.1 points higher on concepts of print (based on a 22-point Likert scale), and 1.4 points higher on Clay Read (based on a 22-point Likert scale). • RAR children, particularly those from immigrant families where English is not the primary language, showed an increase in vocabulary, language development, and literacy skills.

Citation	**Raising A Reader Aspen to Parachute (2013). [Website]. Available from: http://rar4kids.org/**
Key Findings	1. Reading time among low-income families increased by 22% from October – May. Families on average read aloud together about 6.5 days/week. 2. While reading stories with their young children, parents reported a 23% increase in the number of times the child "read" the story to the parent by memorization or through pictures. This is an

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	indication of key early literacy fundamentals including comprehension and understanding story sequence and picture/story relationships. 3. Parents reported a 19% increase in the frequency of story discussions during reading times (probing story details and asking questions.) 4. At the end of the school year, 80% of families reported they were now checking out library books with their child, an increase from 43% in September. **Garfield Re-2 Schools (based in Rifle):** Based on the Garfield County School District Re02 assessment that measures a child's preparation for reading success, Raising A Reader (RAR) children in kindergarten scored 10 percentage points higher than non-RAR children. **Garfield 16 School District (based in Aspen):** By grade 3, children with a RAR background and support from the Colorado Preschool Program (CPP) significantly outscored non-RAR/CPP children on literacy proficiency. Only 27% of RAR/CCP third graders tested in the low literacy category

Citation	**Southwest Human Development. (2013). [Website]. Available from: https://www.swhd.org/programs/head-start-early-literacy/raising-a-reader/**
Key Findings	1. At the start of the program, less than half of the participants (47%) indicated they had a reading routine with their child. By the end of the program, 86% of participants reported they had a reading routine established. 2. The number of minutes spent per time reading increased from 35% to 53% of parents reporting that they spent between 11-30 minutes reading with their child. 3. Families increased their number of visits to the library with more than half (54%) visiting the library one or more times in the past month (an increase from 30%). 4. After participating in the program, 90% of parents reported that their child asked to be read to. 5. Non-mothers were as successful as mothers in supporting and developing reading routines with the children. 6. RAR has statistically greater impact on Burmese, Nepalese, and French speaking families than Spanish and English speaking families.

End Notes

[i] Anthony, J. L., Williams, J. M., Zhang, Z., Landry, S. H., & Dunkelberger, M. J. (2014). Experimental evaluation of the value added by raising a reader and supplemental parent training in shared reading. Early Education and Development, 25(4), pp. 493-514.

[ii] Raising A Reader Aspen to Parachute (2013). [Website]. Available from: http://rar4kids.org/

[iii] Chao, S. L., Mattocks, G., Birden, A., Manarino-Leggett, P. (2015). The Impact of the Raising A Reader Program on Family Literacy Practices and Receptive Vocabulary of Children in Pre-Kindergarten. Early Childhood Education Journal, 43, 427–434.

[iv] Ibid

[v] Chao, S. L., Mattocks, G., Birden, A., Manarino-Leggett, P. (2015). The Impact of the Raising A Reader Program on Family Literacy Practices and Receptive Vocabulary of Children in Pre-Kindergarten. Early Childhood Education Journal, 43, 427–434.

[vi] Anthony, J. L., Williams, J. M., Zhang, Z., Landry, S. H., & Dunkelberger, M. J. (2014). Experimental evaluation of the value added by raising a reader and supplemental parent training in shared reading. Early Education and Development, 25(4), pp. 493-514.

Additional References

Raising A Reader. (n. d.). Raising A Reader. [Website]. Available from: http://www.raisingareader.org.

Southwest Human Development. (2013). [Website]. Available from: https://www.swhd.org/programs/head-start-early-literacy/raising-a-reader/

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

WAGE$ and Early Childhood Education Quality Incentives

Goals

The goal of quality incentives for ECE professionals, including the WAGE$ program, is to help programs improve quality by reducing turnover and increasing teachers' education.

Practice Features

Financial incentives are one mechanism of supporting quality enhancements by encouraging talented professionals to enter and remain in the ECE field. Increasing quality includes improving conditions for ECE professionals, such as providing higher wages or tuition for courses.

Financial incentives include bonuses, awards, or stipends for completing education or reducing turnover. The Child Care WAGE$ Project provides education-based salary supplements to low-paid teachers, directors, and family child care providers working with children between the ages of birth and five. The project is designed to provide preschool children more stable relationships with better-educated teachers by rewarding teachers' educational advancement and continuity of teachers in child care situations.

WAGE$ and Early Childhood Education Quality Incentives Snapshot

- **EC Profile Indicator:** EDU 10 - Percent of children enrolled in 1-5 star centers that have at least 75% of lead teachers with college degrees or EDU 20 – Percent of children enrolled in 1-5 star centers that have directors with college degrees
- **Clearinghouse Rating:** None
- **Research supports** use with early childhood educators, including directors and teachers
- **Related Smart Start outcomes:**
  - Decrease in teacher turnover
  - Decrease in director turnover
- **Implementation Guidance:** Available for WAGE$ at http://www.childcareservices.org/wageapps/index.php

Any child care professional earning at or below the income cap selected by the funding partnership may be eligible to participate. The supplement recipient must work with children ages birth to five at least 10 hours per week in a licensed child care program in a participating county and have some formal child care credential or education beyond a high school diploma. Child Care WAGE$ requires participants at lower education levels to move up an education level on the salary supplement scale in order to continue receiving a supplement. Teachers and directors have two years to advance and home providers have three.

Target Audience

Early care and education directors and teachers

Documented Outcomes

	Type of Study	Wages related to teacher turnover*	Education related to teacher turnover *	Experience related to teacher turnover*	Wages related to the quality of care**	Wages related to director turnover*
Gable et al. (2007)[i]	Quasi-experimental, longitudinal study with comparison group	✓	✓			
Cassidy et al. (2011)[ii]	Non-experimental, with purposive sampling	✓				
Child Care Services Association (2015)[iii]	Non-experimental, survey	✓				
Cleveland & Hyatt (2002)[iv]	Non-experimental, secondary data analysis	✓	✓	✓		
Toquati et al. (2007)[v]	Non-experimental				✓	
Whitebrook & Sakai (2003)[vi]	Non-experimental	✓				✓

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *Decrease In Teacher Turnover and Decrease in Director Turnover*
**Aligned with Smart Start outcome *Improved ECE program environment*

Research Evidence for ECE Professional Quality Incentives including WAGE$

- There is some evidence indicating that the wage of the highest paid teacher in a center predicts child care quality even when accounting for ratio, teacher training, and teacher education,[vii] but the evidence is mixed.[viii, ix]
- Studies suggest that wages, including incentives tied to educational attainment, and benefits are linked to the reduction of teacher and director turnover.[x, xi, xii, xiii, xiv]

Review of Experimental and Quasi-Experimental Studies

Citation	**Gable, S., Laschober, T., Thornburg, K. R., & Mauzy, D. (2007). Cash incentives and turnover in center-based child care staff. Early Childhood Research Quarterly, 22, pp. 363–378.**

Population and Sample	• 513 center-based teaching staff and 167 directors from 179 child care centers across the state of Missouri:
	o Intervention group = 304 teachers, 93 directors, 99 centers;
	o Comparison group = 209 teachers, 74 directors, 80 centers;
	• Intervention group teachers, compared to comparison group teachers, had a slightly higher average age, fewer with a high school diploma, and more with an associate's degree or higher; more were African American; fewer earned between $4.80 and $7.20; and more earned $9.60 per hour or more.
	• Intervention group directors, compared to comparison group directors, included more African American; fewer earned between $4.80 and $7.20; and more earned $16.80 per hour or more.

Methodology	Quasi-experimental, longitudinal study with comparison group
Purpose	The purpose of the study was to evaluate the impact of the Workforce Incentive project (WIN) on the turnover rates of providers working in licensed child care programs. In an effort to increase workforce stability, especially among experienced and educated staff, WIN provides bi-annual cash incentives to motivate providers to increase their level of education beyond the requirements of Missouri law. The study addressed whether turnover rates differ (1) between the intervention and comparison groups; (2) by position type, educational attainment, experience in the field, and hourly wages between the two groups; and (3) by position type and education and experience, education and hourly wages, and

	experience and hourly wages between the two groups?
Measures & Assessments	• Questionnaire and telephone interview • Professional Achievement and • Recognition System (PARS) enrollment form
Study Implementation	• The intervention group were required to enroll in the Professional Achievement and Recognition System (PARS), the state's voluntary child care provider registry. Intervention group participants were selected on a first-come, first-served basis based on the date on the postmark of their enrollment package. To maintain WIN eligibility, providers were required to work a minimum of 30 hours per week for 9 months each year, renew their PARS enrollment information, and complete 12 contact hours of training each year. • Comparison group participants were matched at the county level using publicly available basic demographic data sources. Comparison centers were contacted and, if they agreed to participate in the study, directors were asked to identify teachers in their center who worked at least 30 hours per week for at least 9 months per year. • Following recruitment, participants in both groups completed a telephone interview and were asked to complete and return a questionnaire packet for which they received a $10 gift card. Following the receipt of baseline questionnaires, participants were contacted every 4 months to complete follow-up telephone interviews (a total of 5 interviews were conducted).
Staff Qualifications	• Not addressed
Key Findings	• <u>Turnover Rates between Study Groups</u> o There was a significant difference in turnover rates between all members of the intervention (WIN) and comparison groups for each follow-up period. In addition, at 20-months following baseline, which was the end of the study, 70% of WIN participants and 54% of comparison participants remained in their original programs. o There was a significant difference in turnover rates for teaching staff between the intervention (WIN) and comparison groups for each follow-up period. At the end of the study, 67% of WIN teaching staff and 48% of comparison teaching staff remained in their original programs. o There was no significant difference in turnover rates for center-based directors between the intervention (WIN) and comparison groups for each follow-up period. At the end of the study, 81% of WIN directors and 73% of comparison directors remained in their original programs. • <u>Turnover Rate by Education</u> o WIN teaching staff with more than a high school diploma had significantly lower turnover rates than similar teaching staff in the comparison group, with 71% of WIN teaching staff and 50% of comparison teaching staff remaining in their original programs by the end of the study. o There were no significant differences in turnover between WIN and comparison directors based on level of education (i.e., high school diploma, Child Development Associate, associate's degree, bachelor's degree). • <u>Turnover Rate by Experience</u> o Although the differences between the two groups were not significant, turnover rates were lower for WIN teaching staff with more than 5 years of experience than for the comparison group. o There were no significant differences in turnover for WIN and comparison directors based on years of experience. • <u>Turnover Rate by Hourly Wages</u> o Turnover was lower for WIN teaching staff earning between $7.20 and $9.60 per hour than for comparison teaching staff with the same earnings. Results indicated no significant differences in turnover between WIN and comparison teaching staff who earned up to $7.20 per hour or those who earned more than $9.60 per hour. o WIN directors earning more than $12 per hour had significantly lower turnover than comparison directors at the same rate of pay. • <u>Turnover Rate by Education and Experience</u> o WIN teaching staff with more than a high school diploma and more than 5 years of experience had lower turnover rates than comparison teachers with equivalent education and experience. o There were no significant differences in turnover for directors based on education and experience. • <u>Turnover Rate by Education and Hourly Wages</u> o WIN teaching staff with more than a high school diploma and hourly wages greater than $7.20 had significantly lower turnover rates than comparison teachers.

	○ WIN group directors with at least a bachelor's degree and hourly wages greater than $12.00 had significantly lower turnover rates than comparison directors. • Turnover Rate by Experience and Hourly Wages ○ WIN teaching staff with more than 5 years of experience and hourly wages greater than $7.20 had significantly lower turnover than comparison teachers. ○ There were no significant differences in turnover for directors based on experience and hourly wages.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Cassidy, D. J., Lower, J. K., Kinter-Duffy, V. L., Hedge, A. V., & Shim, J. (2011). The day-to-day reality of teacher turnover in preschool classrooms: An analysis of classroom context and teacher, director, and parent perspectives. Journal of Research in Childhood Education, 25(1), pp. 1-23.**
Population and Sample	• 34 teachers (departing and new) in 13 classrooms in 9 centers experiencing teacher turnover in the 2-year study period. ○ Teachers: 63.0% European American, 37.0% African American and other ethnic groups; some college education; averaged 78.4 months of experience; average hourly wage of $8.82. ○ Directors: 66.7% European American, 22.2% African American, 11.1% American Indian; 88.9% had either a 2- or 4-year degree and 11.1% had a graduate degree. ○ Centers: quality star ratings ranged from 3 to 5 (out of a possible 5 stars).
Methodology	Non-experimental using purposive sampling
Purpose	The study's goal was to investigate the impact of teacher turnover on the quality of an intentionally small sample of classrooms (n=13) by collecting data on the experiences of teachers, directors, parents, and children in a center that was experiencing staff turnover. The study was guided by the following questions: (1) What are the day-to-day experiences of teachers, directors, and parents during turnover transitions? (2) How is classroom quality compromised as a result of turnover? (3)What areas of the classroom are most affected (e.g., materials/activities, language/interactions, global quality) by turnover? and (4) How are relationships among children, parents, and staff affected by turnover?
Measures & Assessments	• Semi-structured interviews • Early Childhood Environment Rating Scale–Revised (ECERS-R) • Student-Teacher Relationship Scale (STRS)
Study Implementation	• Over a 2-year period, 38 child care center directors were contacted about the study. Researchers contacted the 11 centers that agreed to participate twice a month until a turnover situation was identified. Ultimately, 9 of the 11 centers experienced a turnover situation. • All directors and 65.4% of the 42.3% of parents who agreed participated in interviews. • In the last week of employment, departing teachers participated in interviews and completed the survey measures and their classrooms were observed ECERS-R. • One week after beginning employment, new teachers participated in interviews, completed the survey measures, and were observed using the ECERS-R in their classrooms. • Other teachers in the classrooms (e.g., co-teacher, assistant teacher), who remained consistent and worked with both the departing and the new teachers, were interviewed and completed the survey measures. • Researchers kept field notes about the procedures used by the centers to maintain consistency in the classrooms during teacher transitions. • Three coders independently applied the coding scheme to interview transcripts with discrepancies discussed and resolved.
Staff Qualifications	• Not addressed
Key Findings	• Four centers (five classrooms) were identified as proactive because they had established policies and systems to minimize the disruption caused by teacher turnover. Five centers (eight classrooms) were identified as reactive because they had no such systems in place. • Overall ECERS-R scores decreased between the pre- (M=4.35) and post-turnover (M = 4.13) assessments, indicating a negative effect of turnover on classroom quality. Note that the sample size was too small to test for significance.

	• Proactive classrooms had higher overall ECERS-R scores (M=5.11) than classrooms identified as reactive (M=3.61) on the post-turnover assessments. • Proactive centers experienced a lower turnover rate (20.9%) that reactive centers (29.8%) centers. • Based on the results from scores on the STRS, departing teachers as compared to new teachers shared a closer relationship with the children in the classroom (p=.01), and perceived children to be more dependent on them (p=.001). • Interviews indicated three suggestions for reducing turnover, particularly from departing teachers: (1) increase salaries, the most often mentioned strategy; (2) offer better benefits; and (3) create supportive and positive work environments by lowering teacher-child ratios for smaller group sizes and increasing the number of teachers with education in early childhood.

Citation	**Child Care Services Association. (2015). WAGE$ statewide final report: Fiscal year 2015. Retrieved from: http://www.childcareservices.org/wagesapps/StatewideFinalFY15_Full.pdf**
Population and Sample	• N/A
Methodology	Non-experimental
Purpose	The report was to present feedback from participants about the Child Care WAGE$® Project in North Carolina. WAGE$ provides financial incentives for child care teachers and directors to improve their education and remain employed in their current child care or early education programs.
Measures & Assessments	• Participant survey
Study Implementation	• WAGE$ awards salary supplements to child care professionals as an incentive to increase their education and reduce turnover. Recipients were surveyed.
Staff Qualifications	• Not addressed
Key Findings	• The statewide turnover rate in 2014 for all full-time early education teachers (not just WAGE$ participants) was 19%. In 2015, turnover rate for WAGE$ participants was 12% and for NC Prekindergarten program teachers (and assistants) the turnover was 10%. The statewide turnover rate was 31% in 1998. • 76% of the teachers who did not leave their jobs earned less than $12 per hour. • 69% of active WAGE$ participants earn less than $12 per hour (69% of teachers, 91% of home providers or small facility operators and 36% of directors or those with partial administrative time earn less than $12). • 44% of WAGE$ participants in NC Pre-K classrooms earn less than $12 per hour; 48% of the NC Pre-K teacher assistants and 27% of the teachers earn less than $12 per hour. • 97% of survey respondents indicated that WAGE$ encourages them to stay with their current child care programs. • 98% of participants indicated that supplement had an impact either on their desire to remain in the child care or early education field or the decision to further their education.

Citation	**Cleveland, G. H., & Hyatt, D. E. (2002). Child care workers' wages: New evidence on returns to education, experience, job tenure and auspice. Journal of Population Economics, 15, pp. 575–597.**
Population and Sample	• Data from 501 directors and 2,441 staff working in full-day (6 hours or more) child care centers were extracted from the Caring for a Living Study, which was conducted in 1991, and the Canadian Census of 1991. Sample consisted of: o 58% teachers, 19% assistant teachers, 22% teacher-directors or administrative directors, 1% individuals in other jobs (such as cooks and maintenance staff) o 83% with education beyond a high school: 23% with two or three-year college diploma, 15% with bachelor's degree, and 2% with graduate training. o 53% with 5 or fewer years of experience in the child care field, 25% with 6–10 years of experience, and 20% with more than 10 years of experience; average of 3.5 years of experience with current employer. o 83% employed full time, 13% part-time, and 3% casual or substitute. o 75% employed by non-profit or municipal centers and 15% by for-profit operators; 13% union members.
Methodology	Non-experimental, secondary data analysis
Purpose	The study's goal was to examine the differences between center type (for-profit versus non-profit) with respect to staff wages and turnover.
Measures & Assessments	N/A
Study Implementation	N/A

Staff Qualifications	• N/A
Key Findings	• Early childhood educators and assistants earn slightly less than 75% of the average or median income of similar female workers in all other occupations, and slightly more than 50% of similarly educated elementary and kindergarten teachers. • Wages are about 7% higher for workers with some college or university than for those with high school or less education. Workers with a one-year certificate earn about 12% more than workers with less than high school. Workers with a two-year certificate earn about 21% more and a college diploma about 24% more, and a bachelor's degree about 28% more than those with less than a high school education. Workers with more than bachelor's degree earn about 23% more than those with less than a high school education. • Wages are about 6% higher for workers with 4–5 years of experience than those with less than 4 years' experience. Wages are about 11% higher for those with more than 5 years of experience and each year of job tenure is worth about 1%. • Municipal centers typically pay their child care staff about 31% more and non-profit centers 13% more than for-profit centers. • Union members are paid significantly more per hour on average (+17%), but turnover is higher. • Turnover is higher for those making low wages, but employer pension benefits appears to be related to a decrease in turnover. • Turnover is lower for those with specialized child care credentials (one year and two year college) than for those with less than a high school education. • Turnover is higher for teachers with a bachelor's degree or above than for those with less than a high school education. • Turnover is significantly higher for those with less than one year of experience in the child care field.

Citation	**Manlove, E. E., & Guzell, J. R. (1997). Intention to leave, anticipated reasons for leaving, and 12-month turnover of child care center staff. Early Childhood Research Quarterly, 12, pp. 145-167.**
Population and Sample	• 169 providers in 28 licensed child care centers in 11 counties in Pennsylvania o 166 female o Age ranged from 19 to 83 years (average=34); 79% were 40 years of age or younger. o 31% with at least a bachelor's degree, 31% with some college, and 37% with a high school diploma or less. o Experience in the field ranged from less than one year to more than 15 years (average=3.8 years). o 11 owner-teacher-directors, 18 teacher-directors, 53 teachers, 48 assistant teachers, and 39 aides. o 64% worked 35 or more hours per week; 14% worked less than 20 hours per week o Average hourly wage=$5.14.
Methodology	Non-experimental
Purpose	The purpose of the study was to examine the role of both work and non-work factors in child care worker intentions to leave their jobs and actual job turnover.
Measures & Assessments	• Participant survey o Job satisfaction and organizational commitment was based on the National Child Care Staffing Study • Maslach Burnout Inventory
Study Implementation	• Child care directors who were interested in participating in the study were divided into four groups: rural for profit, rural nonprofit, urban for profit, and urban nonprofit. Sites were then randomly selected from each group with the exception of small for profit. Due to the small number of sites in this group, all those interested were included in the study. • Surveys were distributed only to staff who spent regularly scheduled time working directly with children. Participants received $10 for completing the survey. • Each program was contacted for information on staff turnover 12 months after surveys were collected.
Staff Qualifications	• N/A
Key Findings	• 41% of respondents expected to leave their jobs in the near future. In the 12 month follow-up, 23% had actually left. Full time workers (35 or more hours per week) were no more likely to intend to leave or actually leave their jobs than part time workers. • Although full time workers were paid significantly higher hourly wages, had more experience, and reported higher levels of emotional exhaustion, they were no more likely to leave than part-time workers. • Assistant teachers and aides had significantly lower levels of wages and education than teachers, teacher-directors, and owner-teacher-directors. Assistant teachers also were the least

	experienced in the field and owner-teacher-directors were the most experienced. • Individuals who believed there were job alternatives are almost three times as likely (2.8) to intend to leave the current job in the near future. • Individuals with increasing levels of emotional exhaustion makes it 2.4 times more likely they will intend to leave the current job in the near future. • As the number of years in the field increase, individuals are increasingly less likely to intend to leave in the near future. • Advancement (changing jobs, returning to school) was the most frequent reason given for those who expected to leave (n=35), and none of those who actually did leave for advancement planned to go to another early childhood program. • Concerns about the low pay and the need to earn a higher wage were cited by 13 of those expecting to leave their jobs in the near future and 10 participants said they expected to remain in their jobs because of lack of other options.

Citation	**Torquati, J., Raikes, H., & Huddleston-Casas, C. (2007). Teacher education, motivation, compensation, workplace support, and links to quality of center-based child care and teachers' intention to stay in the early childhood profession. Early Childhood Research Quarterly, 2, pp. 261–275.**
Population and Sample	• Stratified random sample of 964 child care center providers working in full-day full-year programs in 4 mid-western states participated in phone surveys. o 99% female; mean age of 35 o 83% white, 8.4% African American, 5.7% Hispanic, 1.2% American Indian o Experience: 12% had 10 or more years, 19% had 5-10 years, 15% 3-5 years, 29.4% had 1-3 years, and 24% had less than 1 year o 45% cared for their own children in the child care setting in which they worked • A subset of 223 providers participated in classroom assessments. o 122 infant toddler providers o 101 preschool providers o 105 followed Head Start or Early Head Start performance standards, but were not Head Start programs.
Methodology	Non-Experimental
Purpose	The study's goal was to develop and test a model of decisions to enter the early childhood profession, supports for retention, and factors surrounding decisions to leave the profession, as well as the impacts of the decision-making process on the quality of care.
Measures & Assessments	• Telephone survey • Early Childhood Environment Rating Scale - Revised (ECERS-R) • Infant–Toddler Environment Rating Scale (ITERS) • Caregiver Interaction Scale • Staff–child ratio
Study Implementation	• A stratified random sample of full-time child care centers was drawn from state-level child care licensing and subsidy files. Sample strata included: state, subsidy/non-subsidy, center-based programs for infants/toddlers and preschool aged children, licensed family homes, registered family homes license exempt homes, and early Head Start/Head Start partners. Respondents were randomly selected until each strata was complete. • Providers were contacted by telephone and asked to complete a 12.5 minute surveys. The response rate was 99%, with 95% of respondents agreeing to be added to an observation list. • Providers were contacted by phone using the same stratification procedures and asked to participate in observations. Response rates across the four states ranged from 48 to 59%. Teachers received a $20 gift certificate for participating. • Several variables were tested using structural equation modeling to determine which, if any, predict the quality of interactions, observed quality of care, and intention to remain in the child care field. The variables included teacher education, compensation, workplace supports, and teacher motivations for child care work. • Paired observations were conducted every 10 observations with the ITERS, ECERS, and Caregiver Interaction Scale to maintain reliability in scoring.
Staff Qualifications	• N/A
Key Findings	• <u>Quality of Interactions</u> o None of the variables tested in this study predicted the quality of interactions. • <u>Observed Quality of Care</u> o Years of education significantly predicted teacher compensation, which significantly predicted observed quality. • <u>Intention to Remain in the Field of Child Care</u>

	○ Motivation for child care work significantly predicted intention to stay in the field of child care.

Citation	**Whitebrook, M., & Sakai, L. (2003). Turnover begets turnover: an examination of job and occupational instability among child care center staff. Early Childhood Research Quarterly, 18, pp. 273–293.**
Population and Sample	• 149 teaching staff and 71 directors employed in 92 child care centers
Methodology	Non-experimental
Purpose	The purpose of the study was to identify differences in demographic, professional preparation, and personal and workplace characteristics of child care teaching staff and directors as they relate to both job and occupational turnover.
Measures & Assessments	Interview protocols adapted from measures used in the National Child Care Staffing Study and from earlier phases of data collection.
Study Implementation	• In 1994, 92 centers participated in a longitudinal study to examine NAEYC accreditation as a strategy for improving the quality of care in child care centers, with 55 centers in the study group seeking NAEYC accreditation and 37 centers in a comparison group not seeking accreditation. During the study 260 teaching staff and 92 directors were interviewed and asked for permission to contact them to update their information at a later date; 87 directors agreed. Follow-up visits occurred in 1996 and 2000. • In 2000, teachers and directors who had been interviewed in 1996 were contacted and asked to participate in a follow-up interview; 57% of teachers and 77% of directors responded and participated in telephone interviews. • Differences in teaching staff: 21% of the teaching staff that were located in 2000 worked in for-profit centers at a wage of $11.28 per hour in 1996. 32% of the teaching staff that the research team was unable to locate in 2000 worked in for-profit centers at an average wage of $10.35 per hour in 1996. • There were no differences in directors that research staff were able or unable to locate in 2000. • Respondents were asked about their current employment, wages, and benefits; professional preparation; demographics and family characteristics; and opinions about turnover, training opportunities, professional organizations, and recommendations for policy makers. Directors also were asked to provide information about salaries, training, and education for all teaching staff employed at the center in 1996 and 2000. • Research assistants piloted the interview questions during training and practice visits, with revisions made following the visits. Each version of the questionnaire was piloted at least five times.
Staff Qualifications	• N/A
Key Findings	<u>Teaching Staff</u> • Of the 149 teaching staff interviewed, 68 (46%) were still employed in the same centers as they were in 1996. Of the 81 teach staff no longer working in the same centers, 41 (50%) were working early childhood settings and 40 (50%) had left the child care field. • Of the 260 teaching staff interviewed in 1996, 76% were no longer employed in the centers in 2000; there were no differences in turnover between the NAEYC accredited and non-accredited centers. • Teaching staff who left their centers but remained in the field were younger on average (M=41) than teaching staff who stayed in their centers (M=47). • Among teaching staff interviewed in 2000 who remained in their centers, left their centers, or left the child care field: ○ There were no differences with respect to gender, ethnicity, living with a partner or spouse, with a bachelor's degree, or who participated in an early childhood practicum as part of their training; ○ Those remaining in their centers reported significantly longer tenure in their centers than the other two groups; ○ Those remaining in their centers reported significantly longer tenure in the child care field than the other two groups; ○ Those remaining in their centers and those who left their centers but remained in the child care field were significantly more likely to belong to a professional organization; ○ Those remaining in their centers were significantly more likely to receive pension benefits than those who left their centers but remained in the field; ○ Those remaining in their centers were paid significantly higher wages in 1996 than the other two groups; and ○ Those remaining in their centers were paid significant higher wages in 2000 than those who left their centers but remained in the field.

- Job turnover among teachers was significantly lower in programs where the director remained on the job. There were no differences in turnover among assistant teachers.
- Highly trained teachers were more likely to leave their jobs if: 1) their wages were lower, 2) they worked in a program with higher turnover among highly trained co-workers, 3) experienced a change in director, and/or 4) worked in a program where a higher percentage of teaching staff did not have a bachelor's degree.
- On average, teaching staff who left the child care field earned significantly higher wages.

Directors

- Of the 71 directors interviewed, 45 (63%) were still employed in the same centers as they were in 1996. Of the 26 who left their centers, 10 (39%) remained in the child care field as directors or assistant directors, 3 (11%) were employed in child care agencies, and the remaining 13 (50%) were either retired, deceased, staying at home with children, or employed in another field.
- Of the 75 centers still operating in 2000, 30 (40%) had a new director since 1996 and 20 (67%) of the 30 had two or more in that period of time.
- There were no significant differences in demographics or professional backgrounds between directors who left and those who stayed, except directors who left were significantly more likely to be people of color.
- Directors remaining in their centers were paid significantly higher wages in 1996 than those who left.
- Directors remaining in their centers worked in programs that paid higher average wages in 1996 to teachers (not including assistant teachers).

End Notes

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i Gable, S., Laschober, T., Thornburg, K. R., & Mauzy, D. (2007). Cash incentives and turnover in center-based child care staff. Early Childhood Research Quarterly, 22, pp. 363–378.

ii Cassidy, D. J., Lower, J. K., Kinter-Duffy, V. L., Hedge, A. V., & Shim, J. (2011). The day-to-day reality of teacher turnover in preschool classrooms: An analysis of classroom context and teacher, director, and parent perspectives. Journal of Research in Childhood Education, 25(1), pp. 1-23

iii Child Care Services Association. (2015). WAGE$ statewide final report: Fiscal year 2015. Retrieved from: http://www.childcareservices.org/wagesapps/StatewideFinalFY15_Full.pdf

iv Cleveland, G. H., & Hyatt, D. E. (2002). Child care workers' wages: New evidence on returns to education, experience, job tenure and auspice. Journal of Population Economics, 15, pp. 575–597.

v Torquati, J., Raikes, H., & Huddleston-Casas, C. (2007). Teacher education, motivation, compensation, workplace support, and links to quality of center-based child care and teachers' intention to stay in the early childhood profession. Early Childhood Research Quarterly, 2, pp. 261–275.

vi Whitebrook, M., & Sakai, L. (2003). Turnover begets turnover: an examination of job and occupational instability among child care center staff. Early Childhood Research Quarterly, 18, pp. 273–293.

vii Phillips, D., Mekos, D., Scarr, S., McCartney, K., & Abbott-Shim, M. (2001). Within and beyond the classroom door: Assessing quality in child care centers. Early Childhood Research Quarterly, 15, pp. 475-496.

viii United States General Accounting Office. (2002). Child care: States have undertaken a variety of quality improvement initiatives, but more evaluations of effectiveness are needed. Author: Washington, DC.

ix Torquati, J., Raikes, H., & Huddleston-Casas, C. (2007). Teacher education, motivation,

compensation, workplace support, and links to quality of center-based child care and teachers' intention to stay in the early childhood profession. Early Childhood Research Quarterly, 2, pp. 261–275.

[x] Cassidy, D. J., Lower, J. K., Kinter-Duffy, V. L., Hedge, A. V., & Shim, J. (2011). The day-to-day reality of teacher turnover in preschool classrooms: An analysis of classroom context and teacher, director, and parent perspectives. Journal of Research in Childhood Education, 25(1), pp. 1-23

[xi] Child Care Services Association. (2015). WAGE$ statewide final report: Fiscal year 2015. Retrieved from: http://www.childcareservices.org/wagesapps/StatewideFinalFY15_Full.pdf

[xii] Cleveland, G. H., & Hyatt, D. E. (2002). Child care workers' wages: New evidence on returns to education, experience, job tenure and auspice. Journal of Population Economics, 15, pp. 575–597.

[xiii] Gable, S., Laschober, T., Thornburg, K. R., & Mauzy, D. (2007). Cash incentives and turnover in center-based child care staff. Early Childhood Research Quarterly, 22, pp. 363–378.

[xiv] Whitebrook, M., & Sakai, L. (2003). Turnover begets turnover: an examination of job and occupational instability among child care center staff. Early Childhood Research Quarterly, 18, pp. 273–293.

Additional Resources

Child Care Services Association, Child Care WAGE$ Project – North Carolina
http://www.childcareservices.org/wagesapps/index.php

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Subsidy and Scholarships

Goals

The goals of child care subsidies are the following: 1) provide child care for children whose families meet financial or situational criteria, 2) support parental employment, 3) improve continuity of care, and 4) improve child development outcomes for children.

Program Features

In North Carolina, child care subsidies are available through state-administered Child Care and Development Fund (CCDF) and state Smart Start funds. Subsidies are available either as vouchers or as subsidized slots in contracted child care settings. This allows parents to choose care that is accessible to them and can include care in centers, family child care homes, or informal care provided by a relative, friend, or neighbor.

Subsidy and Scholarship Snapshot

- **EC Profile Indicator:**
  - PLA50 - Average Star Rating for Subsidized Children in 1-5 Star Care and Percent of Subsidized Children in 4 and 5 star care
- **Clearinghouse Rating:** None
- **Research supports** use with eligible families and children ages birth through five
- **Related Smart Start outcomes:**
  - Improved access to high quality care
  - More children on track for typical and/or enhanced development
- **Purveyor training required:** No
- **Frequency:** Full-time child care
- **Dosage:** Full-time child care
- **Suggested Assessments:** Teaching Strategies GOLD for NC Pre K

North Carolina limits subsidies to programs that have at least a three star rating based on the state's adopted Quality Rating Improvement Scale, with exceptions granted for religious-affiliated programs or programs actively pursuing three-star or higher licensure. Parents in this state must also meet situational and financial criteria. Parents must be income eligible and be working or looking for work or in school or a job training program. Children are eligible for subsidies if they are receiving child protective services or child welfare services, or their family is experiencing a crisis, and the family pays no parent fee. All other families are required to pay a portion of child care expenses based on their income.

For more information about subsidy, see http://ncchildcare.dhhs.state.nc.us/parents/pr_sn2_ov_fa.asp.

Special Note for Smart Start Implementation

Smart Start funds may only be used to for subsidy in 4 and 5 star centers and child care homes. Three star sites may be included under certain conditions, such as if there is an insufficient number of 4 and 5 star sites and/or if the 3 star site is receiving technical assistance to ultimately enhance quality.

Smart Start funds are often used to enhance or boost the subsidy payment for the highest quality of care or to extend the subsidy period for seeking employment or education. Other

examples of Smart Start supported subsidy activities include targeting Smart Start subsidy funds to specific child populations or a certain geographic area with very low resources, and to support more children attending NC PreK.

Target Audience

Eligible parents and children ages birth-5 years

Documented Outcomes

	Type of Study	Outcomes				
		Improved employment stability	Increased earnings	Improved quality of care	Increased continuity or use of care	Improved academic development*
Forry & Hofferth (2011)[i]	Quasi-experimental	✓				
Ha & Miller (2015)[ii]	Quasi-experimental	✓	✓			
Johnson et. al. (2013)[iii]	Quasi-experimental; secondary data analysis				✓	∞
Johnson et. al. (2012)[iv]	Quasi-experimental; secondary data analysis			✓		
Weber et. al. (2014)[v]	Quasi-experimental				✓	

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome *More children on track for typical and/or enhanced development*
∞ - *Examined but did not find a relationship between subsidy and child academic outcomes. In this study, subsidy was not targeted to high quality centers. It is the high quality that should better promote kindergarten readiness.*

Research Evidence for Subsidy and Scholarships

- There is some evidence that families that receive subsidies experience an increase in the continuity or use of care.
- Results are mixed as to whether subsidies improve the quality of care or the employment stability for the families that receive them.

Review of Experimental and Quasi-Experimental Studies

Citation	**Forry, N. D., & Hofferth, S. L. (2011). Maintaining work: The influence of child care subsidies on child care–related work disruptions. Journal of Family Issues, 32(3), pp. 346-368.**
Population and Sample	Wait List Study (Montgomery County, Maryland): 40 predominately single, low-income parents Fragile Families Study (national): 4,700 urban families nationally
Methodology	Quasi-experimental
Purpose	This study examines the association between receiving a child care subsidy and experiencing a child care–related work disruption using two samples and both cross-sectional and longitudinal regression models.
Measures & Assessments	Data for this study come from two sources: (1) the Wait List study and (2) the Fragile Families and Child Wellbeing (Fragile Families) study
Study Implementation	Secondary data analysis
Staff Qualifications	N/A
Key Findings	• Child care–related work disruptions were found to be less likely among subsidy recipients across samples and methods. • Wait List study data: Child care subsidy status was a significant predictor of child care–related work disruptions. Controlling for individual, family, and child care predictors in the cross-sectional model, the odds of experiencing a child care–related work disruption were 75% lower for parents receiving a subsidy than parents not receiving a subsidy. The longitudinal analysis, which compared the same Wait List parents over time, found that parents who changed subsidy status experienced 0.36 fewer child care–related work disruptions, on average, over the past 3 months while receiving a child care subsidy compared with parents who did not change subsidy status. The change in subsidy status variable alone predicted 6% of the variation in the difference of child care–related work disruptions experienced. • Fragile Families study data: Controlling for individual, family, child care, and community variables, subsidized parents' odds of experiencing a child care–related work disruption were 51% lower than the odds for nonsubsidized parents. Maternal depression, living with more adults in the household, and living in an area with a higher median housing price were also positively associated with experiencing a child care–related work disruption.

Citation	**Ha, Y., & Miller, D. P. (2015). Child care subsidies and employment outcomes of low-income families. Children and Youth Services Review, 59, pp. 139-148.**
Population and Sample	8984 subsidy eligible: 8004 receiving subsidies, 980 receiving no subsidies for various unknown reasons as comparison group
Methodology	Quasi-experimental
Purpose	This study examined the relationship between mothers' child care subsidy use and their earnings and labor force attachment. Using Wisconsin administrative data, this study examined 48 months of subsidy use for mothers who became eligible for child care subsidies between March 2000 and February 2001 (n = 8984). Comparing subsidy-eligible mothers who received subsidies and those who were eligible but did not, the study examined the likelihood of experiencing an increase (or decrease) in earnings and the likelihood of experiencing an increase (or decrease) in the number of quarters employed.
Measures & Assessments	N/A
Study Implementation	Secondary data analysis
Staff Qualifications	N/A
Key Findings	• The receipt of more than a year of child care subsidies was positively and significantly associated with the relative risk of increases in earnings and number of quarters employed, although the association between 13 and 24 months of subsidy receipt and increases in the number of quarters employed were marginally significant. • In most models, the relative risk of increased earnings was significantly associated with increases in the number of months of subsidy receipt. Similarly, subsidy receipt was negatively associated with the probability of a decrease in the number of quarters employed when mothers received more than one year of subsidies. • The average annual earnings of mothers who received subsidies for 25 months or more was about $14,300 (representing an average increase of $4,647 over the study period). This was still less than the federal poverty line for a family of three, which was $15,735 in 2005. • Mothers who were maintaining stable employment and subsidy receipt over time were more likely to have significant earnings increases beyond the income eligibility limit. This finding suggests that mothers who maintain employment but do not have substantial increases in earnings might simply be working in a low-wage job with limited opportunities for advancement rather than changing their work effort in order to maintain eligibility for subsidies.

Citation	**Johnson, A. D., Brooks-Gunn, J., & Martin, A. (2013). Child-care subsidies and school readiness in kindergarten. Child Development, 84(5), pp. 1806-1822.**
Population and Sample	1400 (400 subsidy recipients, 1000 eligible non-recipients)
Methodology	Quasi-experimental; secondary data analysis
Purpose	The federal child-care subsidy program represents one of the government's largest investments in early care and education. Using data from the nationally representative Early Childhood Longitudinal Study–Birth Cohort, this study examines associations, among subsidy-eligible families, between child-care subsidy receipt when children are 4 years old and a range of school readiness outcomes in kindergarten.
Measures & Assessments	Data are drawn from the Early Childhood Longitudinal Study– Birth Cohort (ECLS– B), a nationally representative study of children born in 2001
Study Implementation	Secondary data analysis
Staff Qualifications	N/A
Key Findings	• Subsidies were not associated with higher quality of child care. • Subsidy receipt when children are preschool aged is not associated with reading or social-emotional indicators of school readiness in kindergarten, after accounting for children's family background and earlier abilities. • Subsidy recipients scored lower on math than non-recipients in Community-Based Center care, but the same as children in Head Start and public pre-k. • Subsidies may not be generous enough to substantively increase household income. Subsidy receipt was not associated with food insecurity and it was only marginally associated with a very small reduction in the amount paid for care. Thus, there is only tentative evidence that subsidies free up money that would otherwise be spent on child care, and very little money at that. Furthermore, subsidies were not positively associated with maternal cognitive stimulation, which has been found to improve with increased family income. • Subsidies were associated with greater use of Community-Based Centers. Community-Based Center care predicted higher math scores and decreased prosocial behavior, consistent with past research. • Supplementary analyses revealed that subsidies predicted greater use of center care, but this association did not appear to affect school readiness.

Citation	**Johnson, A. D., Brooks-Gunn, J., & Martin, A. (2012). Child-care subsidies: Do they impact the quality of care children experience? Child Development, 83(4), pp. 1444-1461.**
Population and Sample	750 subsidy-eligible families with child observation data: 200=subsidy recipients, 550=nonrecipients
Methodology	Quasi-experimental; secondary data analysis
Purpose	The federal child-care subsidy program represents one of the government's largest investments in early care and education but little is known about whether it increases low-income children's access to higher quality child care. This study used newly available nationally representative data on 4-year-old children to investigate whether subsidy receipt elevates child-care quality.
Measures & Assessments	Data are drawn from the Early Childhood Longitudinal Study– Birth Cohort (ECLS– B), a nationally representative study of children born in 2001
Study Implementation	Secondary data analysis
Staff Qualifications	N/A
Key Findings	• Subsidy recipients use higher quality care compared to non-recipients who use no other publicly funded care, but lower quality care compared to non-recipients who instead use Head Start or public pre-k. • Findings suggest that subsidies may have the potential to enhance care quality but that parents who use subsidies are not accessing the highest quality care available to low-income families.

Citation	**Johnson, A. D., Han, W. J., Ruhm, C. J., & Waldfogel, J. (2014). Child care subsidies and the school readiness of children of immigrants. Child Development, 85(6), pp. 2140-2150.**
Population and Sample	• 2200 native-born mothers receiving subsidies • 700 immigrant mothers receiving subsidies
Methodology	Quasi-experimental; secondary data analysis
Purpose	This study is the first to test whether receipt of a federal child care subsidy is associated with children of immigrants' school readiness skills. Using nationally representative data (n≈2,900), this study estimates the associations between subsidy receipt at age 4 and kindergarten cognitive and social outcomes, for children of immigrant versus native-born parents

Measures & Assessments	Data are drawn from the Early Childhood Longitudinal Study– Birth Cohort (ECLS– B), a nationally representative study of children born in 2001
Study Implementation	Secondary data analysis
Staff Qualifications	N/A
Key Findings	• For children of immigrants, subsidized Community-Based Center care was associated with higher levels of reading development, when compared to home-based care (subsidized or not). No associations between subsidies and math or behavior problems were detected. The absence of negative behavioral effects of subsidies may be due to these children experiencing lower levels of behavior problems to begin with. • For children of native-born parents, subsidies were negatively associated with math but this finding is largely constrained to users of Community-Based Center care. Additionally, children of native born parents in subsidized Community-Based Center care exhibited increased behavior problems, relative to parental care, unsubsidized Community-Based Center care, and unsubsidized home-based care.

Citation	**Weber, R. B., Grobe, D., & Davis, E. E. (2014). Does policy matter? The effect of increasing child care subsidy policy generosity on program outcomes, Children and Youth Services Review, 44, pp. 135-144.**
Population and Sample	Prior to policy change: N=13,774 families; After policy change: N=14,450 families
Methodology	Quasi-experimental, pre/post (non-matched) with controls
Purpose	A dramatic change in the generosity of one state's child care subsidy policy provides an opportunity to study the relationship between subsidy policy generosity and program outcomes. This study addressed three specific research questions: (1) To what extent were families who entered the program after the policy change like those who entered prior to the change? Specifically did more generous subsidy policy bring different families into the subsidy program and did the economic recession of 2008 result in different employment characteristics? (2) Did the increase in generosity of policy affect the behavior of parents who participated in the program? Specifically, to what extent did generous policy affect the type of child care arrangements selected by parents in the program and to what extent did generous policy affect continued participation in the subsidy program? (3) To what extent did the employment characteristics of parents affect continued participation in the subsidy program?
Measures & Assessments	• Child Care Subsidy program data • Client Maintenance System (for additional family socioeconomic variables) • Unemployment Insurance (UI) wage data
Study Implementation	Secondary data analysis
Staff Qualifications	N/A
Key Findings	• Results from a comparison of type of care used by parents entering before and after the policy change showed that more generous policy was associated with an increase in center care, especially for two- and three-year-old children. Although the increase in generosity was associated with an increase in the use of center care for those entering the program under the new policy, this change was not as pronounced for those families who received a subsidy under both the old and new policies. Overall, the increases in use of center care were relatively small, greater for new entrants than for those who re-entered under the new policy. • Median subsidy spells were slightly over a month longer for those who entered after the policy change than they were for those who entered prior to the policy change (5.3 versus 4.2 months). There also were more long spells, with 25% of the families experiencing spells of 10 months or more after the policy change. Longer subsidy spells were also found for reentry families, those who entered in 2005–2007, exited, and reentered in 2007–2009. The difference was slightly less than a month for those who exited and reentered. • The employment characteristics of the two entry cohorts were similar. Parents averaged from 9 to 9.99 of the 16 observed quarters employed. About half of parents that entered prior to 2007 were employed over 2.5 of the 4 years (69% of observed quarters). Those who entered only after the 2007 policy change were employed slightly over 2 years (56% of observed quarters). • The new policy reduced the likelihood of exit by about 17%. Families were more likely to exit if they lived in a county where employment was growing and families were less likely to exit if the child care supply in the community was greater. As the value of the subsidy increased by $100, families were about 2% more likely to remain in the program.

Review of Meta-Analyses

None

Review of Descriptive and Non-Experimental Studies

Citation	**Herbst, C. M. (2009). The labor supply effects of child care costs and wages in the presence of subsidies and the earned income tax credit. Review of Economics of the Household, 8, pp. 199-230.**
Population and Sample	Final analysis sample consists of 74,042 single mothers with at least one child ages 0–12
Methodology	Non-experimental
Purpose	This paper uses CPS and SIPP data between 1990 and 2004 to examine the effects of child care expenditures and wages on the employment of single mothers. It adds to the literature in this area by incorporating explicit controls for child care subsidies and the EITC into the estimation. Doing so provides an opportunity to examine mothers' sensitivity to prices and wages net of policies that influence these amounts
Measures & Assessments	• March Current Population Survey (CPS) • Survey of Income and Program Participation (SIPP)
Implementation & Fidelity	Secondary data analysis
Staff Qualifications	N/A
Key Findings	• Increases in child care costs are associated with reductions in single mothers' employment, while increases in wages are expected to increase employment levels. • Results imply that, for the average single mother, price and wage effects are not sensitive to variables capturing subsidy and Earned Income Tax Credit (EITC) generosity. This ignores the possibility of a differential responsiveness to these policies across the price and wage distributions. Mothers who are more likely to benefit from subsidies because they are paying higher child care costs are more likely to be employed. On the other hand, mothers who are more likely to claim higher EITC benefits because they have low wages are more likely to be employed.

Citation	**Moodie-Dyer, A., & Galambos, C. (2012). Child care subsidies: Parental perceptions and differences between recipients and nonrecipients. Families in Society: The Journal of Contemporary Social Services, 93(3), pp. 204-211.**
Population and Sample	156 low-income parents (57 receiving subsidies, 99 not receiving subsidies) Although a total of 57 participants (37%) were currently receiving child care subsidies, 66% of the sample met the state's subsidy eligibility criteria of at or below 127% FPL. When non-recipients (n = 99) were asked whether they were currently eligible, slightly less than half of this group reported not being eligible for child care subsidies (44%), and 13% reported being eligible despite not using subsides. Forty-one percent of non-subsidy participants reported they didn't know if they were eligible.
Methodology	Non-experimental
Purpose	Child care subsidies are underutilized and underfunded, however much research has shown encouraging outcomes linked to subsidy use for both families and children. Despite some positive results, less is understood about how parents perceive the subsidy program, and barriers to entry and continuity. The goals of this study were to understand differences between low-income parents who used child care subsidies and those who did not, and to assess parental perceptions of the program. Data were collected from a sample of parents who utilized non-parental child care. The following research questions were addressed: (a) What differences exist between families who use child care subsidies and those who do not? (b) What are the experiences and perceptions of the subsidy system by parents who have ever received child care subsidies?
Measures & Assessments	Survey
Implementation & Fidelity	A survey was developed and distributed at three locations: the Women, Infant and Children (WIC) program, the public library, and a Head Start parenting class. At each site during a three-month period in 2010, the researcher screened participants for eligibility and distributed printed copies of the survey to each participant. The surveys were self-administered and took approximately 15 minutes to complete and participants received a $10 gift card upon completion. Sites were chosen based on willingness to help with recruitment and access to the working poor parent population. Purposive sampling was used to select participants with a total household income of less than 300% of the

	FPL who utilized non-parental care for at least 10 hours a week for at least one child who had not yet started kindergarten. The 300% FPL was based on the federal maximum guideline for providing child care assistance to families earning up to 85% of the SMI, approximately 250-300% of the FPL for Missouri
Staff Qualifications	N/A
Key Findings	• Child care subsidy recipients were more likely than non-recipients to: (a) be without a partner in the home; (b) be non- White; (c) earn at or below 127% FPL; (d) spend less than 10% of their income on child care; and (e) use nonrelative caregivers. • Results to a survey for the 79 participants (51%) in the total sample who reported ever receiving subsidies: 53% of participants received child care subsidies for less than 1 year; 18% of participants used subsidies for 1 year, up to 2 years; 15% used subsidies for 2 years, up to 3 years; and 14% of participants used subsidies for 3 years or longer. • 87% of the 79 participants indicated that the subsidies were a tremendous boost to their ability to work and make a living, 59% that they had more choices because of child care subsidies, and 50% that child care subsidies were easy to keep. 35% of participants indicated that they had experienced lost or interrupted subsidies. Of these, 42% had this happen one time.

Citation	**Raikes, H., Torquati, J., Jung, E., Peterson, C., Atwater, J., Scott, J., & Messner, L. (2013). Family child care in four Midwestern states: Multiple measures of quality and relations to outcomes by licensed status and subsidy program participation. Early Childhood Research Quarterly, 28, pp. 879-892.**
Population and Sample	Study 1: 1058 family child care (FCC) providers completed the interview; 135 observed providers are included in the current study. Among the providers observed, 88 were licensed and 71 served children receiving subsidies. Study 2: 572 licensed providers completed surveys and 270 (47% of those surveyed) were observed; 285 license-exempt/registered providers completed surveys and 103 (36%) completed observations. In all, 379 family child care providers were observed and analyzed in Study 2. The analytic sample for the current study consisted of 514 FCC providers for whom data regarding state (IA, KS, MO, NE), subsidy status (yes, no), type of care (licensed vs. non-licensed), and an observation were available. Altogether, 62 (12.2%) were from Iowa, 138 (26.8%) from Kansas, 175 (34%) from Missouri, and 139 (27%) from Nebraska (see Table 2). Among these providers, 357 (69.5%) were licensed, and 273 (53.1%) cared for children who received subsidies. Family child care providers were asked about the ages of children they cared for: 53% reported they cared primarily for children of a mixture of ages; 27% cared primarily for infants; 18% primarily for preschool age children and1% primarily school age children.
Methodology	Non-experimental
Purpose	Quality of FCC in four Midwestern states was examined using four measures designed to assess structural and/or process quality to determine if dimensions converge or vary across types of FCC (licensed and license-exempt/registered) and subsidy receipt (programs serving children whose care is paid by subsidies and programs not serving subsidized children). The following research questions were addressed: (1) What is the quality of FCC in four Midwestern states? (2) Does quality vary in FCC as a function of licensing status, across the spectrum of family child care? (3) Is quality different in FCC homes for children receiving subsidies and those programs not serving subsidized children? (4) Does quality in FCC vary by state? States with different policy contexts and choices in how to license FCC providers could be associated with different quality outcomes.
Measures & Assessments	• Family Day Care Rating Scale (FDCRS) • Quality Instrument for Informal Child Care (QIC) • Caregiver Interaction Scale (CIS) • Midwest Child Care Assets Index (Assets Index)
Study Implementation	• This paper combines data from two studies conducted by the Midwest Child Care Research Consortium (MWCCRC). Each study utilized survey measures and follow-up observations. • Two core observers in each state received training on the FDCRS from the scale authors or from someone who had been trained directly by the authors, on the QIC from the test author (all), and from a researcher who had used the CIS in another study (all), as the author was not available for training. Following procedures recommended by the FDCRS authors, "anchors" from each state attained cross-state reliability in two-day observation and scoring sessions on all observation measures at three FCC sites in a common location, at the beginning of each study. A train-the-trainer model was implemented, and the core observers trained teams of eight to twelve other observers in their states and served as reliability "anchors" for all observational measures during data collection.
Staff Qualifications	• N/A
Key Findings	• Overall, results indicate that the quality of FCC in these four Mid-western states is minimal to good, on average, and that 26.5% of care was rated in the good range on the FDCRS (a score of 5 or better). • The proportion of good quality FCC as measured by the FDCRS was more than twice in licensed care

	than in licensed exempt/registered and the proportion of good quality FCC was approximately 50% higher in non-subsidized than in subsidized. • Results indicate that FDCRS, QIC, and Assets Index scores were significantly higher for licensed FCC programs but CIS scores did not differ significantly as a function of licensing status. Licensed FCC providers scored significantly higher on all but two subscales of the FDCRS (language and reasoning and exceptional children) and on all subscales of the QIC. • Providers receiving child care subsidies scored significantly lower on the FDCRS, QIC, and CIS, but there was no significant difference between subsidized and non-subsidized providers on the Assets Index. These findings suggest that, on average, subsidized FCC programs are providing poorer quality of care than non-subsidized programs when measures of process quality or measures combining structural and process quality are used. Findings hold true regardless of whether the most widely accepted and used measure of FCC quality (FDCRS) is used or if a measure specifically designed to capture the unique aspects of non-formal FCC settings is used (QIC).

End Notes

[i] Forry, N. D., & Hofferth, S. L. (2011). Maintaining work: The influence of child care subsidies on child care-related work disruptions. Journal of Family Issues, 32(3), pp.346-368.

[ii] Ha, Y., & Miller, D. P. (2015). Child care subsidies and employment outcomes of low-income families. Children and Youth Services Review, 59, pp. 139-148.

[iii] Johnson, A. D., Brooks-Gunn, J., & Martin, A. (2013). Child-care subsidies and school readiness in kindergarten. Child Development, 84(5), pp. 1806-1822.

[iv] Johnson, A. D., Brooks-Gunn, J., & Martin, A. (2012). Child-care subsidies: Do they impact the quality of care children experience? Child Development, 83(4), pp. 1444-1461.

[v] Weber, R. B., Grobe, D., & Davis, E. E. (2014). Does policy matter? The effect of increasing child care subsidy policy generosity on program outcomes, children and Youth Services Review, 44, pp. 135-144.

Additional Resources

Blau, D., & Tekin, E. (2001). The determinants and consequences of child care subsidy receipt by low- income families. Joint Center for Poverty Research: Chicago, IL. pp. 1-33.

Tarnai, J. (2011). Impacts of HB3141 on the working connections child care program. Social & Economic Sciences Research Center: Pullman, WA. pp. 1-81.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018

Be Active Kids®

Goals

The goal of Be Active Kids (BAK) is to give young children the tools they need to develop positive physical activity and nutrition habits.[i]

Be Active Kids Snapshot

- **EC Profile Indicator:** H60 - Percent of children who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports** use with children birth to 5 years of age
- **Related Smart Start outcomes:**
  - Increase in **child** practice of healthy behaviors
  - Increase in **provider** practice of healthy behaviors
- **Purveyor training required**: Yes
- **Staff qualifications:** Smart Start funded Technical Assistance staff must meet TA Practitioner Qualifications
- **Frequency:** Integrated daily into child care activities
- **Suggested Assessments:** GO NAP SACC
- **Implementation Guidance:** http://www.beactivekids.org/beactive-at-school-childcare

Program Features

Be Active Kids is a program developed by health professionals to educate young children about healthy options for physical activities, eating habits, and food safety. Designed for use in any child care classroom setting, the Be Active Kids program consists of a developmentally appropriate curriculum kit of educational materials, interactive games, and hands-on lesson plans to help engage children in learning about healthy lifestyles. Childcare providers attend the 3 hour Be Active Kids training session. Once trained, providers begin implementing the program to integrate learning and movement in the classroom.

Be Active Kids also offers several training modules to assist in the continuing education of early childhood professionals. The training modules vary in length from one to five hours. Be Active Kids trainings relate to the following NC Division of Child Development topic areas: 1) planning a safe, healthy learning environment; 2) children's physical and intellectual development; 3) child growth development; and 4) productive relationships with families.

Partnerships that are implementing or considering implementing Be Active Kids program as a train-the-trainer model may want to consider the following:

1. Training consists of a 4-hour session for trainers on how to effectively teach and implement the Be Active Kids curriculum.
2. Trainers providing technical assistance for child care providers in addition to curriculum training on Be Active Kids must meet Smart Start TA Practitioner Qualifications.

For more information regarding Be Active Kids use this link: http://beactivekids.org

Target Audience

Early care and education professionals who work with infants, toddlers, twos and/or preschoolers

Documented Outcomes

	Type of Study	Child Care Provider		Provider- or Parent-Reported Child Outcomes			Child Outcomes	
		Change in provider attitudes about physical activity and healthy eating*	Change in provider practices**	Child improved knowledge about healthy eating and physical activity***	Children increase physical activity***	Children improve healthy eating habits***	Children can recognize healthy foods***	Children can recognize healthy physical activity***
Smith et.al. (2007)[ii]	Non-experimental with comparison groups	✓		✓	✓		✓	✓
Dunn et.al. (2001)[iii]	Non-experimental with comparison groups	✓		✓	✓	✓	✓	✓
DeMarco et.al. (2014)[iv]	Non-experimental		✓		✓			

This table contains outcomes found to be associated with the program or approach. Individual studies may contain additional outcomes that were tested and not found to be associated with the program or approach.

*Aligned with Smart Start outcome: *Increase in the provider practice of healthy behaviors*

**Aligned with Smart Start outcome: *Increase in program quality*

***Aligned with Smart Start outcome: *Increase in children's practice of healthy behaviors*

Research Evidence for Be Active Kids

- The program is aligned with changes in provider knowledge, attitudes, and behaviors related to nutrition, healthy foods, and activities.
- Parents and children also demonstrate improvements in knowledge and behaviors after exposure to program content.

Review of Experimental or Quasi-Experimental Studies

None

Review of Descriptive Studies

Citation	**Smith, M., MacDougall, J. M., Sutherland, L., Kelsey, K., & Farel, A. (2007). Be Active Kids evaluation report. Blue Cross Blue Shield of North Carolina: Durham, NC.**
Population and Sample	The study took place in North Carolina over a two-year period and included data from 67 trainers (23 of whom participated in follow-up), 168 child care providers who completed both pre- and post-training surveys (56 of whom completed a 10-week follow-up survey), and 98 child care providers who did not participate in training (69 of whom completed a 10-week follow-up survey) and parents and children from 11 centers (18 classrooms) that participated in the program and 11 comparison centers (19 classrooms) that did not participate in the program. Baseline and follow-up data were collected from 110 program parents and children and from 97 comparison group parents and children.
Methodology	Non-experimental
Purpose	The study was an evaluation of the Be Active Kids program with a focus on (1) measuring program trainer knowledge and attitudes about the program and its content; (2) measuring program trainer self-efficacy in working with and teaching child care providers about the program; (3) assessing child care provider knowledge, attitudes, and behavior related to program content (nutrition and healthy eating, physical activity, and food safety); (4) child care provider self-efficacy related to program implementation as well as barriers and benefits associated with the program; (5) assessing the impact of the program on four- and five-year old children and their parents, in areas related to program content.
Measures & Assessments	• Training surveys • Child care provider surveys • Parent surveys • Child interviews
Study Implementation	• There was a one-day "train-the-trainer" event attended by 68 trainers from 36 North Carolina counties. Of these 68 participants, 67 trainers completed pre- and post-surveys. • The trainers who attended the "train-the-trainer" event then were to train child care providers; 23 trainers participated in a follow-up survey after completing their first provider training. • A total of 309 child care providers received training in the program. Of these, 168 providers completed pre- and post-training surveys. Of these, 56 providers completed a 10-week follow-up survey. • A comparison group of 98 providers (69 of whom completed the 10-week follow-up survey) also participated in data collection. • Children (and their parents) enrolled in 11 program centers (18 classrooms, n=110 children) and 11 comparison centers (19 classrooms; n=97 children) participated in study surveys and interviews.
Staff Qualifications	• Not addressed
Key Findings	Trainers • The results demonstrated that overall, the train-the-trainer model is effective. The train-the-trainer session was well-received by participants. • On the pre- and post-surveys conducted at the time of training, there were significant gains on measures of trainer knowledge regarding program content (all at p<.001). There also were significant gains on measures of knowledge regarding nutrition and physical activity in preschool

children (p<.001). Overall training knowledge increased from an average 8.63 to 10.24 (out of a total of 11 possible points; p<.001).

- Trainers also demonstrated improvements in attitude on two topics: (a) importance of nutrition for reducing the risk of chronic disease in childhood and (b) importance of nutrition for reducing the risk of chronic disease in adulthood, both significant at p<.001. There also were improvements in trainer beliefs that physical activity is related to improved adult health, significant at p<.01.
- There were not significant increases in trainer attitudes regarding the importance of physical activity for child health.
- There were improvements in trainer confidence regarding (a) overall teaching skills (significant at p<.01); (b) ability to teach about nutrition (significant at p<.001) and physical activity and food safety (significant at p<.01).
- Many of the improvements noted at the time of training were maintained at the time of follow-up, after they had held their first provider training.

Child Care Providers

- After being trained on the curriculum, BAK providers' scores around knowledge, self-efficacy, and attitude showed significant improvements (p values ranging from .01 to .001). No significant improvements were shown for comparison providers for the same variables.
- There were improvements in BAK attitudes regarding food safety (p<.001) with no change reported in the comparison group of child care providers.
- At the time of the 10-week follow-up survey, BAK providers and comparison group providers differed on (a) whether they had ideas about how to teach nutrition (93% versus 77%, respectively; (b) physical activity (96% versus 90%); and (c) food safety (93% versus 65%).
- BAK providers reported that concerns about barriers or challenges to teaching children about program content reduced over time.

Parents and Children

- At the time of the 10-week follow-up survey, program parents significantly increased knowledge on several items related to program content: (a) minimum amount of time that four and five year olds should spend being physically active every day; (b) the MyPyramid Food Guidance System as a replacement for the Food Guide Pyramid; and (c) the use of the MyPyramid Food Guidance System to guide calorie and nutrient intake (all significant at p<.05). Comparison group parents are reported a significant improvement on the item related to the use of the MyPyramid Food Guidance System to guide calorie and nutrient intake, p<.05. Comparison group parents reported a significant decrease in the number of parents who correctly answered questions related to the minimum amount of time that four and five year olds should spend being physically active every day (p<.05).
- Parents reported some improvements in attitudes. Program and comparison parents reported a significant increase in agreement with the item "Teaching preschool children about physical activity will lead to more physical activity in their daily lives", p<.05. Comparison group parents also reported increased agreement with the item "Teaching preschool students about food safety will help them to avoid getting sick", p<.05.
- There were no significant improvements for BAK or comparison parents with respect to parent diet or level of physical activity or television behaviors. Among comparison parents there was a significant decrease in the number of parents who reported eating three or more servings of fruit per day, p<05.

Children

- At the time of the 10-week follow-up, there were no significant differences among program or comparison group children in their ability to identify foods correctly or choose healthy food options.
- Program children significantly improved overall correct choices, increasing the average score from 8.65 to 9.22 (out of 10; p<.001). Program children significantly improved their ability to identify healthy foods, increasing the average score from 3.1 to 3.5 (out of 5, <.05). Comparison group children demonstrated decreases in food identification (p<.001) but did demonstrate significant improvement in ability to place the correct food in the correct category on MyPyramid (p<.001).
- Program children exhibited significant differences in comparison to comparison group children in their ability to correctly identify healthy activities (with an increase in mean score from 1.94 to 2.22, out of 3, p<.05). Program children did not significantly improve their correct answers to food safety questions.
- There was a significant improvement (p<.05) in the number of program children who consumed skim or low-fat milk, and no improvement among comparison children. There was also a significant increase in the number of program and comparison children who had 3 or more

	servings of vegetables. There was a significant increase in the number of comparison children who had no sugar-sweetened beverages daily. • For children's physical activity, there were no significant changes in physical activity among program or comparison children, but there was a significant improvement ($p<.05$) for program children with respect to television viewing. • Program children reported an increase in sedentary indoor and active outdoor activities. Among comparison group children, there was no change in the average amount of sedentary indoor activities while the report of active outdoor activities decreased. • Program and comparison children showed no significant differences for answering questions related to handwashing.

Citation	**Dunn, C., Thomas, C., Smith, C., & Pegram, L. (2001). Be Active Kids: A nutrition and physical activity education program for four- and five-year-olds. The Forum for Family and Consumer Issues, 6(3).**
Population and Sample	More than 1500 child care providers participated in program training over a three-year period. A survey was conducted 8 weeks after the training; 72 providers responded (response rate of 59%). As regards child outcomes, there were 100 children in five child care centers incorporated into the treatment group. The children were an average 4.4 years old. Fifty-percent of the children were African-American and 40% were Caucasian. Fifty-five percent of children were female. There were 54 children, in three centers, that were incorporated into the comparison group. The children averaged 4.5 years old. Nineteen percent of the children were African-American and 74% were Caucasian. Fifty percent of the children were female.
Methodology	Non-experimental
Purpose	The study was an evaluation of the Be Active Kids training and curriculum in practice at child care sites. The provider survey targeted the extent to which providers used the program curriculum in their classrooms and whether or not there were plans for future use of materials.
Measures & Assessments	• Provider survey • Child interview
Study Implementation	• The evaluation studied program effectiveness in three phases: o In Phase 1, child care providers who participated in local trainings were asked to complete training evaluations. o In Phase 2, child care providers who participated in local trainings received a follow-up survey, 8 weeks following their training. o In Phase 3, children in both treatment and comparison groups received a 15-minute interview, conducted by a study team member considered an expert in early childhood education.
Staff Qualifications	• Not addressed
Key Findings	Provider Survey Responses • Ninety-percent of providers reported that Be Active Kids increased child knowledge about healthy eating • Eighty-five percent of providers reported that Be Active Kids increased child knowledge about physical activity • Ninety-percent of providers reported that Be Active Kids was associated with increased physical activity in children • Seventy-six percent of providers reported that Be Active Kids was associated with healthier eating in children • Ninety-six percent of providers reported that Be Active Kids was associated with a positive change in provider attitudes about physical activity and healthy eating Child Interviews • Treatment group children could recognize significantly more fruits and vegetables than comparison group children ($p < .05$) • Treatment group children were significantly more likely to identify at least three healthy foods than comparison group children ($p < .05$) • Treatment group children were significantly different from comparison group children in ability to identify healthy eating and physical activity as healthy behaviors ($p < .05$) • Treatment group children were significantly different from comparison group children in ability to understand and demonstrate physical activity ($p < .05$)

Citation	De Marco, A. C., Zeisel, S., & Odom, S. L. (2014). An evaluation of a program to increase physical activity for young children in child care. Early Education and Development, 0, pp. 1-21.
Population and Sample	The study included a total of six classrooms in three child care centers. Altogether, the classroom served children ages 1-2 years (toddlers), 2-3 years (twos), and 4-5 years (preschool).
Methodology	Multiple baseline single case design
Purpose	This study is an evaluation of Be Active Kids, with a focus on three questions: 1. What is the level of light and moderate/vigorous physical activity at baseline? 2. Does the Be Active Kids intervention increase the amount of light and moderate/ vigorous physical activity and decrease the amount of sedentary physical activity? 3. Does the Be Active Kids intervention increase the amount of teacher-directed physical activity?
Measures & Assessments	• PlayCheck Observation Procedure, adapted from the Observational System for Recording Physical Activity in Children–Preschool (OSRAC-P) • Center and classroom surveys
Study Implementation	• The Be Active Kids (BAK) program materials and a two-hour teacher (lead and assistant) training were provided by project investigators. The training was provided after five initial observations were conducted to gather baseline data. • Teachers were asked to incorporate activities into their lesson plans and to include an indoor and an outdoor lesson on days the researchers observed their classrooms. They were also asked to record the activities in their lesson plans. • Evaluation data were collected through standardized classroom observations and surveys. Each classroom was observed using the PlayCheck observation system five times prior to the intervention (baseline) and five times after the intervention (treatment). Start times at each of three centers were staggered by several weeks. • Three observers were trained by watching videos of children's physical activity in child care settings and discussing codes to come to a common understanding of the operationalized definitions of each activity level (moderate/vigorous, light, and sedentary). • 10 children were selected for observation if the class contained more than 10 children. Numbered vest were used to help observers identify children. • Center directors completed a short demographic survey about the center, asking about the school schedule, total number of children and number of children per age group; race/ethnicity of children; number of children with a disability; and centers' star ratings, which is an indicator of child care quality in NC. • Lead teachers completed a demographic survey about their classrooms, asking about the age group cared for; number of children; number of adults; gender, race/ethnicity, disability status of the children; lead teacher's educational attainment, age, race/ethnicity, number of years providing child care, tenure at the current center, and experience with physical activity programs for young children. • Fidelity of implementation was monitored through lesson plan reviews, which were to incorporate children's physical activities
Staff Qualifications	• Not addressed
Key Findings	• Moderate or vigorous physical activity increased from 12.2% of observation periods to 16.6% of observation periods. • Light physical activity increased from 61.6% to 64.3% of observation periods. • Sedentary activity decreased from 25.6% to 18.9% of observation periods. • In comparing teacher-directed and non-teacher directed activities, 94% of observations related to teacher-directed physical activity showed improvements over time, compared to 39% of activities that were not teacher-directed. Effect sizes related to teacher-directed activities were medium to large, especially when related to moderate or vigorous physical activity and sedentary activity. • Overall, from pre-intervention to post-intervention four of the six classrooms saw increased moderate/vigorous physical activity, light physical activity increased in three classrooms, and sedentary physical activity decreased in five. The biggest increases in physical activity were found during teacher-directed activity. • In teacher-directed activities moderate/vigorous and light activity increased in five and six classrooms, respectively.

End Notes

[i] Be Active Kids. Be Active Kids. (n.d.) [Website]. Available from: http://beactivekids.org/bak/Front/Default.aspx.

[ii] Smith, M., MacDougall, J. M., Sutherland, L., Kelsey, K., & Farel, A. (2007). Be Active Kids evaluation report. Blue Cross Blue Shield of North Carolina: Durham, NC.

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Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

Published: July 2018