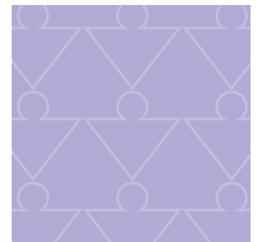
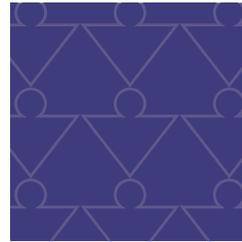


ARIZONA'S SMART SUPPORT EVALUATION REPORT: THE FIRST FOUR YEARS







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Executive Summary

More than two decades of research has established a compelling link between children’s social and emotional development and their readiness to succeed in school (e.g. Mashburn, Pianta, Hamre, Downer, Barbarin, Bryant et al., 2008). Smart Support is Arizona’s infant and early childhood mental health consultation system, an essential element of the state’s concerted effort to enhance the quality of young children’s care and education. Infant and early childhood mental health consultation (I/ECMHC) is quickly gaining momentum throughout the country as an effective and efficient intervention for the prevention of expulsions and suspensions from early care and education settings, now known to be a national problem (Gilliam, 2005; Hepburn, Perry, Shivers & Gilliam, 2013). There is additional evidence that I/ECMHC promotes a healthy social and emotional environment for all children in an early childhood setting, not just those identified or perceived as struggling (Brennan, Bradley, Dallas, Allen, & Perry, 2008).

Smart Support

The Smart Support program is operated by Southwest Human Development (SWHD), Arizona’s largest not-for-profit agency dedicated to early childhood development. SWHD serves as both the administrative home for Smart Support and its largest consultation services provider. The program is funded by First Things First, an Arizona citizens’ initiative passed in 2006 to fund quality early childhood development and health programming through a tax on tobacco. Smart Support services are provided without cost to Arizona Department of Health Services (ADHS) licensed child care centers and Department of Economic Security (DES) regulated family care providers.

Smart Support provides services that match the individual needs of early care and education settings, including one or a mix of child-focused consultation, classroom focused consultation and program-focused consultation. Mental health consultants focus on working with teachers and child care providers to increase their skills and capacities, rather than working directly with a child.

To date, the Smart Support program has been funded in more than 13 First Things First regions. During the first four years of the Smart Support program (the time period covered by the present external evaluation), which spanned from April 15, 2010 to May 31, 2014, 521 child care centers, 48 licensed family child care providers and 1,569 teachers participated in Smart Support services.

Purpose of the Study

From the very inception of Smart Support and throughout its first four years, a rigorous and comprehensive external evaluation was integrated into the program. By establishing a close partnership and following Community Based Participatory Research (CBPR) principles, Smart Support program leaders and the Indigo Cultural Center evaluation team pursued the following evaluation goals:

1. To determine whether Smart Support is meeting its stated objective;
2. To inform the program’s ongoing design and implementation;
3. To contribute to the literature on effective strategies for infant and early childhood mental health consultation;
and
4. To provide findings that could guide Arizona and national efforts to build a comprehensive system of quality enhancement initiatives for the entire continuum of child care providers.





Executive Summary

Methodology

This evaluation was primarily a summative outcome evaluation, which included data collected from 2010 through 2014 (the first four years of the Smart Support program). The extensive evaluation protocol included close to 20 different measures with the following participants:

- 411 regulated or licensed early childhood education programs (22 of which were family child care providers);
- 799 teachers;
- 1,028 focus children;
- 105 mental health consultants.

Data was collected at the program, classroom, teacher and child level across three different time points: baseline, 6 months and 12 months. Background information and feedback data was also collected from all 105 of the Smart Support mental health consultants. Data was collected via a combination of questionnaires, observations and surveys. The measurement and design strategy was largely based on the program developers' theory of change and child care research on effective Infant and Early Childhood Mental Health Consultation (I/ECMHC) models (Duran et al., 2009; FSU, 2006; Green et al., 2006; Gilliam, 2007; Hepburn et al., 2013; Johnston & Brinamen, 2006).

Highlighted Findings

Research Question 1: Was there growth on key outcomes?

In order to examine growth and changes across the three time-points, we conducted a series of a one-way within-subjects, repeated measures analysis of variance (ANOVA) with Greenhouse-Geisser corrections.

We found statistically significant growth on all of our key evaluation outcome measures:

- Classroom mental health climate (negative indicators decreased);
- Teacher self-efficacy increased (hopelessness decreased);
- Teacher-child relationships (closeness increased; conflict decreased);
- Children's self-regulation;
- Children's attachment;
- Children's initiative;
- Children's risk of expulsion (decreased over time);
- Teachers' negative attributions of individual children (decreased over time).

In general, we found that teachers (and children) made statistically significant improvements overall from baseline to the 12-month period; however, within that 12-month timeframe for most of our outcomes, we saw steep improvement from baseline to the six-month time point, with less pronounced growth and stabilization from six-months to the twelve-month time point.





Executive Summary

Research Question 2: How did child care teachers and directors rate their experiences with Smart Support? Were these ratings associated with growth on key outcomes?

In order to explore participants' (e.g., teachers, directors and consultants) experiences with Smart Support, we explored numerical ratings from teacher and director feedback rating scales, and then coded themes from open-ended, qualitative responses gleaned from those same feedback surveys. Participants' responses to the Smart Support program were overwhelmingly positive. Average feedback and satisfaction scores averaged 3.76 out of a possible 4.00 – with teacher scores increasing over time, and director scores staying stable and high. This positive feedback was reflected in the significant improvements demonstrated in the key outcomes.

Mental health consultants also rated their experiences with teachers and programs. Findings suggest that when they rated stronger relationships with teachers, there was more growth on key indicators such as teacher-child relationships and mental health climate in classrooms. These findings are supported by the literature, which places quality consultant-teacher relationships at the heart of successful consultation (Duran et al., 2009; Johnston & Brinamen, 2006).

Conclusion

Evidence-based models from around the country heavily influenced the design and delivery of the Smart Support Infant/Early Childhood Mental Health Consultation (I/ECMHC) program. Our positive findings on each and every key outcome is a testament to the comprehensive and coordinated nature of the emerging I/ECMHC field. These findings provide compelling evidence that the investment First Things First Regional Partnership Councils have made in supporting child care mental health consultation is paying off.

Throughout the past four years, Arizona has emerged as a leading voice in informing national and federal policy agendas related to the importance of mental health consultation in early care and education programs. Findings from this evaluation (and data from other states) point to additional policy implications and future work in the areas of:

- Understanding the relationship between I/ECMHC and Quality Rating and Improvement Systems;
- Increasing a system's capacity for I/ECMHC workforce development;
- More collaboration across coaches and consultants in the professional development system infrastructure;
- Using child care expulsion and intervention data, and the evidence base on I/ECMHC to promote racial equity and address unconscious bias in early care and education systems.

With further integration of mental health consultation in Arizona's early childhood system, and continued funding of this initiative, Southwest Human Development can continue to enhance the efficacy of Smart Support services, and establish long-term sustainability for this emerging evidence-based practice.



Photo Source: www.flickr.com/photos/creativecommons



Smart Support Evaluation: The First Four Years (2010-2014)

States around the country are strengthening their early childhood systems by increasing attention, efforts and funding towards enhancing the quality of early care and education for young children. These efforts are largely motivated by a growing body of research that uses longitudinal studies to prove how high quality early care and education experiences help to prepare children for school and provide them with the social and emotional skills required to be successful even beyond the early years (e.g., Pianta, Hamre, & Allen, 2012; Lamb, 1998; Mashburn et al., 2008; NICHD ECCRN, 2005). Furthermore, high quality early education and intervention programs may be particularly beneficial for young children from low-income and marginalized families (Belsky, 2006; Campbell et al., 2002; Peisner-Feinberg et al., 1999; Schweinhart & Weikart, 1993).

Unfortunately, when young children experience mental health problems they are likely to miss out on important learning opportunities. In fact, many children are actually being expelled from their early care and education settings as a result of their behavior problems (Gilliam, 2005; Perry, Dunne, McFadden, & Campbell, 2008). The first national data on the rates of expulsion from preschool underscored the widespread nature of this trend: on average, young children were being expelled from state-funded pre-kindergarten programs at three times the rate of their peers in K-12 (Gilliam, 2005). African American and Latino boys had disproportionately higher rates of expulsion than their same age White and Asian peers (Gilliam, 2005). Similarly, the U.S. Department of Education Office for Civil Rights released data in March of 2014 showing racial disparities in the use of exclusionary discipline (suspensions and expulsions) across the country for pre-kindergarten children in public preschool programs (US Department of Education Office of Civil Rights, 2014). The report noted that African American children make up 18 percent of preschool enrollment but 48 percent of preschool children expelled more than once. Boys received more than three out of four out-of-school suspensions.

Infant and Early Childhood Mental Health Consultation (I/ECMHC) has gained prominence as an effective, efficient, evidence-based strategy for promoting children's social and emotional competence and mental health, addressing challenging child behavior and enhancing the quality of care in early childhood settings (e.g., Brennan, Bradley, Allen, & Perry, 2008; Hepburn, Perry, Shivers, & Gilliam, 2013). I/ECMHC involves the collaborative relationship between a professional consultant who has mental health expertise and a child care professional. By its very definition, it is a service provided to the child care provider – not a therapeutic service delivered directly to the child or family (Brennan et al., 2008). Consultation can focus on the emotional and behavioral struggles of an individual child (child-focused consultation), the conditions and functioning of a classroom as they affect all of the children in that environment

What is Infant and Early Childhood Mental Health Consultation (I/ECMHC)?

I/ECMHC is an intervention that teams a mental health professional with early childhood professionals to improve the social, emotional and behavioral health of children in child care and early education programs. Through the development of partnerships among teachers and parents, I/ECMHC builds their capacity to understand the powerful influence of their relationships and interactions on young children's development. Children's well-being is improved and mental health problems are prevented as a result of the consultant's work with the teachers, directors and parents through skilled observations, individualized strategies, and early identification of children with challenging behavior which places them at risk for expulsion.

*Definition provided by The RAINE Group:
Advancing Early Childhood Mental Health
Consultation Practice, Policy and Research (2014).





Introduction

The RAINE Group

Smart Support, under the aegis of Southwest Human Development, has also had remarkable opportunities to influence federal thinking and policy through its founding of The RAINE Group. The RAINE Group is a think tank comprised of national experts convened for the purpose of advancing I/ECMHC practice, policy and research.

This collaborative group has been consulted by SAMHSA and the Department of Health and Human Services' Administration of Children and Families to weigh in on issues related to improving early care and education in the United States, preventing suspension and expulsion, and establishing the competencies for effective I/ECMHC.

See Appendix A for more information regarding The RAINE Group, as well as members and their affiliations, and/or contact Dr. Alison Steier at asteier@swhd.org.

(classroom-focused consultation) and/or work with the program's leadership to improve the overall quality of the program (program-focused consultation).

The body of evidence to date suggests that I/ECMHC has a positive impact on program, staff and child outcomes, including but not limited to: teacher sensitivity, teacher-child relationships, children's externalizing and internalizing behavior, enhanced overall emotional climate in classrooms and reduced child expulsion¹. The federal government, in fact, has issued several policy briefs highlighting I/ECMHC as an effective strategy for reducing child expulsion in general, and expulsion for boys of color specifically (U.S. Dept. of Education & U.S. Dept. of HHS, 2014). The existing and emerging evidence base for the effectiveness of I/ECMHC in promoting positive social and emotional outcomes for young children and reducing the risk of negative outcomes have been the impetus for many states to invest in I/ECMHC programs and systems. Arizona is one such state. Arizona's system of infant and early childhood mental health consultation, known as Smart Support, plays an important part in the state's overall efforts to enhance the quality of care for young children in preschool and child care centers. As part of the Quality Rating and Improvement System (QRIS), mental health consultants routinely collaborate with quality improvement coaches, health consultants and coaches who support the inclusion of children with disabilities in early childhood programs. The QRIS is defined as a systemic approach to assess, improve, and communicate the level of quality in early and school-age care and education programs (Mitchell, 2005).

About This Report

The purposes of the present evaluation was three-fold. First and foremost the goal was to determine whether the Smart Support program met its stated objectives and outcomes. Second, the evaluation was designed to provide insight and feedback to the program's developers and leadership in the first four years as they brought the program to scale throughout the state of Arizona. Third, there are still many gaps in the general research knowledge base on I/ECMHC (Hepburn et al., 2013). Findings from this evaluation will help address some of the existing gaps and will likely point to many other questions that researchers and future evaluations can explore.

This report represents findings from only a portion of our data. Additional papers and products will continue to be published and disseminated over the coming years as we initiate our next research phase with our partners at Georgetown University, Center for Child and Human Development.



¹For excellent reviews, see: Brennan, Bradley, Allen, & Perry, 2008; Hepburn, Perry, Shivers, & Gilliam, 2013; Perry, Allen, Brennan, & Bradley, 2010.



Introduction

Description of the Smart Support Program

Smart Support officially launched its services to early care and education programs in April 2010. The Smart Support program receives its funding from First Things First (FTF), the agency that oversees the disbursement of the voter-approved tax revenue on tobacco products to support a comprehensive early childhood system in Arizona. The agency serving as the administrative home for Smart Support is Southwest Human Development², Arizona’s largest nonprofit dedicated to supporting early childhood development. The administrative home is responsible for developing and refining the consultation model(s), creating and implementing the policies and procedures for conducting consultation and the supervision of consultation, establishing and updating professional standards and the scope of work, supporting a relationship-based supervision model which echoes and promotes consultants’ reflective practice, maintaining an administrative database, and setting standards for ongoing training and continuing education of the staff.

In addition to hiring, supervising and training its own mental health consultants, the administrative home also subcontracts with other agencies in the state to help recruit and supervise mental health consultants, when such an arrangement ensures more efficient service delivery. The Easter Seals Blake Foundation, for example, provides Smart Support services in the southern part of the state, as it has since the consultation system was put in place.

First Things First Funded Regions³

Smart Support services are provided without cost to Arizona Department of Health Services (ADHS) licensed child care centers and Department of Economic Security (DES) regulated family care providers⁴. Regional funding for the Smart Support program is supported by First Things First regional councils. Since the program’s inception in 2010, the following regions have received funding for Smart Support services.

- **East Maricopa**
- Gila
- **Navajo Nation**
- **Northwest Maricopa**
- **Phoenix North**
- **Phoenix South**
- **Pima North**
- **Pima South**
- **Pinal**
- **Salt River Pima Maricopa Indian Community**
- **Southeast Maricopa**
- **Yavapai**
- Yuma

Regions that are currently funded as of the publication of this report are bolded above. Please refer to regions represented in this report’s findings in Table 2. Smart Support also serves Maricopa County’s Head Start program, through a separate contract. As this report was being prepared, Smart Support’s services expanded to include Southwest Human Development’s Head Start programs and the Preschool Development Grants Program.

Smart Support’s mission is to provide high quality mental health consultation to early care and education providers, keeping two main goals in mind. The first is to improve the overall quality of early care and education settings so that they are better able to support the social and emotional development of all children in their care. The second goal is to increase the capacity of early care providers to address the mental health needs and challenging behaviors that place individual children at risk for negative outcomes in the early years of life and beyond.

During the first four years of the Smart Support program, which spanned from April 15, 2010 to May 31, 2014, 521 child care centers, 48 licensed family child care providers and 1,569 teachers participated in Smart Support services. On the theory and intention that mental health consultation has a broad positive influence on the care of children in a setting

²Read more about Southwest Human Development at www.swhd.org. ³Some First Things First region boundaries and names changed as of July 1, 2014, therefore region names for our data set, as seen in Table 2, may not reflect current First Things First region names. Please refer to azfff.gov for more information. ⁴For more information about eligibility for the Smart Support program please refer to our referral line at (866) 330-5520.



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beyond the specific adults and children who are the direct focus, it is speculated that all children in the programs Smart Support served benefitted in some way by Smart Support's services. The confidence for this speculation is further fueled by the positive changes that was seen on the Preschool Mental Health Climate Scale (please refer to page 35 in the Highlighted Findings' section).

Smart Support Mental Health Consultants

As I/ECMHC expands across states and into more programs, an understanding of the knowledge base, core set of skills, and professional demeanor and standards necessary to do the work well is deepening (Johnston, Steier, & Scott Heller, 2013). Since the specialty of I/EHMHC has roots in three main areas, mental health, infant/early childhood mental health and professional consultation competencies, this workforce needs to draw from what works effectively in those three arenas.⁵ It is widely recognized that, because it is a specialty, it is a rare occurrence that a mental health professional enters the work of consultation already possessing the full complement of competencies required for effective I/ECMHC (Green et al., 2006; Johnston et al., 2013). The section below provides a preliminary description of Smart Support's approach to cultivating and supporting key competencies for its supervisors and consultants.

Mental health consultation and the supervision of mental health consultation are regarded as advanced professional activities in Smart Support's conceptualization and are specifically not entry-level positions. Thus, services are provided by master's level professionals, the majority of whom are from license-eligible mental health disciplines (e.g., social work, counseling, marriage and family therapy). A small number of consultants hold master's degrees in early education or early childhood special education, per the guidelines of the original grant (See the Methods' section for detailed descriptive data on consultants' backgrounds). Despite the strong academic backgrounds and the period of post-graduate experience as a professional in their field that is required for hire (i.e. two years for MHCs, five years for supervisors), Smart Support's leadership recognized early on the unlikelihood of hiring a significant number of professionals prepared at the start with the constellation of skills and specialized knowledge necessary to provide consultation around infant and early childhood mental health. Therefore the program was designed from the beginning with an elaborate training division, the goal of which is to focus training on the constituent domains of I/ECMHC — that is mental health, infant/early childhood mental health and professional consultation.

Smart Support provides an intensive two-week new consultant orientation, followed by a year-long new consultant training protocol that covers key components of early childhood mental health and consultation, including the elements of Smart Support's consultation model and service delivery process, reflective supervision, evaluation and database training, and integrating the Center on the Social and Emotional Foundations for Early Learning's (CSEFEL) Teaching Pyramid. In addition, supplemental trainings are offered to complement the Teaching Pyramid's social and emotional approach by focusing on important "lenses" to consider in mental health consultation: e.g., normative and atypical development, attachment relationships, self-regulation, and trauma. Professional development is further enhanced by a monthly book club in which groups of consultants meet to discuss a book related to early childhood mental health or consultation. Consultants and Supervisors also receive extensive training and support to integrate the FAN Approach, or "Facilitating Attuned iNteractions," (Gilkerson, 2015) into their work.

Smart Support is committed to high quality, on-going professional development for its entire staff.⁶ That commitment is demonstrated by the high numbers of Smart Support consultants who have attended and graduated from the nationally renowned Harris Infant and Early Childhood Mental Health Training Institute at Southwest Human Development.⁷ More information regarding Smart Support's participation in Harris can be seen in the following table.

⁵For an excellent detailed review and discussion of I/ECMHC competencies in various states see: Johnston, K., Steier, A., & Scott Heller, S. (2013). Toward common guidelines for training, compartment, and competence in early childhood mental health consultation. *Journal of Zero to Three*, Volume 33, 5.

⁶A comprehensive description of Smart Support's professional development model is found in the Introduction.

⁷For more information about the Harris Institute, please visit <https://www.swhd.org/training/harris-infant-mental-health-certification/>.



Table 1: Harris Infant and Early Childhood Mental Health Training Institute

	Frequency	Percent (of total SS workforce)
Infant-Family Clinical Practice Certificate (2-year program)	24	23%
Infant-Family Studies Certificate (1-year program)	8	8%
Total	32	31%

Innovative Practices

Evidence-based models from around the country heavily influenced the design and delivery of the Smart Support program. Additionally, there are several unique innovations that Arizona’s Smart Support model has incorporated into its design. The first innovative practice was the inclusion of the Working model Child Interview (Zeanah, Benoit, & Barton, 1994) into both program design as well as the evaluation protocol. The second innovative practice was the integration of the FAN Approach (Gilkerson, Hofher, Heffron, Sims, Jalowiec, Bromberg, & Paul, 2012) into program design. Both innovations were adaptations of seminal frameworks from the field of Infant Mental Health. However, the FAN Approach integration took place after all data for the present evaluation was completed, so is not included in this report.⁸

Working Model Child Interview

Arizona’s Smart Start program adapted the Working Model of the Child Interview (Zeanah, Benoit, & Barton, 1994) to examine the quality of the relationship between a teacher and a child, specifically the teacher’s subjective perceptions and experience of a child.

The Working Model of the Child Interview (WMCI) (Zeanah et al., 1994) is a semi-structured interview that was originally designed to assess parents’ mental models, also known as internal representations or working models, of their relationship with a particular child. The WMCI has been used for clinical and research purposes in the United States and other countries. It is most often used with high-risk samples, but it has proven widely applicable for low risk and clinical populations. Because it is designed to access adults’ internal representations of relationships, the Smart Support leadership team saw a direct connection with its own Theory of Change, and developed an adaptation of the WMCI for child care providers and preschool teachers (with permission from Dr. Zeanah).

Smart Support mental health consultants conducted the WMCI during the initial weeks of consultation. Consultants made every effort to provide a setting for the interview that was comfortable and relaxed enough to encourage teachers’ attention to and reflection on the questions that were posed. The WMCI typically took about a half hour to complete. Consultants’ insights from these interviews were shared during reflective supervision and integrated into their ongoing work. (For more detailed information, please contact Dr. Alison Steier at asteier@swhd.org.)

Logic Model and Theory of Change

Smart Support’s Logic Model and its Theory of Change guide the work of mental health consultation and the professional development opportunities provided for the staff. The stance is that change in child care and early education practices related to supporting social and emotional development rests on the foundation of a strong and trusting relationship between the mental health consultant and the teachers, directors and other adults who partner

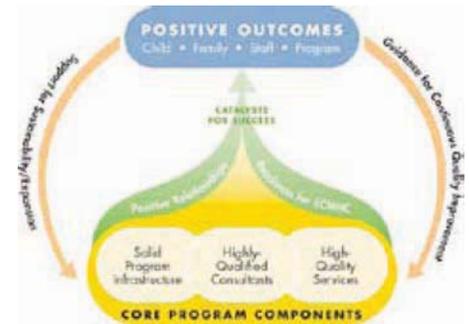
⁸Please contact the report’s author for a copy of the Smart Support FAN Model Evaluation.



Introduction

in the consultation endeavor. The consultant must make use of multiple lenses, consistent with a biopsychosocial approach, to consider the challenges which consultees describe or which the consultant observes directly. The consultant also must hold multiple perspectives, teacher-director-child-self, and further hold in mind relevant individuals who may not be present (e.g., parents or other caregivers). Please reference Appendix B for an image of our Logic Model.

Smart Support’s program and evaluation design benefitted from the important work of Georgetown University’s Center for Child and Human Development whose 2009 cross-site analysis very helpfully indentified the key elements of successful I/ECMHC programs. Georgetown’s report was a seminal guide for Smart Support and other I/ECMHC systems as well. The authors of this guide developed a widely-used framework that presents five factors that are crucial in the design of a successful ECMHC program (Duran, Hepburn, Irvine, Kaufman, Anthony, Horen, & Perry, 2009). (See image.)



3 core program components:

- 1) Solid program infrastructure (e.g., strong leadership, clear model design, strategic partnerships, evaluation, etc.);
- 2) Highly-qualified mental health consultants;
- 3) High-quality services (Duran et al., 2009).

Additional catalysts for success:

- 1) The quality of the relationships between and among consultants and consultees;
- 2) The readiness of families and ECE providers/programs for ECMHC (e.g., openness to gaining new skills and knowledge, opportunities for collaboration) (Duran et al., 2009).



Photo Source: www.flickr.com/photos/creativecommons



Purpose of Evaluation

Our goal for this study was to pilot an evaluation that met several objectives: 1) to determine whether Smart Support is meeting its stated objectives; 2) to inform the program's ongoing design and implementation; 3) add to the field of literature on effective strategies for infant and early childhood mental health consultation; and 4) provide findings that could guide Arizona and other states' efforts to build a comprehensive system of quality enhancement initiatives for the entire continuum of child care providers. Specific research questions are as follows:

Research Question 1: Was there growth on key outcomes?

Research Question 2: How did participants rate their experiences with Smart Support? Were ratings of their experiences associated with growth on key outcomes?

Key Outcomes

- Child's risk of expulsion
- Child self-regulation
- Child initiative
- Child attachment
- Teacher-child relationship
- Teacher's negative attributions of child
- Teacher self-efficacy
- Classroom mental health climate



Evaluation Design / Methods

Evaluation Design

The leadership of Smart Support envisioned a comprehensive evaluation design from the very inception of the program. Although this approach is recommended in Georgetown's seminal 'What Works' report (Duran et al., 2009), it is very rare for a brand new I/ECMHC program to have the vision, resources and capacity to implement such an ambitious feat. Also part of this vision was a close partnership between program leadership and the Indigo evaluation team. Indigo Cultural Center employs Community Based Participatory Research strategies with evaluation partners. As such, Smart Support leadership worked closely with Dr. Shivers and the evaluation team on all aspects of evaluation ranging from input into the evaluation design to reflecting on evaluation results in order to continuously improve the Smart Support program.



This evaluation is primarily a summative outcome evaluation, which included data collected from 2010 through 2014 (the first four years of the Smart Support program). Our extensive evaluation protocol included close to 20 different measures; 105 mental health consultants; 411 early care and education programs; 799 teachers; and 1,028 focus children. We collected data at the program, classroom, teacher and child level across three different time points: baseline, 6 months and 12 months. We also collected background information and feedback data from all 105 of the Smart Support mental health consultants. Our measurement and design strategy was largely based on the program developers' theory of change and child care research on effective Infant and Early Childhood Mental Health Consultation (I/ECMHC) models (Duran et al., 2009; FSU, 2006; Green et al., 2006; Gilliam, 2007; Hepburn et al., 2013; Johnston & Brinamen, 2006).





Photo Source:
www.flickr.com/photos/creativecommons

Pre-Experimental Design

Conducting community-based evaluations, interpreting research, and evaluating educational and developmental programs are important aspects of the social scientist's job description. To that end, many good educational programs provide opportunities for conducting and evaluating true experiments (or randomized controlled trials [RCTs]). In applied contexts, the opportunity to conduct RCTs often is quite limited, despite the strong demands on the researcher/evaluator to render "causal" explanations of results, as they lead to more precise understanding and control of outcomes. In such restricted contexts, which are absolutely more common than those supporting RCTs, quasi-experimental and pre-experimental designs are often employed (Buysse & Wesley, 2006). Though they do not support causal explanations to the same extent as RCTs, they can provide evidence that helps reduce the range of plausible alternative explanations of results, and thus, are increasingly valued by practitioners, researchers and policy-makers alike

(see for example, US Dept. of HHS and US Dept. of Ed Joint Policy Statement on Expulsion and Suspension in Early Childhood Settings, 2014). The evaluation research design for Smart Support includes the commonly pre-experimental time series methodology.

Evaluation Procedures

The design of this evaluation involved collecting data from child care providers, their administrators and the mental health consultants. At the beginning of their work with consultants, participating teachers completed a background questionnaire and several self-assessments. Child care administrators and directors were also asked to complete a background questionnaire and several self-assessments. In addition, consultants completed a classroom observation with participating teachers. This observation spanned two visits. The observational tool they used focused on several different dimensions of classroom environments that are important for children's social and emotional well-being (Gilliam, 2008). These baseline data were collected within six (6) weeks of teachers' agreement to work with a Smart Support mental health consultant.

Six months and then again at 12 months later, teachers and administrators were asked to complete the same set of questionnaires and satisfaction feedback surveys. Classroom observations were also conducted again. Evaluation data was collected every six months until teachers or programs ended their participation with the Smart Support program. At that time, participants were asked to complete a final set of questionnaires and a short feedback survey. (See next section for more detail on instruments used in this evaluation.) This evaluation report represents data from three time points (baseline, 6-month and 12-month time-points).

Consultants also completed background questionnaires, self-assessments and provided ratings and written feedback on their experiences with individual teachers and child care programs at baseline, and the six-month and twelve-month time-points. They were also responsible for logging their consultation dosage and activity data into Smart Support's internal, centralized data collection and reporting database.

Data Collection and Instrumentation

Data were collected through questionnaires, observations, and surveys. A summary of the instruments used and the information collected is included in the following chart.



Overview of Evaluation Measures⁹

Evaluation Tool	Citation	Constructs Measured	Baseline	On-going (Every 6 Months)	Closing Intervention
Program Level					
Provider Background Information	Adapted from First Things First's Quality First questionnaire, 2010	Background information about the child care program	X		
Director Survey	Shivers, 2010 (Adapted from Bloom, 1977; Carter & Curtis, 1998)	Demographic data; Organizational Climate; Director Tasks & Responsibilities	X		
Director Satisfaction Survey	Adapted from (Green et al, 2006; Parsons & Meyers, 1984)	Feedback about Smart Support and MH consultant		X	X
Classroom Level					
Preschool Mental Health Climate Scale (observation)	(Gilliam, 2008)	Dimensions of mentally healthy preschool classroom environments (observational measure)	X	X	X
Staff Cooperation & Interaction Rating (item #41 from ECERS-R) (observation)	Harms, Clifford, & Cyer, 2005	Staff communication, interpersonal relationships; sharing of duties (discontinued use in 2011)	X	X	X
Teacher Level					
Teacher Background Survey	Shivers, 2010	Demographic data	X		
Teacher Opinion Survey	(Geller & Lynch, 1999)	Self-efficacy	X	X	X
Child Care Worker Job Stress Inventory	(Curbow et al., 2001)	3 subscales: Demands, Resources, Control	X	X	X
Workplace Rating Scales	Adapted from (Bloom, 1977; Carter & Curtis, 1998)	2 scales: Organizational Climate, Director Tasks & Responsibilities	X	X	X
Knowledge about children's social and emotional development	Adapted from CSEFEL evaluation questions	Teachers' retrospective ratings of knowledge gained		X	X
Teacher Satisfaction Survey	Adapted from (Green et al, 2006; Parsons & Meyers, 1984)	Feedback about Smart Support and MH consultant		X	X
Teacher-Child Relationships					
Student-Teacher Relationship Scale- Short Form	(Pianta 1992)	Teacher's perception of closeness and conflict with a specific child; Used two published subscales; closeness and conflict	X	X	X
Focus Child Level (data collected for selected children only)					
Background Characteristics	Shivers, 2010	Child demographic characteristics	X		
DECA (Deveraux Early Childhood Assessment)	(LeBuffle & Naglieri, 1999)	Teacher report of within-child protective factors (initiative, self-control, attachment)	X	X	X
Preschool Expulsion Risk Measure	(Gilliam, 2010)	Teacher's perception of how a specific child's behavior impacts her work and sense of hope that this child's behavior can improve	X	X	X
Teacher's Negative Attribution of Focus Child	Adapted from Working Model Child Interview, Zeanah	Teacher offers 5 adjectives that describe focus child and 5 additional adjectives that describe relationship with focus child	X	X	X
Mental Health Consultant Level					
Coach Background Questionnaire	(Shivers, 2006)	Demographics; professional experience; areas of job expertise; perceptions of nature of the work; job crafting, etc.	X		
Knowledge and Skill Inventory for Consultant	(Buyse & Wesley, 2005; Adapted from Klein & Kontos, 1993)	Consultants rate their perceived levels of skill and knowledge in different areas (e.g., systems change, communication skills, collaborative problem solving, etc.)	X		
Consultant Feedback Survey	Adapted from (Green et al, 2006; Parsons & Meyers, 1984)	Consultants perception of teacher and consultation process;		X	X
Consultant Professional Comfort Scales	(Adapted from an article by Buysee & Wesley, 2001)	For each teacher, consultants rate their level of "professional comfort" on several dimensions of provider, classroom, and program characteristics (e.g., teacher knowledge, ratios, group size, and access to resources). Consultant also rates level of administrator's support of teacher while in the credential program. (12 items for each provider)	X	X	X

⁹For more detailed information about individual measures, please contact the author of this report.



Analysis

Items in each of the data sets listed above were initially examined for accuracy and consistency. Problematic data in the electronic files were assessed against the original hardcopy forms. Summary scales were created for the standardized instruments (e.g., Preschool Mental Health Climate Scale; Student-Teacher Relationship Scale/Pianta).

Where applicable, variables were merged across data sets (e.g., teacher characteristics; feedback surveys; director characteristics). Analyses followed standard methods in applied social research. Item and scale frequencies were generated along with relevant summary statistics (counts, percentiles, means, medians and dispersion indexes). Bi-variate procedures were selected based on levels of measurement. For example, we conducted a series of a one-way within-subjects, repeated measures analysis of variance (ANOVA) with Greenhouse-Geisser corrections in order to examine changes over time. Finally, coded themes from open-ended, qualitative responses gleaned from surveys were integrated with the satisfaction feedback survey results to highlight quantitative findings.

Limitations to the Data

There are several limitations in this evaluation, which are commonly found in applied participatory research and evaluation design (Chen, 2005). Limitations are listed below:

- There is a self-selection bias insofar as the Smart Support program was a service for which licensed and regulated center and family child care programs volunteered. It may be that seeking out this type of experience is a characteristic of child care programs that are more primed for change.
- As discussed in the previous section, this is a pre-experimental design, with the same group of child care teachers and programs serving as their own comparison group through the use of a time series design. There is no randomized control group, and participants were not randomly recruited. Therefore, causal and generalizable statements are more difficult to ascertain than when using randomized recruitment and an experimental design.
- The same mental health consultants who delivered the Smart Support intervention collected the observational data in classrooms (using the Preschool Mental Health Climate Scale). One of the most challenging aspects of conducting rigorous research and evaluation on I/ECMHC programs is securing enough funding to pay for external data collectors who are trained and available to collect data at each of the various time-points. Although we controlled for this potential bias by hiring 'external observers' to establish reliability on a subset of the data¹⁰, there is a distinct possibility that the results were impacted by this limitation in our data collection design.
- Questionnaire responses are self-reported and not verified by observation. One assumes a response bias on the part of child care providers and administrators to provide socially desirable responses and present oneself in the best possible light.
- For a large percentage of Smart Support participants, there were other technical assistance (TA) providers within the same classrooms and programs (e.g., Quality First coaches, health care consultants and/or inclusion coaches). For now, it is almost impossible to completely disentangle the impact of these additional TA providers on the outcomes we measured and report here.
- The consultation provided by the Smart Support mental health consultants was designed to be adapted according to the needs, interests and engagement of the child care providers and administrators. The hallmark of effective consultation is tailoring the mix and intensity of consultation activities to the unique needs of teachers and administrators (Johnston & Brinamen, 2006). Consequently, the intervention was not identical in all participating child care programs.

¹⁰Our external PMHCS observers conducted reliability visits on 61 classrooms (Cohen's Kappa score at baseline = .69; Cohen's Kappa score at 6-months = .77).



Description of Participants in Evaluation

Since this report represents the first four years of the Smart Support program, we thought it was important to describe participants in the program. Analyses performed in separate publications investigate whether background characteristics of programs, directors, teachers and focus children are associated with – or predictive of – program outcomes. (Please contact the author of this report for additional publication information.)

TABLE 2: FIRST THINGS FIRST REGIONS REPRESENTED IN EVALUATION¹¹

	Frequency (# of child care programs in Smart Support)	Percent
North Phoenix	55	13.4%
South Phoenix	47	11.4%
Central Phoenix	45	10.9%
NE Maricopa	32	7.8%
NW Maricopa	20	4.9%
SE Maricopa	51	12.4%
Central Maricopa	31	7.5%
Salt River Pima Maricopa Indian Community	1	.2%
Pinal	19	4.6%
North Pima	18	4.4%
Central Pima	51	12.4%
Gila	1	.2%
Yuma	9	2.2%
Yavapai	31	7.5%
TOTAL	411	100 %

Programs

Four hundred and eleven (411) early care and education programs are represented in this evaluation¹². The tables below describe characteristics of the programs.*

TABLE 3: BACKGROUND INFORMATION

	Minimum	Maximum	Mean	Std. Deviation
Number of years in operation	.20	74	13.46	12.71
Days per year	135	365	252.29	44.85
Average daily attendance	3	272	53.62	39.32
Number of classrooms	1	30	5.02	3.36

¹¹ These numbers represent participation in the evaluation only and do not represent actual numbers of participation in the Smart Support program.

¹² This number includes 22 Family Child Care providers. We did not conduct separate analyses on this group because the numbers were too small.





Description of Participants in Evaluation

TABLE 4: ENROLLED IN QUALITY FIRST (DIRECTOR SELF-REPORT)¹³

	Frequency	Percent
No	111	27.5%
Yes	293	72.5%
Total	404	100%

TABLE 5: CURRENTLY ACCREDITED BY A NATIONAL PROFESSIONAL ORGANIZATION

	Frequency	Percent
No	308	77%
Yes	92	23%
Total	400	100%

TABLE 6: NAEYC ACCREDITATION

	Frequency	Percent
No	348	87.5%
Yes	50	12.5%
Total	398	100%

TABLE 7: OTHER NATIONAL PROFESSIONAL ACCREDITATION REPRESENTED

Other accreditation bodies represented

Association of Christian Schools International (ACSI)
Association Montessori Internationale (AMI)
National Accreditation Commission (NAC)
National Early Childhood Program Accreditation (NECPA)
National (and Western) Catholic Educational Association (NCEA/WCEA)

TABLE 8: ESTIMATED FAMILY INCOME SERVED BY PROGRAMS

	Frequency	Percent
Mostly low income	114	37%
Mostly low to mid income	86	28%
Mostly middle income	32	10.5%
Mostly upper income	51	17%
Evenly mixed	22	7.5%
Total	305	100%

¹³This number has not been cross-referenced with First Things First's Quality First database. These numbers represent directors' self-reporting only. Numbers do not reflect 'applications pending.'



Description of Participants in Evaluation

TABLE 9: CHILDREN WITH SPECIAL NEEDS

	Minimum	Maximum	Mean	Std. Deviation
Number of children with IEP or IFSP	0	80	1.92	6.65
Number of children with special health care need	0	45	3.45	5.27

TABLE 10: EXPULSIONS / SUSPENSIONS (QUESTION ASKED AT ENROLLMENT IN SMART SUPPORT)

Have you expelled a child in the past 6 months?	Frequency	Percent
No	316	84%
Yes	68	16%
Total	378	100%

Have you suspended a child in the past 6 months?	Frequency	Percent
No	296	77%
Yes	87	23%
Total	383	100%

*Additional tables with program characteristics in Appendix C.

Directors / Administrators

TABLE 11: DIRECTOR'S AGE

Minimum	Maximum	Mean	Std.	Deviation
Age	20	79	42.33	10.90

TABLE 12: DIRECTOR'S GENDER

	Frequency	Percent
Female	490	97.5
Male	13	2.5
Total	503	100%

TABLE 13: DIRECTOR'S ETHNICITY

	Frequency	Percent
Caucasian	349	70.5%
Latino	74	15%
African American	42	8.5%
Native American	7	1.5%
Asian	9	2%
Other	14	2.5%
Total	495	100%





Description of Participants in Evaluation

TABLE 14: DIRECTOR'S HIGHEST LEVEL OF EDUCATION COMPLETED

	Frequency	Percent
Some high school	2	.5%
High school graduate / GED	163	33%
AA in Child Development or related field	104	21%
BA	126	25.5%
MA / MS	84	17.5%
PhD/EDD	4	.1%
Other	12	2.4%
Total	495	100%

*Additional tables with Directors' / Administrators' characteristics are in Appendix D.

Teachers

TABLE 15: TEACHER'S AGE

	Minimum	Maximum	Mean	Std. Deviation
Age	18	73	35.90	12.38

TABLE 16: TEACHER'S GENDER

	Frequency	Percent
Female	772	98%
Male	14	2%
Total	786	100%

TABLE 17: TEACHER'S ETHNICITY

	Frequency	Percent
African American	54	7%
White	417	54%
Latino	235	30%
Asian	16	2%
Native American	23	3%
Other	32	4%
Total	777	100%





Description of Participants in Evaluation

TABLE 18: TEACHER'S HIGHEST LEVEL OF EDUCATION COMPLETED

	Frequency	Percent
Some high school	11	1.4%
High school graduate / GED	414	53.3%
CDA	59	7.6%
AA in Child Development or related field	97	12.5%
BA / BS	137	17.6%
MA / MS	42	5.4%
Other	17	2.2%
Total	777	100%

TABLE 19: TEACHER EXPERIENCE*

	Minimum	Maximum	Mean	Std. Deviation
How many years have you worked at current home or child care program?	0	32	3.83	4.97
How many years have you provided care in any child care program?	0	40	10.12	8.17

*Additional tables with Teachers' characteristics are in Appendix E.

Focus Child Characteristics

We asked each teacher to select a focus child for the purposes of tracking improvements at the child-level. The tables below present characteristics of the 1,028 focus children that were included in this sample.

TABLE 20: FOCUS CHILD AGE (IN MONTHS)

	Minimum	Maximum	Mean	Std. Deviation
Focus child age (in months)	5	73	42.53	11.71

TABLE 21: FOCUS CHILD GENDER

	Frequency	Percent
Male	740	74%
Female	258	26%
Total	998	100%





Description of Participants in Evaluation

TABLE 22: FOCUS CHILD ETHNICITY

	Frequency	Percent
White	464	51%
Latino	228	24.9%
African American	107	11.7%
Asian	5	.5%
Native American	25	2.7%
Multi-ethnic	73	8%
Other	11	1.2%
Total	913	100%

TABLE 23: DOES FOCUS CHILD HAVE A DIAGNOSED DISABILITY?

	Frequency	Percent
No	859	92%
Yes	76	8%
Total	935	100%

TABLE 24: DOES FOCUS CHILD HAVE AN IEP OR IFSP?

	Frequency	Percent
No	853	93%
Yes	67	7%
Total	920	100%

The background characteristics examined in the section above create a landscape for examining the conditions under which mental health consultation was delivered. Knowing the characteristics of this group of Smart Support participants is an important factor in guiding and informing the content and mode of delivery of the Smart Support program.

Smart Support Program Descriptive Data

The general knowledge base for Infant and Early Childhood Mental Health Consultation (I/ECMHC) is becoming more refined with respect to the identification of the most important characteristics and activities needed for effective mental health consultation (Brennan et al., 2005; Green et al., 2006; Johnston, Steier, & Heller, 2013; Kauffman et al., 2013). Our intention in collecting and disseminating data about Smart Support’s workforce and program specifics is to contribute to the nascent literature on I/ECMHC.

During the first four years of Smart Support, there were a total of 105 mental health consultants and supervisors working in the Program. The average number of consultants per year was 52.

Throughout the first four years, Smart Support served 521 child care centers, 48 licensed family child care providers, and 1,569 teachers. To date, the Smart Support program is the largest I/ECMHC program in the country (The RAINE



Description of Participants in Evaluation

Group, personal communication, August 2015). This section highlights descriptive findings about the key features of Smart Support’s consultation model.

As stated in the introduction, the primary goals of Smart Support (and I/ECMHC, in general) are to support the social and emotional development of all children in an early care and education settings and to increase the capacity of early care providers to address the mental health needs and challenging behaviors that place particular children at risk for negative outcomes. In order to meet these objectives, Smart Support consultation can take the form of Child-Focused, Classroom-Focused and/or Program-Focused.



Child-Focused Consultation: When a specific child’s behavior is of concern to parents or teachers, the consultant helps these adults understand, assess and address the child’s needs by developing an individualized plan with the parents and teachers.



Classroom-Focused Consultation: The consultant also works with teachers to improve the care offered to all children in their classroom by helping to identify attitudes, beliefs, practices and conditions that may be undermining quality relationships between teachers and children.



Program-Focused Consultation: Directors and other program leaders are supported by the consultant to make changes in their child care practices and/or policies to the benefit of all of the children and adults in their setting.

In the Smart Support model, consultants typically visit a child care program once a week, and visits are often a combination of programmatic, classroom, and/or child-centered – depending on the agreed-upon priorities with directors and teachers. Table 25 contains additional data about typical ‘dosage’ of consultation per week.

TABLE 25: WEEKLY DOSAGE

Average amount of time MHCs spend with:	
Sites each week	2.08 hours
An individual teacher each week	1.41 hours
Director/administrator each week	.88 hours

Mental Health Consultant Descriptive Data

Most evaluations of I/ECMHC models have found that working with highly qualified consultants is one of the most essential elements of a program’s success (Duran, et al., 2009). Common areas of interest in reporting components of highly qualified consultants include: education, content knowledge, work experiences, areas of competency, and skills (Duran et al., 2009; Johnston, Steier, & Heller, 2013).

Smart Support’s services are provided by master’s level professionals possessing an advanced degree in a mental health discipline, early education, or early childhood special education. Smart Support consultants also have experience working directly with young children and their caregivers. The Smart Support consultant seeks to build the skills and capacity of another adult, rather than trying to directly change or treat an individual child’s behavior or symptoms. The tables below present additional descriptive data about Smart Support’s workforce (includes supervisors).



Description of Participants in Evaluation

TABLE 26: SMART SUPPORT CONSULTANT GENDER

	Frequency	Percent
Male	10	9.5
Female	95	90.5
Total	105	100.0

TABLE 27: SMART SUPPORT CONSULTANT RACE/ETHNICITY

	Frequency	Percent
African American	8	7.6
White	73	69.5
Latino	21	20.0
Asian	2	1.9
Other	1	1.0
Total	105	100.0

TABLE 28: SMART SUPPORT CONSULTANT EDUCATION

	Frequency	Percent
Masters Degree	100	95.2
Doctoral degree	5	4.8
Total	105	100.0

TABLE 29: DEGREE SPECIALTY

	Frequency	Percent
Mental Health	81	80.2
Education	20	19.8
Total	101	100.0

TABLE 30: SMART SUPPORT CONSULTANTS' PREVIOUS EXPERIENCE (IN YEARS)

	N	Minimum	Maximum	Mean	Std. Deviation
Number of years providing any services in field of early childhood, including consultation and direct service	100	.00	30.00	9.97	7.25
Years providing any consultation/coaching/training	102	.00	30.00	5.78	7.04
Years providing consultation in the field of early childhood	101	.00	30.00	4.22	6.13



Description of Participants in Evaluation

TABLE 31: SMART SUPPORT'S CONSULTANTS' SELF-REPORTED AREAS OF 'EXPERTISE' (REPORTED AT BEGINNING OF POSITION)

Topic	% of consultants who reported having expertise in this area
Relationships (caregiver-child)	84.4%
Relationships (staff-families)	81.1%
Training/education for adults	78.7%
Understanding diverse cultures	78.1%
Relationships among staff	74.7%
Assessments and screening	73.7%
Family support and adult service systems	71.9%
Crisis intervention	66.3%
Community resources	66.0%
Early intervention system	64.5%
Direct therapy	60.0%
ECE curriculum	57.6%
Child care quality improvement	47.8%
Research and evaluation methodology	36.8%
Child care administrative practices	27.8%



Research Question 1:

Were there increases on key program outcomes?

Repeated Measures Analyses

A series of one-way within-subjects, repeated measures analyses of variance (ANOVA) with Greenhouse-Geisser corrections were conducted and suggest that there were significant trends over time for all child, teacher, and classroom outcomes. Each analysis included child, teacher, or classroom-level variables analyzed across three time points, baseline (T1), 6 months (T2), and 12 months (T3).



Multiple Imputation – Missing Data

Although our sample sizes at baseline measurement are relatively large¹⁴, it was very challenging to retain the same teacher-child dyads in our research/intervention across all three time points. A close inspection of the ‘missingness’ patterns for the Smart Support data suggest that there was missing data due to sample attrition, but we do not suspect that there was a common reason for sample attrition. There were any number of reasons that children and teachers dropped from our study. In fact, the retention rate experienced in this evaluation reflects the typical ebb and flow of children and teachers moving in and out of programs and classrooms that is prevalent in our early care and education system (Cryer, Hurwitz & Wolery, 2000; Howes & Hamilton, 1992; Porter, 2014; Whitebook & Sakai, 2003). The retention rate for participation, among

specific teacher-child dyads in the Smart Support evaluation data was 48 percent at T2 (6 months) and 14 percent at T3 (12 months).

In order to discover whether there were statistically significant changes over time for our key outcome measures, and in order to address limitations in our dataset caused by sample attrition, missing data for our repeated measures analyses were handled with recommended multiple imputation techniques (Enders, 2010; Enders 2011; Schafer & Graham, 2002).

Imputations were conducted using information from all study variables as well as additional variables not included in analyses for the current study but that have been associated with one or more study variables in previous work (i.e., child age, family income). Three imputed data sets were created and, given that SPSS does not support pooling estimates across repeated measures analyses, we elected to use one of the multiply imputed data sets as a proxy result of the three imputation analyses conducted (Rubin, 1987). All results presented were similar in terms of significance and direction of effects, across each of the three analyses using imputed data.

Child-Level Outcomes

We asked each teacher to select a focus child for the purposes of tracking improvements at the child-level. Pooled imputation methods resulted in an effective sample size of 1,028 for the child-level analyses. Overall, we found improvement on all child-level outcomes. Table 32 presents an overview of means and standard deviations for child-level outcomes. Specific findings for each construct of child-level outcomes is more fully explored and described in the subsequent sections.

¹⁴Teacher sample size = 799 at baseline; Focus child sample size = 1,028 at baseline

TABLE 32: MEANS AND STANDARD DEVIATIONS CHILD-LEVEL MEASURES

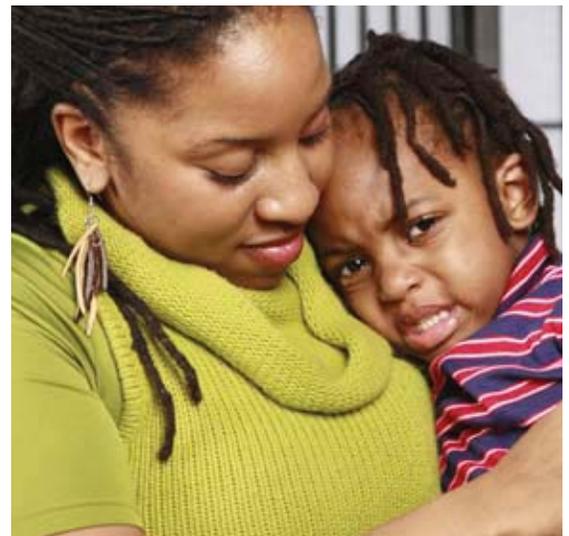
Variable	Baseline		6 months		12 months	
	Mean	SD	Mean	SD	Mean	SD
Preschool Expulsion Risk Measure (Gilliam)	2.93	1.08	2.57	1.13	2.24	2.23
Self Control (DECA)	1.72	.70	2.10	.65	2.73	3.31
Initiative (DECA)	2.10	.70	2.42	.67	2.18	3.16
Attachment (DECA)	2.61	.66	2.90	.58	2.95	.62
Teacher-Child Closeness (STRS – Pianta)	3.86	.75	4.23	.63	3.97	1.41
Teacher-Child Conflict (STRS – Pianta)	2.97	.89	2.68	.88	2.55	1.60
Teacher’s Negative Attributions of Focus Child (WMCI – Zeanah)	2.80	.52	2.52	.47	2.74	.84

Child’s Risk of Expulsion

Walter Gilliam’s seminal research study in 2005 demonstrated that behavior problems in very young children can be severe enough to warrant removal from their preschool programs (Gilliam, 2005). The experience of being expelled or even suspended from a child care program can instigate a cascade of other negative experiences for children and families. Mental health consultation – such as that provided by the Smart Support program – is specifically designed to address and remedy the prevalence of early child care that does not sufficiently support social and emotional development and the growing concern over child care expulsions (Duran et al., 2009; Gilliam, 2007; Hepburn et al., 2013; Perry et al., 2008). We used the Preschool Expulsion Risk Measure (PERM) to assess a teacher’s perception of the likelihood that the focus child would be expelled from his or her current program. The PERM is a measure developed by Dr. Walter Gilliam at Yale University and is currently being used in several different states’ I/ECMHC evaluations (Hepburn et al., 2013) in order to establish this instrument’s validity. Preliminary validation findings with the PERM indicate that it is a good predictor of child expulsions, it is associated with teacher depression, and it is sensitive to mental health consultation intervention (Gilliam, personal communication, 2010; Hepburn et al., 2013).

The scale includes 12 items in a 5-point Likert format. Providers rated the extent to which they agreed or disagreed with the 12 statements (1 = strongly disagree; 5 = strongly agree) (alpha = .91 (Baseline); .93 (6 months); and .93 (12 months)¹⁵.

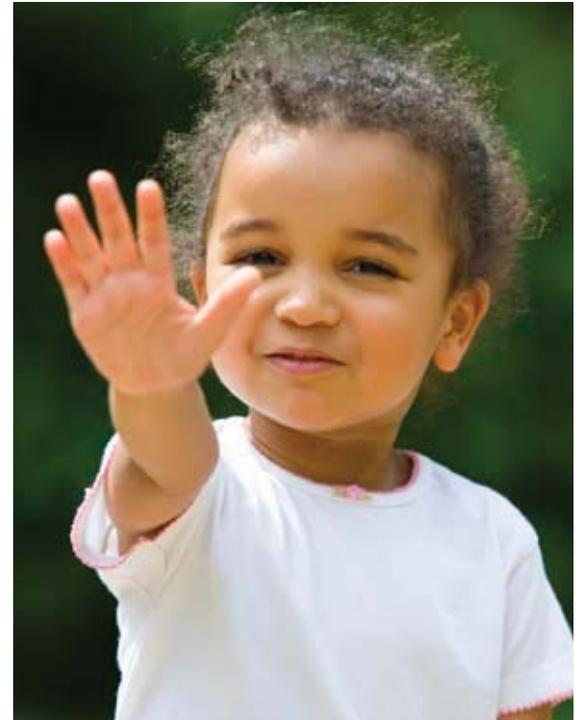
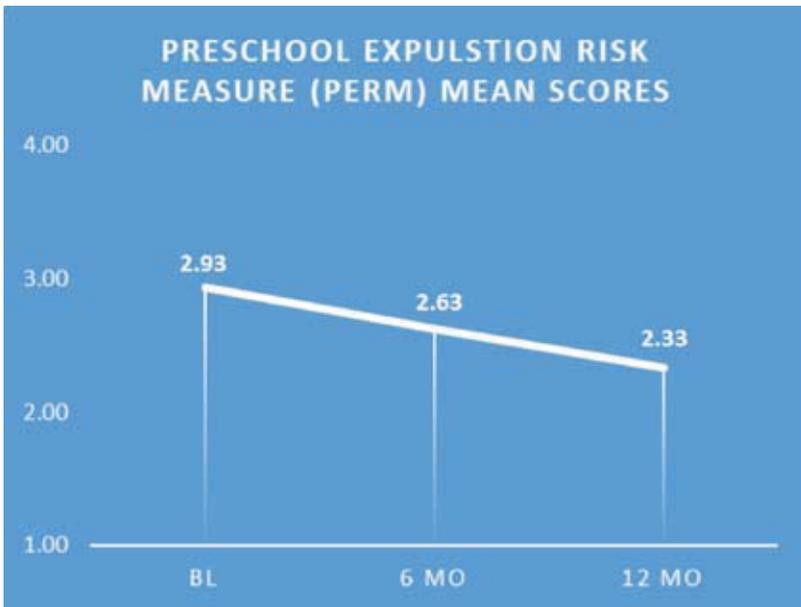
Results of the repeated measures analysis of variance (ANOVA) with Greenhouse-Geisser corrections were conducted and demonstrate that there were significant main effects over time. Follow-up tests of polynomial contrasts suggest significant negative linear effect for the PERM, where scores decreased from T1 to T2 to T3. This is the expected direction of results whereby children’s risk of expulsion is decreasing over time.



¹⁵In order to maximize internal consistency with the items on the PMHCS, we used a factor loading that included 9 out of the 12 items (items 1-6; and items 10-12). Principal component analysis used varimax rotation and resulted in a one-factor solution, which accounted for 57.7 percent of the variance at Baseline; 65.2 percent at 6-months; and

TABLE 33: WITHIN-SUBJECTS EFFECTS WITH GREENHOUSE-GEISSER CORRECTION & POLYNOMIAL

Effect	df1	df2	Mean Square	F	p-value
Preschool Expulsion Risk Measure					
Time	1.73	1775	99.89	108.51	.000
Polynomial Contrast (Linear)	1	1027	172.61	178.71	.000
Polynomial Contrast (Quadratic)	1	1027	.01	.02	.901



Self-Regulation, Attachment, and Initiative

We used the Devereux Early Childhood Assessment (DECA), First Edition (1998) to measure changes in children’s self-regulation, attachment and initiative. The DECA is a behavior rating scale that is completed by teachers and provides an assessment of within-child protective factors central to social and emotional health and resilience, as well as a screener for behavioral concerns in young children. Although we used the DECA for Infants, DECA for Toddlers, and DECA for Preschoolers to collect data for this study, the sample sizes for the infant and toddler versions were quite small and therefore not included in the present analysis. The analysis described here reflects findings from the DECA for Preschoolers (ages two through five) (LeBuffe & Naglieri; 1999) and includes 27 items that reflect three separate subscales: Self-Regulation, Attachment/Relationships, and Initiative.

The DECA manual defines Self-Regulation as the child’s ability to express emotions and manage behaviors in healthy ways. Attachment/Relationships is defined by the DECA manual as the mutual, strong, and long-lasting relationships between a child and significant adults such as parents, family members, and teachers. Finally, Initiative refers to the child’s ability to use independent thought and action to meet his or her needs. Teachers were asked to rate the focus children on each of the 27 items using a scale of 0 though 4 (0 = Never; 4 = Very Frequently). Cronbach’s alpha reliability scores on each of the subscales in this sample are listed in Table 34 on the following page:



TABLE 34: CRONBACH'S ALPHA RELIABILITY SCORES ON EACH OF THE SUBSCALES

Internal consistency	Baseline	6-months	12-months
Self-Regulation	.819	.891	.856
Attachment/Relationships	.797	.802	.841
Initiative	.856	.883	.913

The tables and charts below show significant main effects for the DECA Initiative, Self-Regulation, and Attachment measures when included as repeated measures in a one-way within-subjects ANOVA. Follow-up tests of polynomial contrasts suggest significant positive quadratic effects for the DECA Self-Regulation, DECA Attachment, and DECA Initiative scales, with scores increasing from T1 to T2 and stabilizing from T2 to T3.

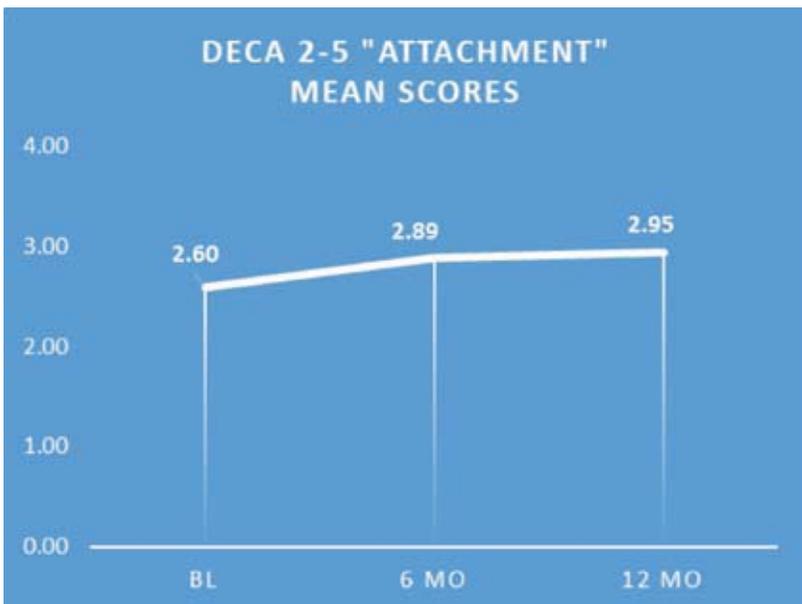
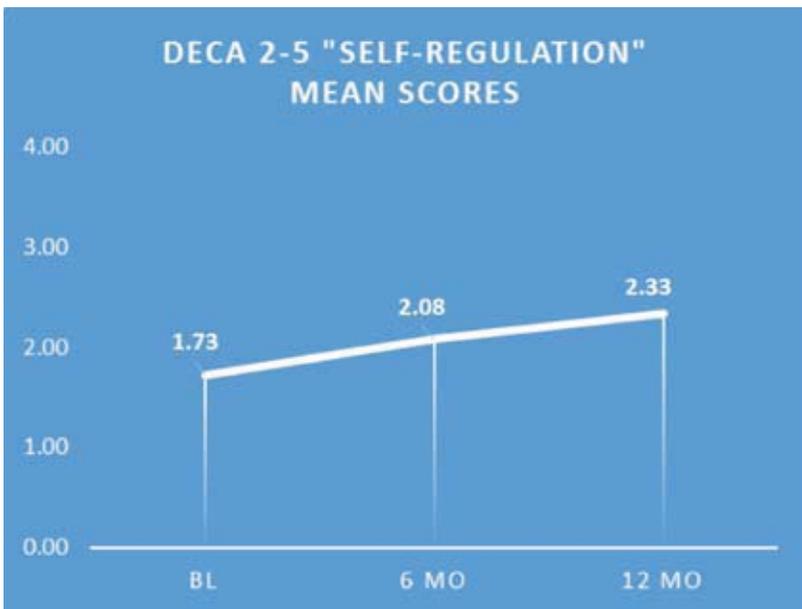


Photo Source: www.flickr.com/photos/creativecommons

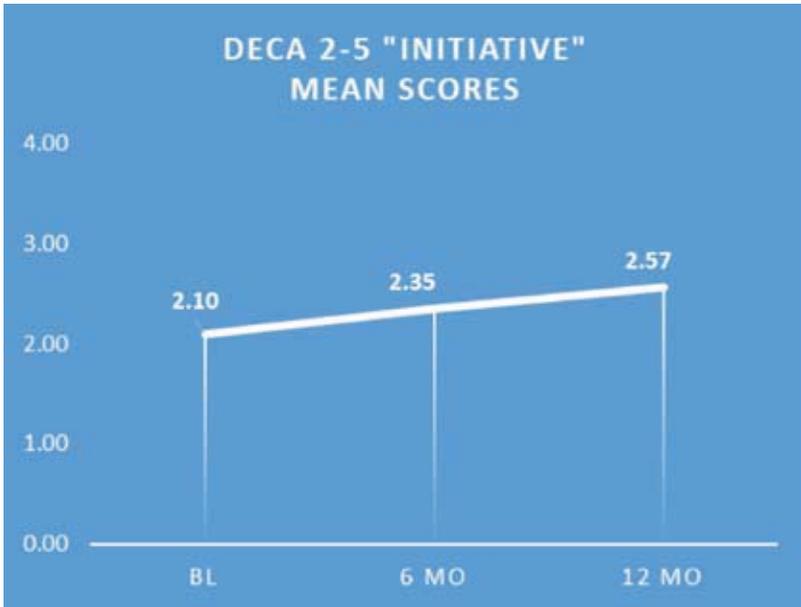


TABLE 35: WITHIN-SUBJECTS EFFECTS WITH GREENHOUSE-GEISSER CORRECTION AND POLYNOMIAL CONTRASTS

Effect	df1	df2	Mean Square	F	p-value
DECA - Initiative					
Time	1.54	1586	70.38	119.86	.000
Polynomial Contrast (Linear)	1	1027	107.29	190.78	.000
Polynomial Contrast (Quadratic)	1	1027	1.39	4.05	.044
DECA - Self Control					
Time	1.76	1811	108.52	215.28	.000
Polynomial Contrast (Linear)	1	1027	188.61	373.05	.000
Polynomial Contrast (Quadratic)	1	1027	2.71	7.06	.008
DECA - Attachment					
Time	1.63	1676	45.72	105.19	.000
Polynomial Contrast (Linear)	1	1027	60.29	125.65	.000
Polynomial Contrast (Quadratic)	1	1027	14.32	62.41	.000

Teacher-Child Relationships



We used Pianta’s Student Teacher Relationship Scale (STRS) – Short Form (1992) to measure teachers’ perceptions of their relationships with focus children. This measure is widely used in child care research (Cost, Quality Outcomes Study Team, 1995; Hamre & Pianta, 2003; NICHD ECCRN, 2005). It blends attachment theory with research on the importance of early school experiences in determining concurrent and future success in school (Pianta & Nimetz, 1991). The STRS – Short Form includes 15 items in a Likert format. Teachers are asked to rate the extent to which the statements on the scale apply to their relationship with the focus child (1 = definitely does not apply; 5 = definitely applies). Sample statements include: “If upset, this child will seek comfort from me;” “It is easy to be in tune with what this child is feeling;”

“This child easily becomes angry with me;” “This child and I always seem to be struggling with each other.” We reduced items on the STRS – Short Form to two commonly published subscales: Closeness (alpha = .77; .78; .80 across all three time-points) and Conflict (alpha = .82; .83; .83 across all three time-points) (Pianta, 1991). We then conducted a repeated measures analysis on both of these subscales to determine whether there were changes in teacher-child relationships across all three time-points.

There were significant main effects for the Pianta Closeness and Conflict scales when included as repeated measures in a one-way within-subjects ANOVA. Follow-up tests of polynomial contrasts suggest significant positive quadratic effects for the Pianta Closeness, with scores increasing from T1 to T2 and stabilizing from T2 to T3. In contrast, there were significant negative quadratic effects for the Pianta Conflict, with scores decreasing from T1 to T2 and stabilizing from T2 to T3. Increases on the Closeness subscale should be interpreted as more optimal. In contrast, decreases on the Conflict subscale should be interpreted as more optimal. The results are presented in the table and charts on the following page.

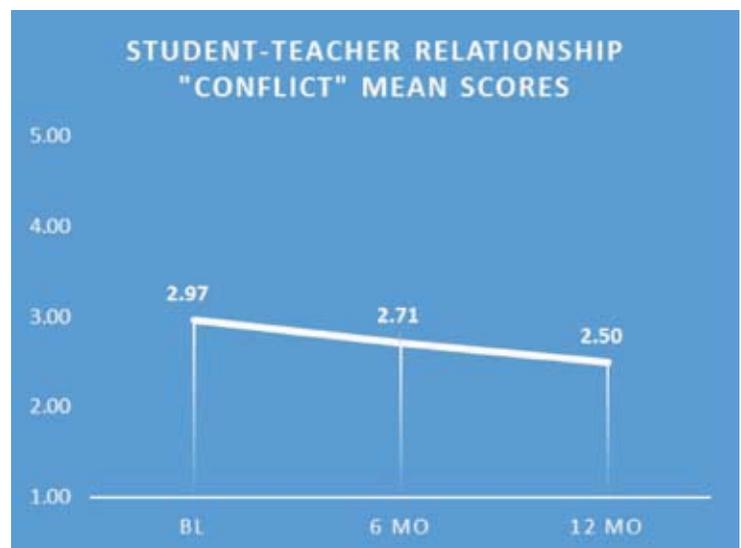
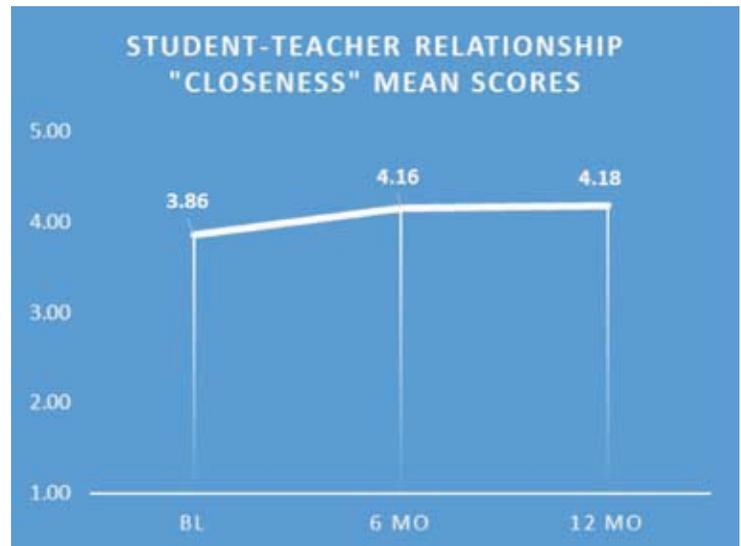


TABLE 36: WITHIN-SUBJECTS EFFECTS WITH GREENHOUSE-GEISSER CORRECTION AND POLYNOMIAL CONTRASTS

Effect	df1	df2	Mean Square	F	p-value
Teacher-Child Closeness					
Time	1.39	1425	52.93	53.45	.000
Polynomial Contrast (Linear)	1	1027	6.44	6.62	.010
Polynomial Contrast (Quadratic)	1	1027	66.98	167.36	.000
Teacher-Child Conflict					
Time	1.43	1464	64.41	52.09	.000
Polynomial Contrast (Linear)	1	1027	87.80	63.68	.000
Polynomial Contrast (Quadratic)	1	1027	3.99	10.41	.001

Teacher’s Negative Attributions of Focus Child

As one of its innovative practices, Smart Support mental health consultants conducted the Working Model Child Interview (WMCI) during the initial weeks of consultation (Zeanah, Benoit, & Barton, 1993; adapted with permission by Steier, 2010). During the WMCI protocol, teachers were instructed to reflect on their relationship with the ‘focus child.’ That is, teachers discussed their relationship with and perceptions of the child that was selected by the director, teacher and consultant to be the focus of the Smart Support intervention conversations and evaluation.

Although the full WMCI interview was used by consultants to inform their work with teachers, only two questions from the interview were included as part of our evaluation: teachers’ descriptions of the (focus) child through the provision of five adjectives (“Please give me 5 words that describe [the focus child]”), and teachers’ descriptions of their relationship with the (focus) child through the provision of an additional five adjectives (“Please give me 5 words that describe your relationship with [the focus child]”). Consultants were instructed to record and turn in the two sets of adjectives describing the child and the teacher’s relationship with the child. The WMCI protocol was then repeated after six months of Smart Support services and then again after 12 months of Smart Support services. Our working hypothesis was that the valence of the adjectives would change over time from a degree of negativity to a more positive tenor, and would be associated with other variables in the evaluation.

In order to develop a coding scheme to “score” each set of adjectives, the evaluation team conducted a literature review of the WMCI, and discovered a coding scale (Maternal Attributions Rating Scale, Schechter, Trabka, Brunelli, & Myers, 2005) that made use of the adjectives collected during the WMCI protocol. The coding scale was developed by Dr. Daniel Schechter at Columbia University. Dr. Schechter gave us permission to adapt the scale and coding for our purposes. Based on Dr. Schechter’s recommendations, and after several conceptual meetings with Smart Support’s leadership team, we developed and achieved 85 percent reliability coding the ‘Negativity’ scale for use in this evaluation¹⁶. Each adjective was assigned a score from 1-5 (1= Strongly Positive; 5 = Very Negative). Half scores (e.g., 3.5) were assigned as well (See Appendix F for Negativity Scale code definitions).

¹⁶For more detailed information about the WMCI Negativity coding scale and reliability, please contact the author of this report.

The conceptual discussions for coding WMCI adjectives using the Negativity scale had to take into account an early education context and setting, which of course is different than a mother caring for her child. Where there was disagreement in coding, we refined and created more rules and guidelines. There were a total of three reliability checks over the course of the coding period. Our coder reached 100 percent agreement within 1 point-difference on the coding scale, and exact agreement 84 percent of the time.

Table 37 shows significant main effects for the WMCI Negativity Scale mean scores when included as repeated measures in a one-way within-subjects ANOVA. Follow-up tests of

polynomial contrasts suggest significant negative quadratic effects for the WMCI Negativity Scale mean scores, with scores decreasing from T1 to T2 and stabilizing from T2 to T3. This is the expected direction of change over time, which can be interpreted as teachers' negative working models about focus children decreasing over time.

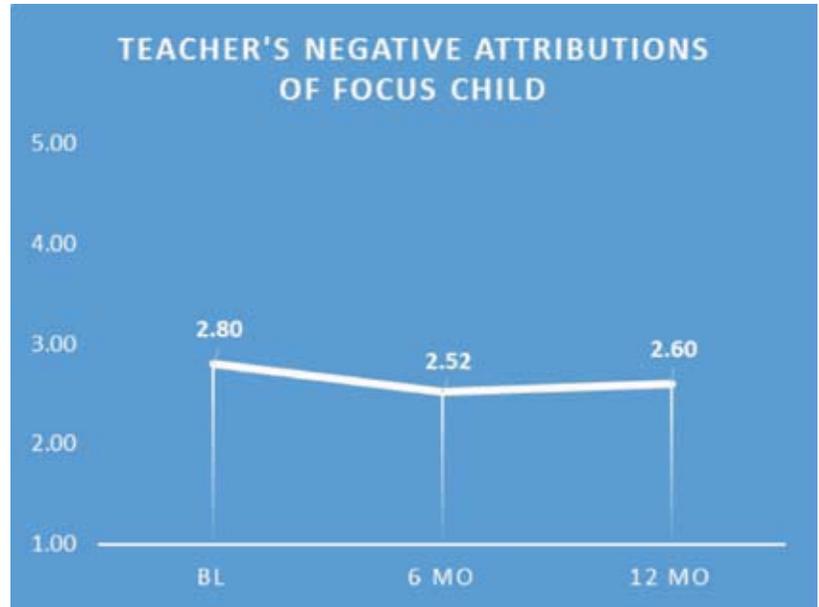


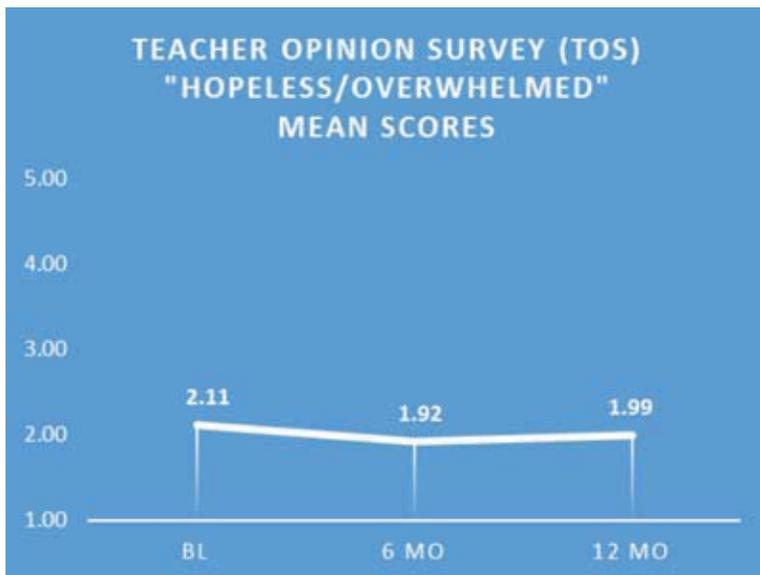
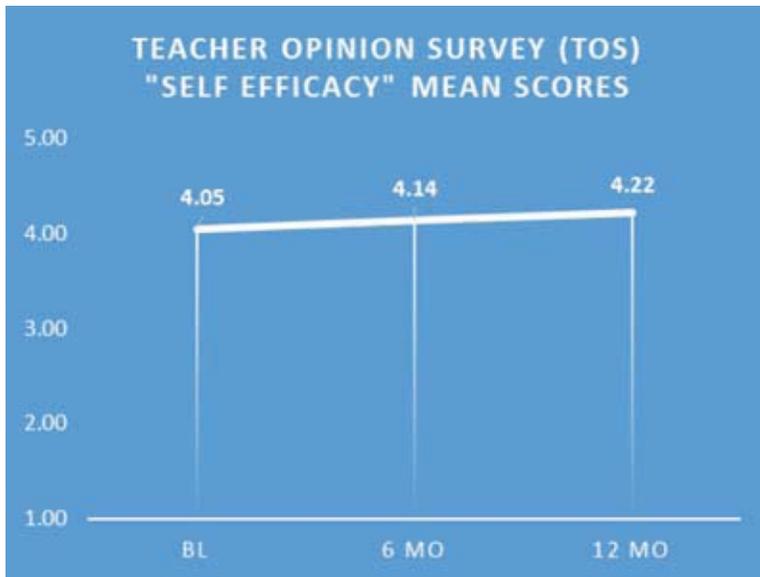
TABLE 37: WITHIN-SUBJECTS EFFECTS WITH GREENHOUSE-GEISSER CORRECTION AND POLYNOMIAL CONTRASTS

Effect	df1	df2	Mean Square	F	p-value
WMCI Adjusted (Mean)					
Time	1.93	1980	24.99	99.66	.000
Polynomial Contrast (Linear)	1	1027	19.64	72.87	.000
Polynomial Contrast (Quadratic)	1	1027	28.54	133.38	.000

Teacher-Level Outcomes

Self-Efficacy

We used the Teacher Opinion Survey (Geller & Lynch, 1999) to measure teacher's self-efficacy. Bandura defines self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (1977, p.3). There is a rich literature on K-12 teacher self-efficacy, which demonstrates that efficacious teachers bring about more positive change in their teaching practices and students' outcomes (Armor et al., 1976; Berman et al., 1977). Furthermore, teacher self-efficacy is reported to be malleable as a result of professional development interventions (Mullholland & Wallace, 2001). Although there is less literature about self-efficacy with early care and education professionals, there are some findings that indicate that teachers with higher efficacy levels are more likely to construct positive relationships with children (Brennan et al., 2008; NICHD ECCRN, 2005). In fact, several



states with I/ECMHC programs have included teacher efficacy and confidence as a focus of their interventions (e.g., AZ; LA; MD; MI) (Hepburn, et al., 2013). We hypothesized that as a result of receiving mental health consultation, teachers would begin to shift their feelings and beliefs about managing challenging behavior and would start to believe in their ability to implement change, which in turn, would lead to adaptations to their teaching practices and relationships with children.

The scale we used (Teacher Opinion Survey) included 12 items in a 5-point Likert format. Child care providers rated the extent to which they agreed or disagreed with the 12 statements (1 = strongly disagree; 5 = strongly agree). We created two subscales¹⁷, which we named, “Self Efficacy,” and “Hopeless/Overwhelmed.” The Self-Efficacy scale consisted of six items ($\alpha = .65; .69; .71$ at each time-point). The Hopeless subscale consisted of four items ($\alpha = .61; .60; .57$ at each time-point).

The effective sample size for this time series repeated measures analysis included 1,028 cases (using imputed data procedures). For teachers, there was a significant main effect of Teacher Self-Efficacy with scores differing significantly between time points [$F(1.9, 1490)=70.18, p < .0001$]. Specifically, tests of within-subjects contrasts suggest a significant and positive linear trend with Teacher Self-Efficacy scores increasing over time [$F(1, 784)=130.14, p < .0001$]. For the Teacher

Hopelessness scale, there was also a significant difference between time points [$F(2, 1490)=79.32, p < .0001$] and a significant negative quadratic trend with Hopelessness scores decreasing from T1 to T2 and then remaining stable to T3 [$F(1, 784)=88.47, p < .0001$]. These significant changes in teachers’ self-efficacy occurred in the hypothesized and expected directions.

TABLE 38: MEANS AND STANDARD DEVIATIONS TEACHER OPINION SURVEY (SELF-EFFICACY)

Subscale	Baseline		6 months		12 months	
	Mean	SD	Mean	SD	Mean	SD
Self Efficacy Subscale (TOS – Gellar & Lynch)	4.05	.48	4.15	.49	4.26	.48
Hopeless/Overwhelmed Subscale (TOS – Gellar & Lynch)	2.11	.69	1.86	.73	1.86	.79

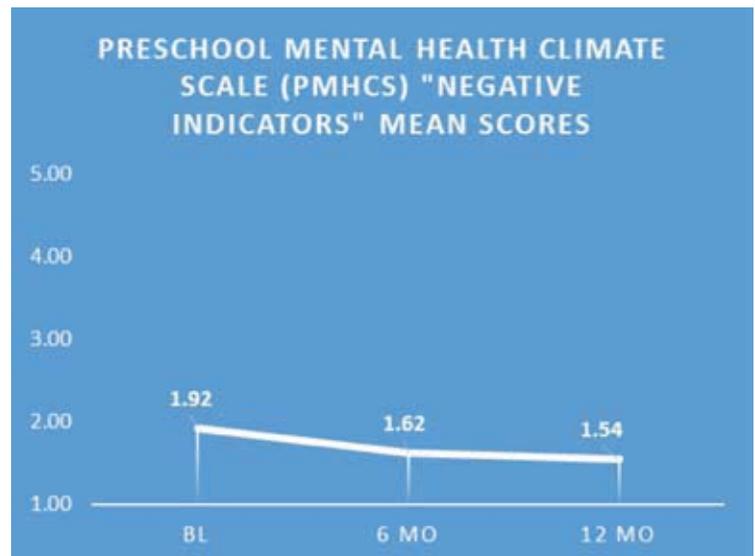
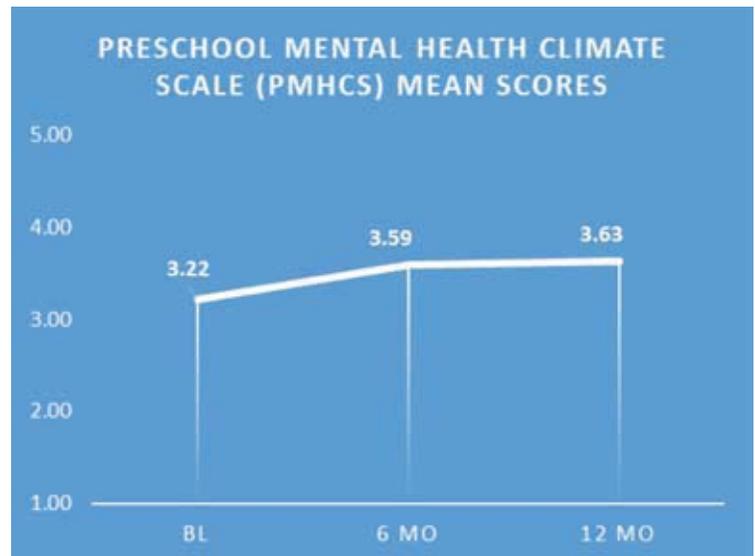
¹⁷In order to create subscales, we conducted a principal component factor analysis to see how individual items hung together. A varimax rotation was performed, revealing a two-factor solution, which explained 43 percent of the variance at baseline; 44 percent of the variance at 6-months; and 45 percent of the variance at 12-months.

Classroom-Level Outcomes

In this evaluation we used a relatively new classroom observation measure, the Preschool Mental Health Climate Scale (PMHCS), developed by Dr. Walter Gilliam of Yale University (2008) that attempts to target those aspects of classroom functioning that are most relevant to the day-to-day work of mental health consultants. The PMHCS was created because no systems-focused tools currently exist to facilitate the assessment of the mental health climate of Head Start and other early care and education programs. None of the existing measures of child care quality (e.g., ECERS-R; CLASS; CIS - Arnett) were developed to address the full range of classroom characteristics associated with mentally healthy environments for young children – the primary goal of most infant and early childhood mental health consultations. The lack of reliable and valid measures of mental health climate in early childhood settings was a major impediment to conducting useful evaluations of mental health consultation. As a result, both researchers and clinicians either (a) had no measures of classroom mental health climate by which to orient their work or document effects or (b) attempted to use measures that were tangentially or nonspecifically related to the work they were doing. The PMHCS was developed to address these gaps.

The Preschool Mental Health Climate Scale (PMHCS) (Gilliam, 2008) focuses on aspects of the overall classroom environment (mostly interactions and the flow of activities) that may be related to children’s mental health and social- emotional functioning. There are 10 subscales contained on this instrument. The environmental constructs that are captured by this measure include: transitions; directions and rules; staff awareness; staff affect; staff cooperation; peer interactions; teaching feelings and problem-solving; individualized and developmentally appropriate pedagogy; child interactions; and negative interactions. This measure is currently being used and tested for validity in I/ECMHC evaluations in several other states as well (AZ, CO, CT, DC, and MD). Gilliam’s concurrent validation findings indicate that scores on the PMHCS predict child behavior scores, teacher mental health, teacher-child relationships, as well as ECERS-R scores (Gilliam, 2008).

Observers spend two days observing the classroom, and then rate indicators on each of the subscale dimensions on a scale of 1 – 5 (low to high). Optimally, scores should increase as a result of receiving mental health consultation (Gilliam, 2008). Scores on the Negative Indicators subscale should ideally decrease over time. For this analysis we combined scores across each of the subscales (except Negative Indicators) to create an overall mean score. Changes in the Negative Indicators subscale were analyzed separately.

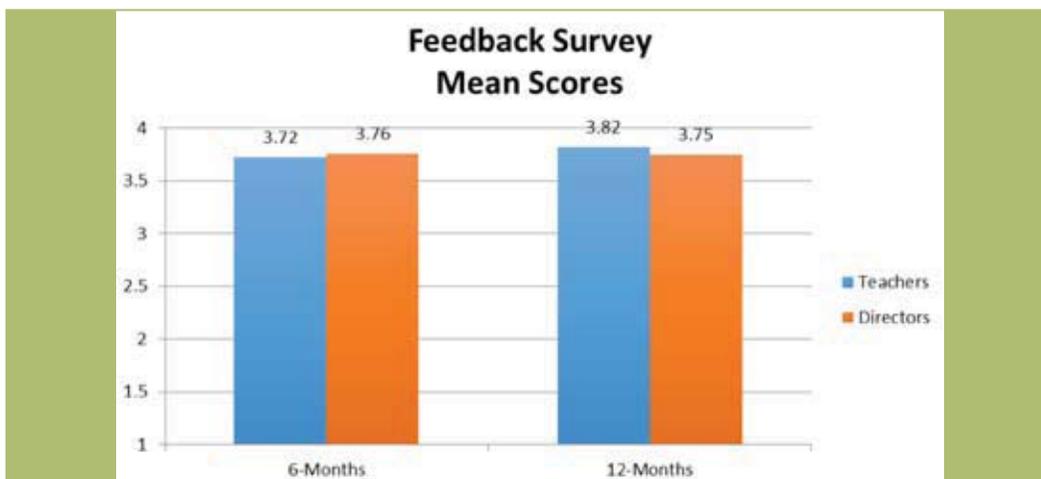


The effective sample size for this time series analysis of repeated measures was 1,028. Total Mean PMHCS scores (not including ‘Negative’ Indicators) were significantly different between time points [$F(1.86, 1446)=69.17, p < .0001$]. A significant and positive quadratic trend was found in the within-subjects polynomial contrast for Total Mean PMHCS scores with scores increasing over time from T1 to T2 and stabilizing at T3 [$F(1, 779)=296.91, p < .0001$]. For the PMHCS Negative Indicators subscale, there was a significant difference between time points [$F(1.87, 1457)=99.36, p < .0001$] and a significant negative linear trend with scores decreasing from T1 to T2 to T3 [$F(1, 779)=42.24, p = .02$]. These significant changes in classroom climate and teacher practices occurred in the hypothesized and expected directions.



Research Question 2: How did child care teachers and directors rate their satisfaction with Smart Support services?

After six months of working with their Smart Support mental health consultant, participants (teachers and directors) were asked to complete a Feedback Survey (adapted from Green, Everhart, Gordon, & Garcia-Gettman, 2006). The same feedback survey was completed again at 12 months and when/if Smart Support services were ended with a program. The Feedback Survey contained nine items that were rated on a scale of 1 (strongly disagree) to 4 (strongly agree). There were also two open-ended items (salient themes presented below). Examples of the close-ended items included: “I have a good relationship with the mental health consultant;” “Our mental health consultation services help children with challenging behaviors.” Wording on the Director Feedback Survey were slightly changed. In order to reduce response bias upon completion of feedback surveys, participants placed their surveys in a sealed envelope, so their consultants could not view them. (Please see Appendix G for a sample of Smart Support’s Feedback Survey). Descriptive data from these scores are presented in this chart.



We were also curious to discover whether participants' ratings of their experiences with Smart Support were associated with growth on key outcomes. We found the following patterns:

TEACHERS who gave higher ratings on their Feedback Surveys, also:

- Had higher increases on teacher-child closeness scores ($r = .20, p < .01$);
- Had more decreases on teacher-child conflict scores; ($r = -.16, p < .05$);
- Had higher increases on their Preschool Mental Health Climate Scale scores ($r = -.12, p < .01$).

On the Feedback Survey teachers and directors were also asked what Smart Support could do to improve mental health consultation services. Common themes are presented below in order of most salient.

Top 3 Feedback Themes from Directors and Teachers:

- We don't have any suggestions for change – I am are very happy with our consultants;
- Would like to see our consultant more days a week, and for longer sessions, serve more classrooms, more children;
- More involvement and collaboration with families;

Other feedback themes (less salient)

- More direct intervention with individual focus children;
- More modeling in the classroom and provide more concrete strategies for teachers;
- More communication with director and teacher to make sure teachers are implementing action plans;
- Provide a website with more resources that we can access on our own.



Consultant Feedback: Relationships with Teachers

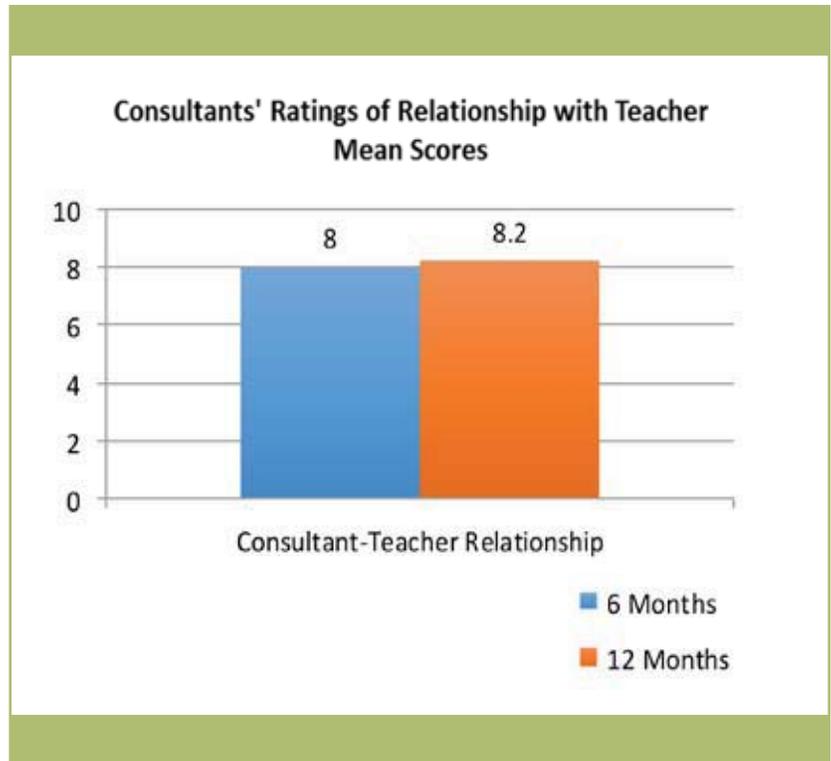
We asked Smart Support mental health consultants to provide ratings of their relationships with teachers on a 3-item subscale, which was embedded in a larger Consultant Feedback Survey¹⁸. The chart below illustrates consultants' ratings at various time points. Overall, there was a slight upward trend in consultants' ratings over time.

We also hypothesized that higher ratings of consultant-teacher relationships might be associated with growth on key outcome performance measures. We conducted bi-variate Pearson's Moment Correlations and found several significant trends.

Consultants' higher ratings of **Consultant-Teacher Relationships** were associated with growth on these key outcomes:

- Children's increases in Self-Regulation; Attachment and Initiative;
- Increases in teacher-child Closeness;
- Decreases in teacher-child Conflict;
- Increases in Preschool Mental Health Climate.

The findings indicate that child-level and teacher-child relationship-level outcomes were more likely to increase when consultants and teachers were constructing positive relationships with one another. This trend supports a widely-held recognition that the quality of the relationship between and among consultants and consultees is an essential element in achieving positive outcomes and serves as a catalyst for success (Duran et al., 2009; Johnston & Brinamen, 2006).



Increasing attention is being paid to the quality of young children's early experiences in out of home settings. Policy makers around the world are aiming to build and strengthen systems of care that are responsive to the compelling research that links high quality early care and education experiences with children's concurrent and longitudinal developmental outcomes (Goldstein, Lombardi, & Schumacher, 2006). A growing field of strong evidence is emerging that interventions aimed at supporting young children's social-emotional growth and mental health in early care and education settings can reduce expulsion due to behavior problems, decrease challenging behavior, and increase children's social-emotional competence (Brennan et al., 2006; Duran et al., 2006; Gilliam, 2014; Hepburn et al., 2013; Perry, Holland, Darling-Kuria, & Nadiv, 2011). As a result, Infant and Early Childhood Mental Health Consultation (I/

¹⁸Please contact the author of this report for more information about consultant-teacher relationship rating and other consultant feedback items.



Discussion

ECMHC) systems are growing in their capacity to serve more children and families, and more and more states around the country are funding these systems.

In 2010, Arizona's early childhood development and health system, First Things First, provided funding for its own I/ECMHC system, known as Smart Support. Smart Support's mission is to provide quality mental health consultation to early care and education providers keeping two main goals in mind. The first is to improve the overall quality of early care and education settings so that they are able to support the social and emotional development of all children in their care. The second goal is to increase the capacity of early care providers to address the mental health needs and challenging behaviors that place particular children at risk for negative outcomes in the early years of life and beyond.

Our goal for this study was to pilot an evaluation that met several objectives: 1) to determine whether Smart Support is meeting its stated objectives; 2) to inform the program's ongoing design and implementation; 3) add to the field of literature on effective strategies for infant and early childhood mental health consultation; and 4) provide findings that could guide Arizona and other states' efforts to build a comprehensive system of quality enhancement initiatives for the entire continuum of child care providers. Over the past four years, the Smart Support team worked in partnership with Indigo Cultural Center¹⁹ to collect a large sample of data with multiple time points and with multiple respondents and measures that correspond to Smart Support's theory of change and different levels of the program model. The results reported in this present report represent only a portion of findings that are possible with this dataset. Over the next several months and years, Indigo Cultural Center, Southwest Human Development, and our partners at Georgetown University, will continue to publish and disseminate findings that can help inform policy and practice.



Highlighted Findings

The data from this evaluation presents compelling evidence that the Smart Support program was a success as measured by high participation rates, statistically significant increases on all of the key evaluation outcome measures, and overwhelming positive feedback from teachers and directors. Key findings are summarized below.

Increases in Key Quality Outcomes

We found statistically significant growth on all of our key evaluation outcome measures:

- Classroom mental health climate (negative indicators decreased),
- Teacher self-efficacy increased (hopelessness decreased);
- Teacher-child relationships (closeness increased; conflict decreased),
- Children's self-regulation;
- Children's attachment
- Children's initiative;
- Children's risk of expulsion (decreased over time);
- Teachers' negative attributions of individual children (decreased over time).

In general, we found that teachers (and children) made improvements overall from baseline to the 12-month period; however, within that 12-month timeframe for most of our outcomes, we saw steep improvement from baseline to the six-month time point, with less pronounced growth and stabilization from the six-month to the twelve-month time

¹⁹Please visit www.indigoculturalcenter.org for more information regarding Indigo Cultural Center.





Highlighted Findings

point. These findings indicate that significant change was made in the beginning six months of Smart Support and then sustained over the second six-month period. Implementation science literature describes this process as a successful component of the ‘initial implementation stage’ (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005).

However, since the ideal cycle of implementation also involves continuous improvement, the stabilization of outcome scores over time begs the following questions – based on theory that undergirds I/ECMHC, would we expect these particular outcomes to continue to improve over time (Duran et al., 2009)? Are there distinct phases of I/ECMHC implementation with concomitant outcomes that can be measured? Are there particular characteristics of teachers and/or children that continue to change from six months to twelve months? Are there characteristics of ECE programs and classrooms that predict whether significant change is seen in the second six-month period? Indeed, the psychotherapy literature has long contended that there are factors (e.g., clients with acute vs. chronic problems) that influence whether client improvement plateaus after the initial phase of intervention or continues to grow (Fago, 1980; Gelso, 1976; Johnson & Gelso, 1980). Additionally, it is widely recognized in the implementation science literature that implementation may not always move linearly. Similarly, might we expect that the trajectory of change over time might be a non-linear event (Fixen et al., 2005)? The Smart Support data reported here are only the beginning of many subsequent analyses that will be conducted, in collaboration with Georgetown University and The RAINE Group, in order to explore answers to these questions and more. Refining our answers to some of these questions will likely have implications for program design and I/ECMHC dosage guidelines.

Feedback from Participants and Consultants

Participants’ responses to the Smart Support program were overwhelmingly positive. Average feedback and satisfaction scores averaged 3.76 out of a possible 4.00 – with teacher scores increasing over time, and director scores staying stable and high. This positive feedback was reflected in the significant changes demonstrated in the key outcomes. Participants who rated the Smart Support program more favorably tended to experience more growth in several of the key outcomes (e.g., teacher-child relationships; preschool mental health climate).



Participants’ top three suggestions for enhancement included:

- 1) Do not change anything! Satisfied with Smart Support as it currently is.
- 2) Requesting an **expansion of consultation services** at their site (e.g., more time with consultant; consultant in more classrooms; serving more children); and
- 3) Suggesting that consultants **engage, train and meet with families** more often (Smart Support’s model calls for enhancing teacher and directors’ capacity and meeting with families to inform and support child-focused consultation versus working directly with families for treatment).

Consultants also rated their experiences with teachers and programs. Findings suggest that when they rated stronger relationships with teachers, there was more growth on key indicators such as teacher-child relationships and mental health climate in classrooms. These findings are supported by the literature, which places quality consultant-teacher relationships at the heart of successful consultation (Duran et al., 2009; Johnston & Brinamen, 2006).



Implications for Program Design and Implementation

Based on the key findings from this evaluation, the following recommendations are suggested:

- Most of the growth of key outcomes over three time points happens between baseline and six months, then there is stabilization from six months to 12 months. It will be important to explore more fully who (which programs and teachers, and under which conditions of consultation) is continuing to improve and why. Are there implications for dosage over time? Based on what is discovered in future analyses, is there a possibility of designing different dosage models based on EOE program/teacher/child characteristics? However, there must be a balance with the predominance of directors and teachers' feedback asking for more consultation.
- Increase consultants' capacity to work and engage more with directors and child care administration. Position director engagement and consultation with directors to be more central to program design. Provide Smart Support consultants with more training and support in this area. Also consider adding tools and other resources for consultants to assess and guide programmatic consultation (e.g., director perceptions of organizational quality; quality of staff relationships; admin/staff relationships with parents; staff morale; turnover; etc.)
- Develop additional methods for tracking changes in expulsion, disenrollment, and suspension and more importantly— increase consultants' capacity to impact expulsion and suspension policies with child care teachers and administrators.
- Our pilot and adaptation of the Working Model Child Interview and evaluation strategy of analyzing teachers' negative attributions about focus children was sensitive to change over time. Spend some time more fully understanding what aspects of mental health consultation are connected with teachers' negative attributions regarding focus children (e.g., WMCI). Do these findings have additional implications for Smart Support's theory of change?



Policy Considerations

Continue to explore possibilities of integrating mental health consultation in all child-serving systems, including early intervention, early care and education, and special education. For example, as Arizona's Quality Rating and Improvement System, Quality First, is embarking upon a comprehensive validation study, it will be important to track how mental health consultation is enhancing and leveraging a program's ability to increase their Quality First rating – especially with increased cross-training and peer- to-peer training involving a targeted push to help other quality improvement partners understand I/ECMHC principles (e.g., trauma-informed practice; consultative stance; etc.) through recent collaborative conversations and professional development opportunities.

Support I/ECMHC workforce development. Policymakers and funders should promote efforts that will expand the pool of qualified mental health consultants. For example, policymakers and funders should help to standardize mental health consultant competencies and support adoption of those qualifications across I/ECMHC programs.

Integrate professional development infrastructure to encourage collaboration across child care technical assistance providers (e.g., quality coaches; inclusion coaches; and other therapists that work directly with children and families). This would include providing opportunities and policies that promote cross-trainings; peer support; team collaborations; etc.

Use expulsion and intervention data to promote racial equity in systems building. Recent data indicate that there are troubling racial and gender disparities in preschool suspension and expulsion rates, with young boys of color being suspended and expelled much more frequently than other children. As I/ECMHC continues to emerge as a promising intervention strategy to reduce these disparities, it will be important for states and programs to track whether disparities are – in fact – being impacted. One important component of conducting an equity policy analysis involves disaggregating data by race, examining where the gaps are, and revising policy and practice to address gaps and disparities.

Additional Research and Evaluation Considerations

Continue to refine measurement approach. Identify appropriate and valid measures (including those that address fidelity). Where is there need for development of new tools? For example, how can we improve our ability to capture changes in expulsion and suspension rates and track the implementation of improved expulsion and suspension policies?

Use the existing Smart Support dataset to explore the predictors of change over time. Are there groups of children or teachers who benefit more significantly – or in different ways – than other groups of participants?

Disaggregate I/ECMHC data by race to explore whether there are disparities in outcomes, patterns of participation, and differences in teacher beliefs and practices.

Continue to explore and measure the role of directors and child care administrators – using mixed methods.

Explore and measure readiness for change. How does it fit into our theories of change? How does it mediate the impact of I/ECMHC services?



Conclusion

Evidence-based models from around the country heavily influenced the design and delivery of the Smart Support Infant/Early Childhood Mental Health Consultation program. Our positive findings on each and every key outcome is a testament to the comprehensive and coordinated nature of the emerging I/ECMHC field. These findings provide compelling evidence that the investment First Things First Regional Partnership Councils have made in supporting child care mental health consultation is paying off. Throughout the past four years, Arizona has emerged as a leading voice in informing national and federal policy agendas related to the importance of mental health consultation in early care and education programs. With further integration of mental health consultation in Arizona's early childhood system, and continued funding of this initiative, Southwest Human Development can continue to enhance the efficacy of Smart Support services, and establish long-term sustainability for this emerging evidence-based practice.



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APPENDIX A

RAINE Group Participants and Background²⁰

The RAINE Group – Advancing Infant and Early Childhood Mental Health Consultation Practice, Policy and Research.

Alison Steier, PhD
Southwest Human Development
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Nikki Conners-Burrow, PhD
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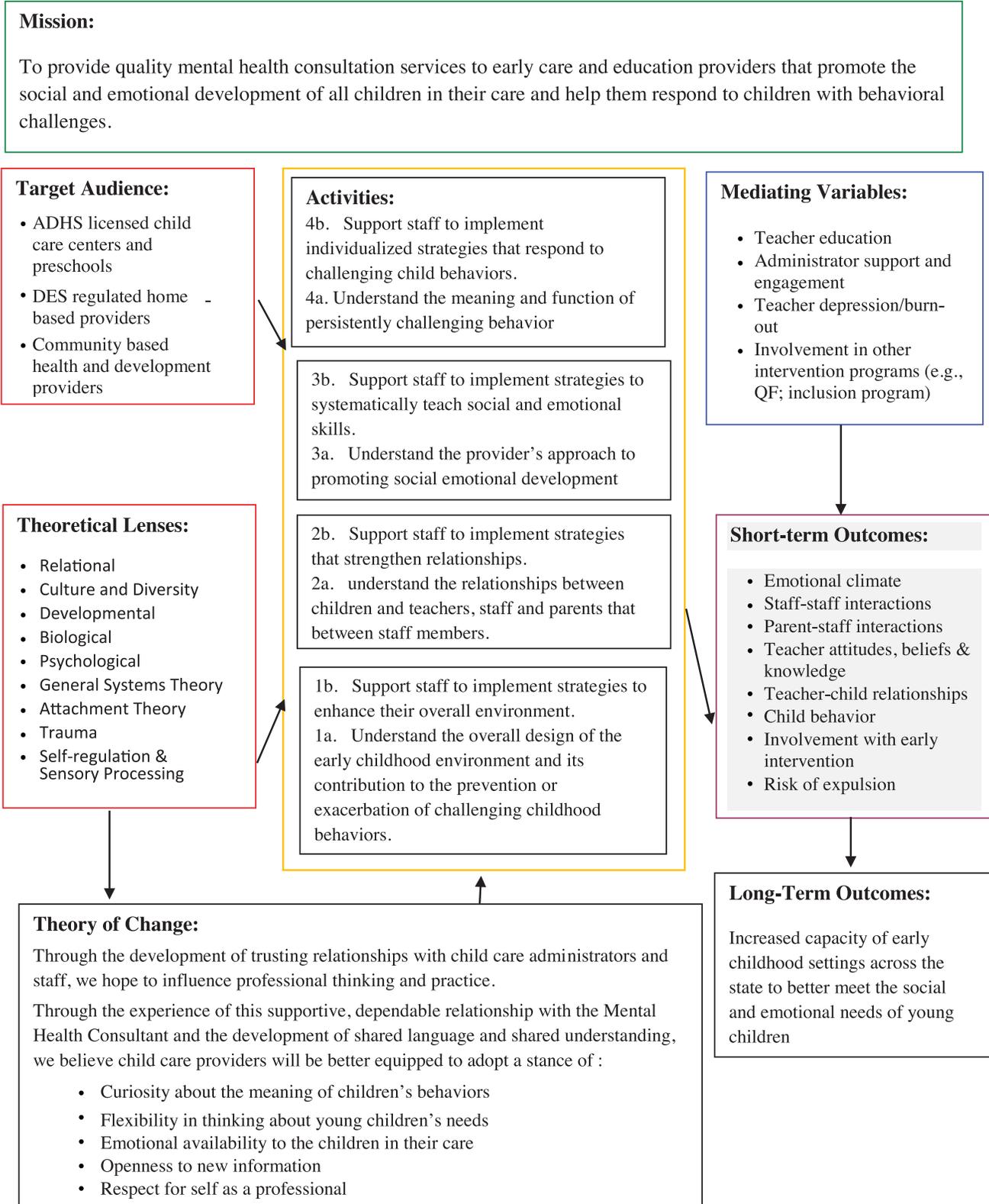
The RAINE Group is sponsored and convened by Southwest Human Development.



²⁰For more information about The RAINE Group, please contact Dr. Alison Steier at asteier@swhd.org.

APPENDIX B

Smart Support Logic Model



APPENDIX C

Program Characteristics

TABLE 39: NUMBER OF CHILDREN RECEIVING DES CHILD CARE SUBSIDY

	Minimum	Maximum	Mean	Std. Deviation
Average number of children per center who receive DES subsidy	0	125	18.60	23.04

TABLE 40: PROGRAMS WITH CHILDREN WHOSE PRIMARY LANGUAGE IS NOT ENGLISH

	Frequency	Percent
Spanish	213	55.5%
Native American	33	8.5%
Other languages	138	36%
Total	384	100%

TABLE 41: PRIMARY LANGUAGE USED FOR INSTRUCTION

	Frequency	Percent
English	176	97%
Spanish	1	.5%
Both	2	1%
Other	3	1.5%
Total	182	100%

TABLE 42: AVERAGE PERCENTAGE OF ETHNIC GROUPS IN CHILD CARE PROGRAMS

	Minimum	Maximum	Mean	Std. Deviation
% Native American children	0	100	2.15	6.29
% Asian children	0	44	1.78	4.55
% African American children	0	140	9.05	15.20
% Hawai'ian children	0	92	1.35	7.87
% White children	0	100	42.63	33.50
% Latino children	0	100	21.54	24.66
% Multi-racial / Multi-ethnic children	0	80	5.04	9.88
% Other	0	66	1.73	5.49

APPENDIX D

Child Care Director / Administrator Characteristics

TABLE 43: BACHELOR'S DEGREE

	Frequency	Percent
No	284	57%
Yes	211	43%
Total	495	100%

TABLE 44: MASTER'S DEGREE

	Frequency	Percent
No	410	83%
Yes	85	17%
Total	495	100%

TABLE 45: EARLY CHILDHOOD EDUCATION COLLEGE HOURS

	Minimum	Maximum	Mean	Std. Deviation
ECE semester hours	0	90	45.02	74.47
Management Coursework (in hours)	0	200	70.79	167.64

TABLE 46: CHILD CARE ADMINISTRATION AND MANAGEMENT EXPERIENCE

	Minimum	Maximum	Mean	Std. Deviation
Management experience time 1 (in years)	0	45	11.35	8.46



APPENDIX E

Teacher Characteristics

TABLE 47: NUMBER OF CHILDREN IN HOME OR CLASSROOM

	Minimum	Maximum	Mean	Std. Deviation
How many children are in your classroom?	2	45	15.49	6.20

TABLE 48: WHAT AGE OF CHILDREN DO YOU CURRENTLY CARE FOR IN YOUR HOME OR CLASSROOM?

	Frequency	Percent
0-12 mo	7	1%
13-18 mo	10	1.3%
18-24 mo	56	7.2%
2 & 3 yr olds	122	16%
3 year olds	64	8.2%
3 & 4 yr olds	168	21.6%
4 yr olds	30	3.8%
4 & 5 yr olds	185	23.8%
3-5 yr olds	118	15%
5-6 yr olds	2	.3%
Mixed age – home based	14	1.8%
Total	776	100%



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APPENDIX F

Working Model Child Interview – Negativity Codes

**WORKING MODEL CHILD INTERVIEW ‘NEGATIVITY’ SCALE -
ADAPTED FROM SCHECTER ET AL.’S MATERNAL ATTRIBUTION RATING SCALE**

1 Strongly Positive	Words that would be categorized as strongly positive are associated with the highest degree of positive emotion. They suggest that caregiver attributes warm feelings towards the focus child.
2 Positive	These words are lacking the warm and emotional feelings that are attached to those words that we would categorize as “strongly positive.” While they convey a positive connotation, these words suggest more a way of being rather than an emotional attribute.
3 Neutral	These words have neither positive nor negative connotations attached to them. They include physical descriptors and words or phrases, which do not convey any emotion, such as those that describe actions or behavior, not necessarily personality of the focus child.
4 Negative	Words and phrases that attach a negative valence to characteristics typical of a small child. Rather than see focus child as “dependent,” caregiver sees focus child as “needy.” Words suggest caregiver’s inability to understand appropriate behavior of a young child and usually suggest frustration and irritation at child’s actions and temperament.
5 Very Negative	These words do not allow for any positive interpretation. Caregiver places fault and responsibility on focus child and they suggest a strong negativity in judgment and expectation of focus child. These words demonstrate a hostile, aggressive, and violent nature to the focus child’s personality.



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APPENDIX G

Teacher Feedback Survey

Center Name _____

Date _____

Teacher Name _____

Consultant Name _____

Teacher Smart Support Satisfaction Survey

Instructions: The following questions ask about the work that you are doing with an early childhood mental health consultant (MHC). **If you work with more than one consultant, please think about their overall characteristics and how the consultants, on average, work with you and your program.**

	Instructions: Please answer these questions by circling 1 if you <i>strongly</i> disagree with the statement, 2 if you <i>somewhat</i> disagree with the statement, 3 if you <i>somewhat</i> agree with the statement, and 4 if you <i>strongly</i> agree with the statement.	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
1.	I have a good relationship with the MHC(s).	1	2	3	4
2.	Our MHC demonstrated respectful awareness of the unique cultural diversity in our community.	1	2	3	4
3.	Our MHC was comfortable to talk with.	1	2	3	4
4.	Our MHC was not disruptive to our daily operations (I could still attend to the children in their classroom, and other responsibilities).	1	2	3	4
5.	Our program’s mental health consultation services have improved the quality of my classroom environment.	1	2	3	4
6.	Our mental health consultation services help children with challenging behaviors.	1	2	3	4
7.	Our mental health consultation services help families know how to cope with children’s challenging behaviors.	1	2	3	4
8.	Our mental health consultation services help staff to feel less stress.	1	2	3	4
9.	Our mental health consultation services and approach are in need of improvement.	4	3	2	1

APPENDIX G

Teacher Feedback Survey

10. What does your mental health consultant do that is most helpful for children and families?

11. What suggestions do you have to improve the quality of mental health consultation that your program currently receives?

Adapted from the *Mental Health Services Survey*, Green, B. L., Everhart, M., Gordon, L., & Garcia-Gettman, M. (2006). Characteristics of effective mental health consultation in early childhood settings: Multi-level analysis of a national survey. *Topics in Early Childhood Special Education* (26:3), 142-152 (suggested citation).

Adapted from Parsons, R.D. & Meyers, J. (1984). *Developing consultation skills*. San Francisco: Jossey-Bass.





