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## RESEARCH-ARTICLE

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### Supporting Family Engagement with Parents of Infants and Toddlers

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Engaging families of preschool children in partnerships with early childcare providers includes, among other activities, engaging in meaningful conversation, linking parents to needed services, and supporting parents as they capitalize on family protective factors. Early childhood programs struggle to implement systematic processes to support teachers in engaging families and documenting the interactions. This report summarizes the development and implementation of a tool designed to facilitate family engagement with childcare. The study targets a rural, multi-center agency serving Early Head Start families using an inventory called The Family Map. This report provides evidence of the feasibility of implementation, the reliability, and validity of the screening questions, and the range of risk and strengths identified in Early Head Start families served.

The parenting environment is a key determinate in the healthy development of infants and toddlers (e.g., Bradley, 1999, 2007), even for children who are spending substantial time in center based care away from home (Shonkoff & Phillips, 2000). For over 30 years, research has identified key family and home characteristics that place young children at risk for achieving age-appropriate social, emotional, and cognitive skills (e.g., Evans, 2004; Bradley, 2002). Some risks to child development in the home and parenting environment are pervasive and difficult to change, (e.g. living in poverty, Bradley & Whiteside-Mansell, 1997; Votruba-Drzal, Coley, & Chase-Lansdale, 2004). Other risks are more malleable; making them amenable to services for the child, education for the parent, or support for the family. For example, children are thought to be at risk when they lack learning materials, experience harsh parenting, or lack supervision

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(Bradley, 2007). Regardless, high quality childcare programs can serve to protect children from risks found in the home environment (Shonkoff, & Phillips, 2000). Childcare providers may do this more effectively when the specific risks in the home are identified (Whiteside-Mansell, Bradley, McKelvey, & Lopez, 2009). In this paper, we describe the development of the Infant-Toddler Family Map, an inventory designed to facilitate conversation between childcare providers and parents with the goals of identifying family risks and strengths specific for each family. We report on the use of the Infant-Toddler Family Map as part of a system imbedded into a multi-site Head Start program to engage families, document engagement, and support the family-childcare partnership. Below we briefly review the literature that points to the need for such a tool and then summarize the specific objectives of our study.

### Risk and Protective Factors in Families in Poverty

The chance of harm to children substantially increases as children experience more risk factors. That is, while reductions in exposure to individual risks are important, the reduction in the number of risks present in a child's environment is also important based on cumulative risk theory (Burchinal, Roberts, Hooper, & Zeisel, 2000). The Head Start Bureau's Family and Child Experience Survey (FACES) found that parents from families with four or more risk factors were more depressed and reported less social support (U.S. Dept of Health and Human Services, 2003). Children from these families were reported to have more problem behaviors and significantly lower scores on measures of early literacy and cognitive functioning.

Positive parenting is important for children with multiple risk factors because it has been found to provide a buffering effect in the presence of risk. For example, research on child development during early childhood has also shown that when parents provide structure and routines, warm and nurturing care, and read with their children, they are setting the stage for successful learners (Bradley, 2007). These parenting actions serve as protective factors. Other known protective factors include (but are not limited to): two healthy parents; parenting characterized by warmth, responsiveness, engagement, support, consistency and stimulation; monitoring for child safety; and availability of learning materials in the home (Bradley, et.al, 1994). Positive parenting is associated with the development of cognitive skills and positive behavior in children (e.g., Connell, & Prinz, 2002; Treyvaud, Anderson, Howard, et al, 2009).

While positive parenting is seen in families of all income levels, parents living in poverty are more likely to face stressors that make parenting more challenging. Individuals in poverty face more negative life events and have fewer resources to cope. These stressors can create psychological distress and tap emotional resources. Parenting under these circumstances becomes difficult, and is associated with less protective parenting behaviors (see summary in Shonkoff & Phillips, 2000). Co-factors of poverty such as parental depression and other mental illness, high family conflict, low social support, and low education often result in chronic adversity and stress (Bradley & Whiteside-Mansell, 1997). Children in poverty are also less likely to experience a high quality home learning environment, and studies have shown this accounts for a major part of the gap in test scores for high and low income preschool children (Ackerman, Brown, & Kail, 2006). While parents in poverty face many challenges raising their children, it is also unfortunately a basic reality that they have less access to information specific to parenting. The same co-factors that make parenting difficult are likely to also impede the

ability of parents to attend traditional parenting education classes or obtain information through other means.

Supporting families to provide a high quality home environment is a hallmark objective of high quality early childcare programs (U.S. Department of Health and Human Services, 2011). Helping families draw on their strengths and find support to improve areas that may put the child at risk for poor development is always a challenge and often strains the resources of provider agencies (Espe-Sherwindt, 2008). Key to this activity is the development of parent-caregiver relationships so that productive partnerships are established and maintained (U.S. Department of Health and Human Services, 2011). However, developing these important relationships can be a challenge for all involved.

### The Challenge of Parent-Teacher Communication

Parent-caregiver communication forms the foundation for the important link between home and childcare contexts to shape children's development. This link is important for both parents and caregivers to provide supportive and sensitive care to the child (Elicker & Fortner-Wood, 1995). The need for a strong connection between the multiple contexts in which children function has long been considered important and this deficit has influenced standards of professional practice (Bronfenbrenner, 1979).

Often the engagement of parents depends upon the degree of caregiver-initiation (Halgunseth & Peterson, 2009). The primary factor in quality parent communication is teacher outreach, even beyond parental socioeconomic status or race (Patrikakou & Weissberg, 2000). When teachers keep parents informed and provide parents with support to help their children, parents view teachers as partners (Patrikakou & Weissberg, 2000). However, teachers' have consistently been found to give negative evaluations of parents' competence (Manlove, 2001; Galinski, 1990). Further, most preschool teacher-parent communication is narrow in content (Shpancer, 2002) and avoids important topics such as child rearing practices and challenges the family may be facing. In general, the research suggests that teachers need both guidance and training to increase the frequency and quality of parent-teacher conversations to tackle sensitive child-rearing and family issues.

Meeting the challenge of supporting families to reduce risks for children means that program staff must be able to efficiently and systematically assess the family and home environment in ways that can lead to successful engagement with the family. Specifically, teachers and parents must talk about the family needs so that teachers can link families with the resources, information, and services most important for their child and so that parents can identify meaningful family goals (Henderson, & Mapp, 2002). In general, teachers are hesitant to begin this conversation resulting in programs searching for a 'form' to begin the conversation (Shpancer, 2002). For most concerns in the home environment to be assessed, the problem is not one of a lack of reliable and valid evaluation tools. Rather the problem is one of too many tools that are deficit based, overlapping in content, and difficult to integrate into a meaningful protocol for early childhood teachers and family support staff to use.

An effective system to facilitate meaningful family engagement would be one that a) systematically connects the parent and teacher on key aspects of the home environment, b) these aspects of the home are linked to healthy child development, c) guides the teacher to appropriate services, d) documents the past and current family goals and progress, and e) identifies potential

protective factors in the home environment. This exchange should be bi-directional and encourage communication that is respectful, and focuses on key information about areas of family life critical to healthy child development. The bi-directional conversation should encourage staff to collaborate with parents to identify important goals with mutual respect. The system should recognize that family members have unique insight into the history of experiences and family challenges, while the childcare providers may have access to knowledge and resources that are not easily available to parents. Past models of family engagement viewed this partnership as primarily parent-initiated; however, many, including the Office of Head Start’s National Center on Parent, Family, and Community Engagement (NCPFCE), recognize the role of programs to engage and involve parents in partnership with childcare professionals (U.S. Department of Health and Human Services, 2011).

### The Family Map Inventories

There are three Family Map Inventories: Prenatal, Infant Toddler (IT-FM, birth to 3 yrs.), and Early Childhood (EC-Family Map, 3 to 5 yrs.). As seen in Table 1, questions on the Infant Toddler Family Map, like the other versions, are clustered into three broad areas covering twelve domains: (1) physical and social conditions that children experience directly, (2) family climate/context, and (3) parental characteristics. The rationale for the inclusion of construct domains in the EC-Family Map has been described in a previous study (Whiteside-Mansell, et al., 2007). The IT-FM builds on the EC-FAMILY Map with adjustments made for the younger target age. The Family Map questions are scored using structured, observation, and semi-structured questions; although most information is obtained from structured interview.

TABLE 1  
Percentage of Families at Risk and Validity Summary based on Infant Toddler Family Map  
Based on Teacher Interview

Family Map Construct	Initial Source <sup>a</sup>	# of Questions	Risk	$\alpha$
Area 1 Physical/Social Conditions			N = 72	
1) Basic Needs				
Utilities	Fragile Families	1	9.70%	
Rent and other monthly bills	& EHS	1	15.30%	
Health Care Expenses	“	1	8.30%	
Transportation	“	1	7.00%	
Legal Involvement	IT-Study	3	16.70%	
Housing Instability	EHS	2	18.10%	
Expected Future Needs	EC-Study	2	20.80%	
Food Quantity	Insecurity/Nord	2	12.50%	
Infant Feeding Practices <sup>b</sup>	IT-Study	2	42.30%	
Food Quality <sup>b</sup>	Head Start Intake	9	91.50%	
Communication (ESL) <sup>b</sup>	Ramos & Mendez	4	14.30%	
Parent - Education	EHSRE	4	37.10%	
Parent - Employment	“	4	38.60%	
Partner/Other - Education <sup>b</sup>	“	6	59.30%	

Partner/Other - Employment <sup>b</sup>	“	3	14.30%
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TABLE 1, cont'd.

Percentage of Families at Risk and Validity Summary based on Infant Toddler Family Map  
Based on Teacher Interview

Family Map Construct	Initial Source <sup>a</sup>	# of Questions	Risk	$\alpha$
2) Safety - Home & Car				
Vehicle Safety	EHSRE	4	25.40%	
Secondhand Smoke	FACES, &	2	34.70%	
Fire Safety	HUD Healthy	2	13.90%	
Lead Paint Screen	IT-Study	1	11.40%	
Injury or Accident	Homes Checklist	10	37.50%	
Poison Accessibility	“	5	42.90%	
Baby Sleep Safety	IT-Study	5	40.30%	
Baby Concerns <sup>c</sup>	HOME	2	2.50%	
3) Physical Health				
Pregnant	EC-Study	1	2.90%	
<u>Child</u> Health Care Use	National Survey	3	7.00%	
Health Care Access	Children's Health	1	0.00%	
Chronic Condition Exist	“	1	10.50%	
Chronic Treatment Need	“	1	0.00%	
Caregiver Care Access	“	1	39.40%	
Chronic Condition Exist	“	1	9.20%	
Chronic Treatment Need	“	1	0.00%	
Lack of Sleep	BRFSS	1	32.40%	
Lack of Activity	“	1	47.20%	
Other Adult Health	EC-Study	1	4.40%	
Other Adult Treatment Need	“	1	10.50%	
4) Early Learning				
Availability Learning Materials	HOME	6	34.80%	0.79
Read to child	FACES	3	7.30%	
Supportive Play	“	5	2.80%	0.69
Supportive Learning	HOME	4	52.10%	0.80
Variety of Experience	“	8	1.40%	
5) Discipline Practices				
Excessive Punishment	EHSRE,	1	1.50%	
Inconsistent	FACES, &	3	0.00%	
Harsh Discipline	PDMI	4	37.70%	
Parental Warmth <sup>b,c</sup>	PICCOLO	8	10.40%	0.90
6) Routines				
Nighttime Lodging Shifts	EHSRE	2	13.00%	
Daily Activities	Brody & Flor	4	10.00%	
Child Adequate Sleep	Davis/Montgomery	2	76.20%	
TV Content	Connors et al.	4	62.90%	
Amount of TV	FACES	1	20.00%	
Parent/other Separation	IT-Study	4	12.00%	

Physical Organization <sup>c</sup>	HOME	3	5.00%	_____
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(Continue)

TABLE 1, cont'd.

Percentage of Families at Risk and Validity Summary based on Infant Toddler Family Map  
Based on Teacher Interview

Family Map Construct	Initial Source <sup>a</sup>	# of Questions	Risk	$\alpha$
7) Surveillance				
Daily Monitoring	EC-Study	4	71.80%	
Childcare Needs	“	5	28.60%	
8) Social Integration				
Social Support	MSSS	5	29.20%	0.68
Social Integration	IHDP	4	1.40%	
Caregiver HS Integration	EC-Study	3	2.80%	
Father HS Integration	“	2	44.90%	
Area 2 Family Climate/Context				
9) Exposure to Violence				
Neighborhood Safety	FastTrack	5	26.40%	0.74
Exposure	EHSRE	4	2.80%	
10) Family Cohesion/Conflict				
Parenting Stress	PSI, AAPI	7	21.10%	0.76
Conflict w/ Co-Parent	EC-Study	3	9.80%	
Family Conflict	FES/FACES	2	7.30%	
Family Cohesion	“	2	21.70%	
Area 3 Parental Characteristics				
11) Alcohol/Drug Use				
Caregiver Use	CAGE	5	1.40%	
Friend/Family Use	RAFFT	2	15.30%	
Use Impact Parenting	EC-Study	1	1.80%	
12) Caregiver Mental Health				
Depression	PHQ 9	2	18.10%	
Hostility	BSI/GAD-7	2	38.90%	
Anxiety	“	3	11.10%	
Impact Parenting <sup>c</sup>	EC-Study	1	5.40%	

<sup>a</sup> The sample size varies from 69 to 72 except where skip patterns reduced sample. <sup>b</sup> Skip pattern reduced sample for Infant Feeding ( $n = 26$ ), Food Quality ( $n = 57$ ), Communication Barriers ( $n = 14$ ), Partner Education/Employment ( $n = 28$ ), Warmth ( $n = 48$ ). <sup>c</sup> Observational items

*Note:* AAPI (Adult-Adolescent Parenting Inventory, Bavolek & Keene, 1999); BRFSS (Center for Disease Control and Prevention, Behavioral Risk Factor Surveillance System); Bavolek, & Keene (1999); Brody, & Flor (1997); BSI (Brief Symptom Inventory, Derogatis, 1992); CAGE (Bisson, Nadeau, & Demers, 1999; Ewing, 1984); Conners, Tripathi, Clubb, & Bradley, 2007); Davis, Parker & Montgomery, 2004); EHSRE - Early Head Start Research and Evaluation Project); FACES - Head Start Family and Child Experiences Survey (US DHHS, 2003); FastTrack: Neighborhood items used in FastTrack and NICHD Study of Early Childcare studies. (Greenberg & Lengua, 1995); FES (Family Environment Scale, Moos, & Moos, 1984); Food Security (Bickel, Nord, Price, Hamilton, & Cook 2000); Fragile Families and Child Wellbeing Study); GAD-7 (Spitzer, Williams, Kroenke, et al., 2006); Healthy Homes Checklist; US DHHS, 1991); HOME (Home Observation for Measurement of the Environment; Bradley,

Mundfrom, Whiteside, Casey, & Barrett, 1994; Caldwell, & Bradley, 1984); IHDP – Infant Health and Development Program, McCarton, et al, 1997; Jensen, James, Boyce, & Hartnett, 1983); MSSS (MOS Social Support Survey, Sherbourne, & Stewart, 1991); National Survey of Children’s Health (Ogden, 1998); PDMI (Parental Discipline Methods Interview, Webster-Stratton, & Spitzer, 1991); PHQ 9 (Patient Health Questionnaire, Kroenke, Spitzer, & Williams, 2001); PICCOLO (Parenting Interactions with Children: Checklist of Observations Linked to Outcomes, Roggman, Innocenti, Cook, Jump, & Akers, 2007); PSI (Parenting Stress Index, Abidin, 1990); RAFFT (Relax, Alone, Family Friends, Trouble; Bastiaens, Francis, & Lewis, 2000); Ramos, & Mendez, 2004; EC-Study: Created in the development of the EC-Family Map; IT-Study: Created in the development of the IT-Family Map.

The Family Map Inventories (FM Inventories) were designed to support teachers in the initiation of communication, screen the parenting environment for important risks to healthy child development and strengths the family can build on, and support the parent-teacher partnership with on-going high quality communication (Whiteside-Mansell, et al., 2007). The FM Inventories were developed to direct teachers into discussions with parents on topics relevant to the needs of the family. The FM Inventories may also help teachers identify critical risk areas that parents may not perceive as needs and to identify strengths that the family can build upon.

Beyond facilitating communication between the teacher and parents, we designed the Family Map Inventories to support educators and early childcare programs in other ways (Whiteside-Mansell, et al., 2007). First, the results obtained from families can be used to identify areas appropriate for agency-wide intervention. For example, when a large number of parents report not using child safety seats routinely, the topic is a likely candidate for a center parent meeting or special event organized by the early childcare agency. Second, comparing results from multiple interviews over time can provide evaluative data to document areas in which the program has made impacts. Third, the Family Map Inventories results can be a useful tool in the self-assessment and monitoring process. The Family Map Inventories are directly linked and supportive of the framework put forth by NCPFCE and were developed with the Head Start performance standards as a guiding principle.

As seen in Figure 1, the cut-points indicating “risk” are shown on the IT-FM using shading to alert the teacher of concerns. As with the EC-Family Map, we used a set of principles in establishing the cut scores. These are discussed in detail in the development of the EC-Family Map (Whiteside-Mansell, et al., 2007) and are summarized here. When there is literature to support a particular cut, we followed the guideline. For example, the American Academy of Pediatrics provides guidance on the number of hours of screen time and sleep. Other research based agencies provide guidance on nutritional intake, car safety practices, and fire safety. When there was doubt about the level exposure that would result in a risk for the child, we erred on the side of over-identification. Like other screening tools, the Family Map is designed to avoid missing risks.

	No	Don't Know	Yes
75. Does anyone <u>living</u> in your home smoke cigarettes?	(N)		(Y)
76. Does anyone smoke cigarettes inside your <u>car</u> ?	(N)		(Y)
77. Does anyone smoke cigarettes inside your <u>home</u> ?	(N)		(Y)
78. Do you live in a building built <u>before 1978</u> when lead based paint was banned?	(N)	(?)	(Y)
79. Is there a <u>working</u> smoke detector in your home for each level?	(N)	(?)	(Y)
a) Have you tested your smoke detector(s) in the last 2 months?	(N)	(?)	(Y)
80. Are there two clear exits that can be used in case of a fire? This could be two doors or a window that you could safely climb out.	(N)	(?)	(Y)
81. Can you hold your hand under the hottest running water for several seconds without getting burned ( <i>water heater set below 120 degrees</i> )?	(N)	(?)	(Y)
<i>If any response in shaded area: Consider Safety Strategies as a Family Goal.</i> □			

Figure 1. Family Map Screen for Secondhand Smoke, Fire Safety, Lead Screen, and Burns.

The use of shading also communicates the healthiest response to the parent (i.e., shaded responses are not desired). While the use of shading suggests that there is a danger of socially acceptable responses, there are several reasons that the shading is preferred. First, by indicating the most optimal options to parents, the parent will become aware of recommended practices. Second, the non-shaded response communicates the social norm to the parent (e.g., using car seats) and may have impact on some behavior (Schultz, Nolan, Cialdini, Goldstei, & Griskevicius, 2007). For example, parents may become aware that it is not just recommended practice to use car seats but that most people use them (i.e., social norm).

Third, when parents are interviewed on topics in which the appropriate response is obvious, reliability of parental response is increased when the parent perceives the response is linked to corrective assistance (Hatfield et al., 2006). For example, parents willing to use car seats may not know how to obtain one they can afford. Finally, if parents are not truthful, it may indicate they are not ready to address the issue. This may be similar to the response many people have to a physician's query regarding regular exercise or diet habits. However, when the teacher asks the question, it signals the topic as one that is safe to discuss. Additionally, the question should suggest to the parent that the program might be able to offer services or support.

The Family Map for Early Childhood (EC-Family Map) targeting parents of children 3 to 5 years-of-age has been implemented in multiple sites including home visiting programs, school based early childhood programs, Head Start programs, and church-based early childhood programs. Several of the evaluation studies that we conducted have shown support for the feasibility of the implementation in large agencies serving preschool children. For example, in a multiyear study, EC-Family Map was successfully implemented in 28 classrooms (570 children) in school-based preschool programs (Bokony et al., 2008). Because the program was school-based, the EC-Family Map was completed during classroom parent-teacher conferences. Teacher rating of support for the use of the EC-Family Map increased significantly each year. This supports focus group findings that teachers had a positive view of the usefulness of the EC-Family Map which increased with experience.

## The Purpose of the Study

This study reports on the development of the Family Map Inventory of the Parenting Environment of Infants and Toddlers (IT-FM). This report summarizes the development process and the implementation of the IT-FM in a rural Early Head Start (EHS) program. The basic structure of the IT-FM originated in the EC-Family Map. In this study, we describe our review of the literature based on constructs and questions developed for the EC-Family Map. We provide evidence of face validity by pilot interviews with parents, input from EHS teachers and administrators, and a cyclical process of revisions.

We examined the feasibility and the acceptability of the use of the IT-FM. This included evaluations from teacher training and survey results from parents and teachers regarding their perceptions of the use of the Family Map. We also documented the time needed to conduct an interview using the Family Map. Next, we provided evidence of the reliability and validity of the questions and risk indicators as used by teachers. We show a summary of each risk area assessed by the IT-FM in this study. While evidence of reliability is limited, we supply estimates of internal consistency where appropriate.

For evidence of validity, we provide five types of information. First, we detail comparisons with national estimates of risk. That is, we expect that the numbers of families identified using the Family Map should be similar to the levels identified in other studies of low-income families. Second, we provide evidence of construct validity. For a subset of the risk areas identified on the Family Map, we assess the construct using a more in-depth assessment. For example, using an established research tool for identifying depression risks (i.e., BSI), we compared parent scores of depression on the BSI with parent scores of depression as indicated with two questions on the IT-FM.

Third, we examined criterion validity for a subset of constructs (e.g., increased risk of unintentional injury is expected to be associated with a parent's belief in fate). Fourth, we compared risk levels identified by teachers with observational assessments by researchers for appropriate risks. For example, researchers conducted safety checks in the home after the teacher interviewed the parent using the IT-FM. We compared the researcher's observations with the parent's report to teachers. Finally, we linked some of the IT-FM constructs with relevant published studies of EC-Family Map constructs found in both the IT-FM and the EC-Family Map.

## METHOD

### Development of the Family Map Inventory for Infants and Toddlers

The term, Family Map, was used as an organizing metaphor for the Family Map Inventories because the assessment process is thought to locate a comprehensive set of strengths and concerns in family life that can serve as targets of productive early childcare efforts (Whiteside-Mansell et al., 2007). In our 2007 study, we provided a detailed rationale for the inclusion of each area shown in Table 1. Areas were included in the EC-Family Map when there was substantial literature linking the area to healthy child development and the area was likely one in which early childcare programs would have expertise and resources to intervene. Identification of potential areas to include in the IT-FM started with the EC-Family Map and included a

comprehensive repeat of the literature review considered from the perspective of the infant and toddler.

The IT-FM constructs can be clustered into three broad areas: (1) physical and social conditions that children experience directly, (2) family climate/context, and (3) parental characteristics. The first area consists primarily of experiences that are parent directed. The identification of constructs drew heavily on the framework of parenting tasks described by Bradley and colleagues (Bradley, 1999, 2002; Bradley, & Caldwell, 1995; Bradley, & Corwyn, 2004). As seen in Table 1, these include the key parenting tasks that assure the survival and promote the optimal development of the child. For example, parenting actions that provide nutrients, shelter, and health care were included. Beyond basic survival, there is ample evidence that the actions of the parent to provide a stimulating environment lead to a greater likelihood of academic and even social success (Bradley, 1994; Bradley, & Corwyn, 2003). Based on substantial research, the Family Map also includes the parent's ability to provide a healthy structure to the child's environment (e.g., routines) and protect the child from harm with adequate supervision (Bradley, & Caldwell, 1976; Wachs, 2000).

The second area, family climate/context, includes the background setting within the family environment. These family characteristics may be something the child is directly exposed to or they may impact the quality of the parenting by their impact on the parent. Constructs included here were selected for their significant impact on children and often on a wide variety of child outcomes impacted. For example, family conflict and exposure to violence has been associated with a wide range of negative outcomes of children many with sever impacts (Kitzmann, Gaylord, Holt, & Kenny, 2003). Family climate characteristic also have a negative effect on the ability of the parent to be a nurturing, supportive parent (Krishnakumar, & Buehler, 2000).

Finally, research has consistently supported Belsky (1984) in linking characteristics of the parent such as parent history of substance abuse and mental illness to child outcomes. Both of these characteristics are often found in homes with other risk factors for children such as violence, poverty, and residential instability, all of which make it difficult to parent effectively (Conners, Bokony, Whiteside-Mansell, Bradley, & Liu, 2004; Osofsky, & Thompson, 2000; Tronick & Beeghly, 1999).

Table 1 (column 2) shows the conceptual bases for the questions. Most were based on questions used with similar populations in the literature or from national studies. The development process included an extensive literature review to identify potential modifications to the EC-Family Map in consideration of the younger target age of children. A pilot IT-FM interview was conducted with a small number of families (10 families) by trained research assistants. After each interview, the researcher discussed the interview with families to identify areas of the interview that concerned parents. EHS teachers ( $n = 10$ ) and administrators ( $n = 5$ ) reviewed the pilot tool and suggested modifications. After revisions, trained data collectors conducted interviews with 56 families. Modifications were made in a cyclical process based on input from data collectors and families after groups of about 10 interviews. Face validity of the final version was confirmed in a pre-implementation review of the inventory by EHS teachers and administrators.

## Implementation of the IT-Family Map

*Implementation Sites.* The study was conducted in 3 rural EHS centers with 25 teachers serving up to 4 children each. An additional 25 teachers were interviewed for comparison. Centers were selected to participate because they were administered by the same agency and were located within 50 miles of a central office. The IT-FM interview was conducted by teachers in the fall home visit and repeated at the spring home visit.

In line with current Head Start standards, most teachers had at least two years of post-high school education with 60% receiving a CDA or Associate Degree and 20% with a BA or more (i.e. Head Start Standards as described in Informational Memorandum ACF-IM-HS-11-03). The majority of teachers had more than 3 years of experience (55%). Most parents had known the teacher for more than a year (52%) suggesting that parents had been involved with the EHS program for more than the study year.

*Teacher Training.* Teachers attended 6 hours of training on the use of the IT-FM prior to the fall home visit. The training described the project, the role of Head Start in strengthening families, non-judgmental interview techniques, the impact of the home and parenting environment on children's ability to learn, and how to use the potential risks identified in the IT-FM interview to suggest family goals. The training included discussion of individual questions and role play sessions of interviews. Before the second home visit, teachers met for 2 hours with the research team to address questions and review the procedures.

## Data Collection.

Based on implementation of the EC-Family Map, our expectation was that, while the use of the Family Map to screen is straightforward, the effective use of the IT-FM to link to services would take experience (Bokony, 2010; Bokony, Whiteside-Mansell, & Swindle, 2010). Therefore, our design targeted the fall assessment for a baseline to compare with national statistics. The spring assessment was used to link validity constructs.

*Implementation Assessments.* Teachers rated the training and their perceptions of the IT-FM following the training. After the fall and spring ( $n = 72$ ) home visits, all teachers were asked to complete an on-line survey. In the spring, a subset ( $n = 44$ ) of Family Map interviews were selected to be conducted as joint home visits between teacher, parent, and research staff. During this visits, the length of the home visits was recorded by the researcher. Joint visits were scheduled so that each a researcher would attend at least one visit with each teacher with an ideal target goal of 2 visits with each teacher.

Input from parents was obtained from three different contacts with parents. First, in the fall, 58 parents were contacted by phone to obtain initial response to the use of the Family Map. Among other questions, parents were asked to rate the visit compared to past non-Family Map home visits. Of the 58 parents, 44 had been involved in past Head Start home visits. Second, in the spring, 72 parents received Family Map home visits using the IT-Family Map. Third, 38 parents receive a home visit with just their teacher (excluding the research assistant) and were interviewed by phone after the home visit. This was done so that parent reports would not be

influenced by the joint research visit. Of these 38 parents, 10 were involved in the Head Start program as prenatal enrollees and so are not included in Table 1 ( $n = 72$ ).

**Validity Assessments.** At the end of the spring home visit ( $n = 44$  of 72, 1 interview was 12 days after the home visit), a researcher conducted an additional interview with the parent. The assessment tools targeted key aspects of the IT-FM and are described below.

**Family Conflict.** Family conflict was assessed using two dimensions from the Family Environment Scale (Moos, & Moos, 2002). The family conflict scale (9 questions) measures the extent to which the open expression of anger, aggression, and generally conflictual interactions are characteristic of the family (e.g., “We fight a lot in our family”). Parents responded True (1) or False (0) and questions summed so that high scores indicated conflict. Reliability was high with  $\alpha = .73$ .

**Brief Symptom Inventory-18 (BSI-18).** The BSI-18 is a self-report inventory to screen for mental health symptoms (Derogatis, 1992, 2000). Respondents rated how bothered they had been by 18 psychological symptoms during the past 7-days on a 5- point scale (‘Not at all’ to ‘Extremely’). Scores included 6 questions each: Somatization ( $\alpha = .59$ , e.g., ‘Faintness or dizziness’), Depression ( $\alpha = .68$ , e.g., ‘Feeling blue’) and Anxiety ( $\alpha = .61$ , e.g., ‘Feeling fearful’) and a total score (GSI).

**Food insecurity (FI).** FI was assessed with a 6 item reduction of the full Household Food Security Survey Module (HFSSM,  $\alpha = .75$  e.g., ‘We couldn’t afford to eat balanced meals’). This scale has been shown to demonstrate high specificity, sensitivity, and reliability (Blumberg, Bialostoski, Hamilton, & Briefel, 1999) and is designed to indicate households where hunger is likely for children. Sum scores of 2 and above were deemed as Food Insecure per scoring recommendations (Blumberg, et al., 1999).

**Parenting stress.** The Parent-Child Dysfunction (PSI-PCD, Abidin, 1990) subscale of the Parenting Stress Index Short Form (11 questions) administered using a card with response options (1 = Strongly Agree to 5 = Strongly Disagree) and a 12th item rating of parent perception of being a good parent from very good (1) to not very good (5). The subscale rates parents perceptions of the child ( $\alpha = .76$ , e.g., child rarely does anything to make parent feel good).

**Observation of home and neighborhood safety.** A home inspection checklist was constructed based on other published observational assessments (e.g., Preschool Safety Practices, Hatfield et al., 2006). The short observational check was conducted with the parent at the end of the validity assessment interview by the trained researcher. Parents were informed of conditions that might put their child or family at risk (e.g., hot water could cause burns).

**Chaos in the home.** A 15-item survey of home confusion and disorganization (Confusion, Hubbub, and Order Scale – CHAOS; Matheny, Wachs, Ludwig, & Phillips, 1995) was used to measure the degree of disruption in the home. The true/false response (e.g., “It’s a real zoo in our home”) resulted in a total score ( $\alpha = .58$ ).

*Supervision attitudes.* Two scales were constructed from modification of the Parent Supervision Attributes Profile Questionnaire (PSAPQ; Morrongiello, Corbett, McCourt, & Johnston, 2006). Parent tolerance for risk (e.g., learn from her own mishaps) was assessed with 5 questions ( $\alpha = .72$ ). Parent belief in fate related to injury (e.g., injured due to bad luck) was assessed with 3 questions ( $\alpha = .67$ ).

## RESULTS

### Implementation Evaluation

After IT-FM training, teachers' reports were positive in reactions to the IT-FM and related training. Most teachers rated the training 4.2 to 4.6 ( $SD .6$  to  $.9$ ) on a 5 point scale with 5 representing 'excellent'. For example, the overall presentation of the training was scored high ( $M = 4.5$ ,  $SD = .6$ ) and 94.0% of teacher rated the overall presentation in the highest two categories of 'good' or 'excellent'.

Regarding the perceptions of the inventory, 92.8% of teacher endorsed the statement: *'The information I will learn during the home visit using the Family Map will be helpful working with families'* ('much' or 'very much';  $M = 4.7$ ,  $SD = .55$ ). All (99.9%) endorsed the statement: *'I am comfortable I can conduct home visits using the Family Map.'* ('much' or 'very much';  $M = 4.7$ ,  $SD = .43$ ). As was reported in the development of the EC-Family Map, some teachers (16%) were concerned about how families would respond with these teachers feeling that families would not like the change in the home visits.

After the spring home visits, 84.0% of teachers reported being comfortable with using the Family Map. Only 15.2% reported that it was 'just more paper work'. Most (84.1%) reported feeling that the Family Map was a useful tool to learn important information about families. Most (79.1%) reported the Family Map was helpful for the home visit for at least one of the (up to 4) families they interviewed. Similar numbers (79.1%) indicated that they would recommend the Family Map to other programs.

Parents ( $n = 58$ ) were contacted by phone after the fall home visits. Most (68.9%) reported liking ('liked it' or 'very much liked it') the home visits and a similar number (68.9%) reported being comfortable with what was talked about during the home visit. Of parents that had had previous home visits ( $n = 44$  of the 58), only 2 reported this visit was 'worse' than previous home visits. Most parents also reported that the length of the visit was 'just right' (70.6%).

Parents ( $n = 38$ ) were contacted at the end of the spring semester and interviewed by phone. Parents reported on a 4-point likert scale. After two home visits using the Family Map, parents reported positive feeling regarding the home visits. All (100.0%) reported liking the home visit ('agree' or 'strongly agree';  $M = 3.5$ ,  $SD = .5$ ) and being comfortable about the content of the visit ('agree' or 'strongly agree';  $M = 3.6$ ,  $SD = .5$ ). Most (94.7%) indicated that they thought that the EHS teacher understood their family better after the visits ('agree' or 'strongly agree';  $M = 3.4$ ,  $SD = .5$ ) and 89.5% felt the teacher knew more about the child's life at home after the visit ('agree' or 'strongly agree';  $M = 3.4$ ,  $SD = .7$ ).

A research assistant was present at the spring home visit and noted the length of the home visit between the teacher and the parent. IT-FM home visits lasted a little over an hour ( $n = 44$ ,  $M = 68$  min,  $SD = 28$  min).

## Risk and Strength Assessment: IT-Family Map

Table 1 shows the range of risk and service needs for infants and toddlers screened using the IT-FM. The table shows the rates for families interviewed in the spring by teachers ( $n = 72$ ). Of the families interviewed with the IT-FM, 26.4% had children 12 months-of-age or less and 33.3% had children over 24 months. Most children were white non-Hispanic (45.8%, 22.2% black, 23.6% Hispanic, and 8.4% bi-racial). Most (95.8%) were biological parents and (69.4%) had other children in the home. Half (48.6%) of children were male. Parents reported diversity in education (23% with GED or less, 27% with high school degree, and 50% with additional education). Most parents reported working (21% not working, 21% < 30 hours a week, 43% about 40 hours, and 15% more than 40 hours a week).

A review of Table 1 suggested some key areas of interest. For example, 42.2% of infants were being fed cereal or juice in a bottle or being put to bed with a bottle. Of toddlers, almost none (8.5%) were receiving the recommendations for quality nutrition in the home (e.g., 5 servings of fruits/vegetables a day). About half (42.9%) of children were living in a home with access to poison, and 40.3% were sleeping in situations that had safety risks (e.g., co-sleeping, not on back, crib unsafe). Regarding the early learning environment, many parents (52.1%) had limited interactions with their children in ways that promote early learning such as pointing out letters, colors or shapes. Many young children (34.8%) also lacked materials to engage them in learning (e.g., age- appropriate toys, games, music).

A lack of organization in the home and efforts to provide a routine and structured home were indicated. For example, 13.0% of children slept somewhere other than their own bed more than 2 nights a week and 76.2% received less hours of sleep than the recommended. However, only 10.0% reported a weekday schedule that was not relatively routine (e.g., meals, bed time at about the same time). In terms of parental characteristics, problematic alcohol and drug use varied depending upon the focus of the problem (1.4% among primary caregivers and 15.3% among close family/friends); though problems in mental health were more prevalent (18.1% screened positive for depression and 39% for problems with hostility).

While Table 1 is presented in terms of the level of risk, some questions should be interpreted as family strengths also. For example, in this sample of rural families, nearly all (93.0%) have secure transportation; most lived in homes built after the use of lead base paint (88.6%), and most (70.8%) reported good social support. In addition, some evidence of family strength is imbedded in the IT-FM but not represented in Table 1. For example, the interview included an item regarding child dental health. Access to early dental care is often difficult to obtain and often begun past the one-year recommended first check. The parent that is proactive in this area suggests an attentive parent in regard to health. In this study, 75.0% indicated they had a dentist they considered to be the child's dentist.

## Reliability and Validity

While reliability is an important aspect of an assessment tool, a meaningful assessment of reliability is difficult to obtain in this situation. Asking teachers to repeat the interview within a short time was not feasible. Estimates of internal consistency can support reliability; however, because many constructs on the Family Map are only 1 or 2 questions or checklists, the use of

internal consistency is limited (Bollen, & Lennox, 1991). That is, when the Family Map contains multiple questions to assess a construct, it is often a check list (e.g., Social Integration is a set of activities the parent may participate in such as church, a hobby, or a club). For constructs composed of multiple indicators representing an effect indicator, estimates of internal consistency were computed (Bollen, 1984). As seen in Table 1, internal consistency estimates (Cronbach's alpha) were computed for seven sets of questions. These were supportive of adequate reliability with values generally high.

In addition to the data presented in the results, other publications support the validity of the Family Map. These include comparisons with national averages presented for the EC-Family Map (Whiteside-Mansell et al., 2007). It also includes unpublished studies presented at national conferences or in review. For example, in 2010, we presented a summary of validation studies of the EC-Family Map (Whiteside-Mansell, et al., 2010). This analysis was of 1,150 families and examined risk subgroups identified by EC-Family Map risk cuts (e.g., material depression and compared the risks experienced by families in the risk category with expectations. The findings suggested that the EC-Family Map identified meaningful subgroups.

In this study, independent assessments were also conducted to evaluate validity of some constructs (n = 44). In addition, several studies using the EC-Family Map data have been published that support the validity of specific constructs assessed in the IT-FM. A full analysis of validity of each item is not feasible in one report; however, the following reports on key aspects.

**Basic Needs.** The IT-FM includes indicators of parents' ability and efforts to provide adequate nutrition and basic needs, health care, and provisions for environmental safety. Children in 10% of all homes in the United States experienced food insecurity (Nord et al., 2009) in 2009 compared to 12.5% identified in this study. A comparison of the HSSFM short form and the two food insecurity questions suggests significant overlap (Swindle, Whiteside-Mansell, & McKelvey, in press). In a study of infants receiving WIC benefits, 25% of mothers reported adding other foods or liquids into the bottle with formula by 3 months of age (Baydar, McCann, Williams, Vesper, & McKinney, 1997). Recommendations for a healthy diet have several components; however, consumption of fruits and/or vegetables daily is a standard recommendation. The assessment of food intake for young children is difficult (Serdula, Alexander, Scanlon, & Bowman, 2001). Fewer than 10% of infants and toddlers consumed dark green, leafy vegetables in a day and after 12 months 27% consumed no separate serving of vegetable in a day.

Although difficult to count, 2009 national estimates for the homelessness among American poor is 10% (National Coalition for the Homeless, 2011). Housing instability is more prevalent and has been estimated at 21.8% (Suglia, Duarte, Chambers, & Boynton-Jarrett, 2012). These compare with the IT-FM estimate of housing instability of 18.1%. The evidence is clear that exposure to secondhand smoke is a serious health concern and children are at higher risk than others. In 2006, nearly 60% of children ages 3 to 11 years were thought to be exposed. This compares to 34.7% of the children identified in the IT-FM.

**Safety – Home and Car.** In 2001, 45% of all unintentional deaths occurred in and around the home with falls the leading cause of nonfatal injuries for children less than 4 years of age. More than 90% of injuries in early childhood occur in or around the home (Borse, Gilchrist, Dellinger, Rudd, Ballesteros, & Sleet, 2008; National SAFE KIDS Campaign, 2004 National

Safety Council, 1991, Schwebel, & Gaines, 2007 ). The most common injuries in the home involving children under the age of 5 years include falls from suffocation, drowning, falls, fires, and poisonings (LeBlanc et al., 2006). The FACES study of low-income families found 31% of children with access to poisons while this study identified 42.9% (U.S. Dept of HHS, 2003). As predicted by research on unintentional injury, access to poisons was correlated with parents who report in their belief in fate ( $r = -.31, p = .04$ ).

Outside the home, riding in motorized vehicles is a common source of injury and death for young children. More children, particularly in rural areas, are killed in motor vehicle accidents than from any other source (Burgess 2005). While estimates vary, 29% is a reasonable estimate for the national number of preschool children who ride in cars without appropriate restraints (Taft, Mickalide, & Taft, 1999) compared to 25.4% in this study.

Nationally smoke alarms are less common in households with incomes below the poverty line (10%); however, reports are typically overestimated because respondents tend to report smoke alarms even when they are not working (Ahrens, 2009). The IT-FM identified 13.9% at risk (Fire Safety) by assessing the existence of a working smoke detector and access to two clear fire exits. In the observational safety check, this data was confirmed with parent report of smoke detectors consistent with home safety inspection ( $\phi = .63, p = .00$ ). That is, a report by the parent in the interview was associated with the observational check. However, like national studies, parents over-reported the existence of working smoke detectors ( $\phi = .34, p = .11$ ). That is, a ‘yes’ report by parents that the smoke detector worked did not predict the results of the observers test of the smoke detector in the home.

A detailed examination of some of the questions used to identify risk for unintended injury (Injury/Accident) supported risk identified. For example, concordance in parent report and observer tests of hot running water in the home was high ( $\phi = .48, p = .01$ ). Research observations of the crib placement confirmed the parent report of placement (i.e., near cords or heating units, ( $\phi = .49, p = .02$ ) and the existence of risky material in the crib ( $\phi = .71, p = .00$ ). Finally, as predicted there was a correlation ( $r = -.34, p = .02$ ) between the parent report for risk tolerance and the Injury/Accident risk category.

*Physical Health.* Few children were identified with health access, chronic conditions or treatment needs. This was likely due to their young age and related to the fact that children had been in EHS at least since the fall. That is, parents may have received support to prevent poor birth outcomes. Caregiver report of their own sleep was correlated with their report of chaos in the home ( $r = .45, p = .00$ ) but not the number of hours of sleep reported for the child.

*Early Learning.* Academic gains are made by children whose parents read to them from infancy onward (Raikes, et al, 1994). Nationally, most (45%) European American, mothers of infant/toddlers living in poverty reported reading to their children less than three times per week (Bradley et al., 2001). Based on the IT-FM, a child is considered at risk if no adult reads to the child this often (only 7% of children); however, for comparison (with the 45%), based on the IT-FM 21% of mothers reported reading this often. Many (55%) parents, similar to those in this study (48%), reported teaching basic concepts to their children (Bradley et al., 2001).

*Discipline Practices.* To function well within social groups (and society at large), children must not only learn how to regulate their emotions but to control their behavior as well (Bronson, 2000). Accordingly, parents must provide the kind of productive discipline that

facilitates behavioral control. There is also evidence that children benefit from positive affirmation of worth (Roberts, 1983). Spanking is generally low before 12 months of age (15%) and increases as children age with about 50% of children 20 months of age in low-income studies being spanked (MacKenzie, Nicklas, Brooks-Gunn, & Waldfogel, 2011). These statistics compare with 37.7% across the infant to 36 month range of the IT-FM study.

**Routines.** The reorganization needed to adjust to the transition into parenthood or the addition of a child often makes establishing a routine difficult (Fiese, Tomcho, Douglas, Josephs, Poltrock, & Baker, 2002). In general, an organized home with established routines has been shown to be linked to psychological health (Fiese, et al., 2002). Three questions on the IT-FM were coded from teacher observations of the physical organization of the home (e.g., crowdedness, clutter). Risk identified with this set of questions was correlated with FES conflict scale ( $r = .60$ ,  $p = .00$ ) and BSI Total ( $r = .58$ ,  $p = .00$ ). However, it was not statistically significantly related to parent report of chaos ( $r = .18$ ,  $p = .30$ ).

Two key areas related to establishing routines are infant sleep patterns and the use of electronic media. Based on the IT-FM interview, children slept 11.4 hours ( $SD = 1.02$ ) the day before the interview compared to the 12-18 recommended by experts (Centers for Disease Control and Prevention, n.d.). Other studies report average sleep times of 11.7 for toddlers to 12.7 for infants (Carskadon, 2004).

The overuse of TV has been associated with a variety of problems for young children including weight gain, health problems, later academic performance, and exposure to poor parenting (AAP, Committee on Public Education, 2001; Pagani, Fitzpatrick, Barnett, & Dubow, 2010). Further, the exposure to inappropriate TV programming has been associated with the development of behavior problems (Conners-Burrow, McKelvey, & Fussell, 2011). The American Academy of Pediatrics recommends no television for children under 2 years and only 2 hours a day for children over 2 (Brown, 2011). Estimates of TV use for young children range 17% for children less than a year (Certain & Kahn, 2002), to 11% at 29 months (Pagani, Fitzpatrick, Barnett, & Dubow, 2010) to 41% of 24-35 month-olds (Certain & Kahn, 2001). The IT-FM identified 20.0% of children with over 2 hours a day.

**Surveillance.** A significant proportion of accidental or unintentional injury occurs because of parental failure to adequately monitor and supervise children (Garbarino, 1988; Saluja, Brenner, Morrongiello, Haynie, Revera, & Chen, 2004). The level of child monitoring is connected to parental perceptions about controllability of the hazards (Greaves, Glik, Kronenfeld, & Jackson, 1994) and parental mental health (Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007). In this study, monitoring was correlated with the BSI Total ( $r = -.38$ ,  $p = .01$ ); however it was not statistically significantly correlated with parent report of Risk Tolerance ( $r = .18$ ,  $p = .24$ ) or belief in fate ( $r = .22$ ,  $p = .16$ ).

**Exposure to violence.** While the negative impacts of exposure to violence on children is well known (e.g., Fitzgerald, McKelvey, Schiffman, & Montanez, 2006; McKelvey, et al., 2011), the study of the impact of the neighborhood on child development has dramatically increased in the 20 years (Sampson, Morenoff, & Gannon-Rowley, 2002). The IT-FM assesses children's exposure to inadequate neighborhood resources somewhat more broadly than the Head Start FACES 2002 report and therefore identified more children at potential risk (Neighborhood: 26.4% with IT-FM compared to 19% FACES).

Risks in these areas were expected to be related to parental mental health and parental concern for their own and child's safety (Margolin, & Gordis, 2000; Hughes, 1988). Neighborhood Safety risk was correlated with the BSI Total ( $r = .40, p = .01$ ) and increased monitoring ( $r = -.23, p = .05$ ). Parent report of exposure to violence was associated with parental physical activity ( $r = -.25, p = .04$ ).

*Family Cohesion/Conflict.* Families living in poverty often experience elevated levels of stress both from the difficulties of managing life with fewer resources and from exposure to stressful life events (Conger, & Donnellan, 2007). Stress related to economic hardship can lead to conflicts between parents (Belle, 1990). Parenting stress has been implicated in less positive interactions between parents and children (Coyle, Roggman, & Newland, 2002), in a higher likelihood of child maltreatment and abuse (Rodriguez & Green, 1997), and in higher conflict between family members (Almeida, Wethington, & Chandler, 1999).

National estimates indicate that 13% of children live in households with high parenting stress (Raphael, Zhang, Liu, & Giardino, 2010) compared to 21.0% identified with the IT-FM. Parents identified with the IT-FM screen for high parenting stress scored higher on the PSI-PCD subscale ( $t(42) = 2.63, p < .05$ ) and the FES conflict scale ( $t(42) = 2.77, p < .09$ ). Further, the parenting stress risk score was significantly correlated with each ( $r = -.38, p = .012$  for PSI-PCD and  $r = .39, p = .008$  for FES conflict).

Based on the National Household Survey on Drug Abuse (NHSDA), it has been estimated that 10% of children (more than 6 million) age five and younger have at least one parent who is dependent on alcohol or illicit drugs (AOD, Office of Applied Studies, 2003). While an assessment of parent substance use is included on the IT-FM, nearly all parents indicated it was not a problem for them. However, the IT-FM screens for homes at risk for AOD use expanding the question to include other adults (close family or friends) and includes an observation questions (15.0%). Children identified with this definition were more likely to be at risk on 10 of 11 additional areas assessed (Conners-Burrow, Johnson, Whiteside-Mansell, McKelvey, Bokony, & Bradley, 2011). That is, these questions on the IT-FM identified a high-risk group of families.

*Caregiver Mental Health.* Data from the Head Start FACES 2000 study indicated that 25% of Head Start parents are moderately or severely depressed (U.S. Dept of HHS, 2003). This compares to 18.1% identified using the IT-FM. When the BSI-18 was examined in relation to the IT-FM screen, meaningful associations were seen. IT-FM depression risk was correlated with the BSI depression ( $r = .43, p = .002$ ) and families identified as depressed scored higher on the BSI Total ( $t(41) = 3.61, p < .045$ ). BSI Somatization scale was correlated with IT-FM anxiety ( $r = .72, p = .00$ ). The 2 questions used to screen for hostility identified 38.9% of the sample and this cut score was correlated with BSI depression ( $r = .39, p = .01$ ).

In a study of depressive symptoms identified using the EC-Family Map, Conners-Burrow and colleagues (in press), using a series of logistic regression analyses (controlling for demographics), found that when mothers reported either low or high levels of depressive symptoms, their children were significantly more likely to experience safety risks in the home in 6 of 7 areas assessed.

## DISCUSSION

The recognition of the role of the family and impact of the home environment for child outcomes has been acknowledged in quality early childcare programs including Head Start for many years. The evaluation of the role of Head Start programs and a useful definition for parent involvement has evolved since the beginning of Head Start in 1965. The difficulty has been identifying the process to efficiently identify the needs and strengths of families and build productive parent-teacher partnerships to address the needs. The Family Map Inventories were developed to address this problem. This study examined the feasibility of implementation and the reliability and validity of the Family Map for the Parenting Environments of Infants and Toddlers.

The Family Map Inventories were designed to be used as part of the required twice yearly home visits as in this study. However, the EC-Family Map has been implemented in the field in a variety of ways (e.g., parent-teacher conferences) and settings (e.g., home visit programs). Program enrollment, parent-teacher conferences, or home visits are ideal opportunities for parents and teachers to discuss issues regarding their joint interest in the child; however, in a typical parent-teacher visit this opportunity is often missed. The EC-Family Map has also been shown to provide data to improve programs (Conners-Burrow, Johnson, Whiteside-Mansell, McKelvey, & Bradley, 2010) and document the impact of quality programs like Head Start (Whiteside-Mansell, Johnson, Aitken, Bokony, Conners-Burrow, & McKelvey, 2010).

Results evaluating the feasibility of implementation were consistent with the EC-Family Map implementation and generally positive. Families and educators were at least as positive about the home visit with the Family Map as without it. As in past studies (Whiteside-Mansell, et al, 2007), we found that a small group of teachers were resistant to the implementation. Anecdotal reports suggested that educators were concerned about the potential reaction by parents. However, at least some part of educator hesitancy was likely the natural resistance to change often seen in some individuals. In other studies of the EC-Family Map, qualitative evidence suggested that teachers became more comfortable with the experience with the EC-Family Map as they become more skilled at using the interview (McKelvey, Swindle, Bokony, & Patrick, 2011).

This study supported the reliability of the IT-FM. Unfortunately; few constructs consisted of questions appropriate for evaluation using internal consistency. However, of those assessed, internal consistency estimates were generally greater than .7. Given the small number of questions for each construct, this was noteworthy (i.e., the fewer the questions the lower the expected reliability). In addition, the evidence of validity provided implicit support for reliability (i.e., reliability is required for validity).

Evidence of validity was provided in multiple ways. Rates of families/children identified as experiencing specific conditions were compared to national studies. The rates in this study should be interpreted with caution because of the relatively small numbers (i.e.,  $N = 72$  means that 10% is only 7 participants); however, in general, similar rates were observed suggesting that the short screening questions on the IT-FM were consistent with other studies and national estimates. While rates of some concerns were lower than was likely for the general population (e.g. substance abuse problems), anecdotal reports from the use of the EC-Family Map indicated parents do return to teachers and request help with more sensitive topics (e.g., exposure to violence) even when not reporting problems at the initial contact. It is possible that when the

parent is willing to address the topic, the Family Map has opened the doorway for communication.

Validity was also supported by construct validity for a subset of key measures and direct observation confirmed several questions. As predicted, most key measures were related to theorized constructs as expected. This is remarkable in that the risk indicators were dichotomous (risk/not) and, therefore, the power to observe significant relationships is limited. A strength of the validity examination was the confirmation of the home environment using the observational measure by trained researchers. Several key indicators of safety were confirmed using observational assessments after the educator conducted the Family Map interview.

The Family Map is scored to identify risk during the home visit (i.e., shaded areas of interview). The tradeoff for this quick scoring system is that it was not possible in the paper/pencil implementation to bring family strengths to the attention of the dyad. That is, the Family Map includes assessments of strength that are sometimes the opposite of risk, but not always. Training included an in-depth discussion linking risk and resilience, strategies for educators to help families build upon strengths, the role of protective factors, and how to identify family strengths from the Family Map interview. For example, parents that provide a warm, supportive parenting environment may be protecting their children from a variety of potential risks including health related risks (Landry, Smith, Swank, Assel, & Vellett, 2001).

When conducted as a home visit, the Family Map along with other Head Start activities requires a full hour to complete. This is longer than typical screening instruments; however, the Family Map is atypical in the comprehensive nature of the screen. When fully integrated, the Family Map may replace other program-generated efforts to document parent partnership agreements and the related service recommendations. However, it is likely that full integration into a program and teacher practice would result in shorter home visits than those reported here.

This study, in conjunction with the previous study of the EC-Family Map, provides empirical evidence of the feasibility and usefulness of the Family Map Inventories in high quality childcare programs. This study focused on the implementation and psychometrics and found support for the Inventory for parents of infants and toddlers. In addition, the Inventory may prove useful in documenting and supporting educators in their efforts to engage families and link to critical services to protect children.

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