



## Validation Studies

Multiple studies have been conducted to establish the validity, feasibility, and acceptance of the Family Map Inventories in preschool settings. The following tables summarize this work.

In the table below, an X indicates that a published study, conference presentation, or internal report has established that a risk in the Family Map area (first column) discriminates subgroups as expected as indicated in the columns. For example, a parent with chronic illness is expected (based on other research studies) to have difficulty maintaining healthy daily routines. This association was confirmed in our analyses.

### Family Map Areas with Discriminate Validity

Family Map Area by Subgroup	Child with Chronic Illness	Parent with Chronic Illness	Maternal Depression	Substance Use by Family	Homelessness (living on streets, in shelters, etc.)	Housing Instability (frequent moves)	Child with Insufficient Sleep	Food Insecurity
Daily Routines		X	X	X		X	X	
TV Quality & Quantity			X	X			X	
School Readiness			X	X	X			X
Daily Supervision		X	X	X				
Environmental Safety			X	X	X	X	X	
Exposure to Violence			X	X	X	X	X	
Family Conflict/Cohesion	X	X		X	X	X	X	
Parenting Stress	X	X		X	X		X	X
Harsh Discipline		X	X	X		X		
Physical Health	X	X		X	X		X	X
Depression	X	X	X	X	X		X	X
Basic Needs	X		X	X	X	X		X
Employment	X	X			X	X		X
Home & Car Safety		X	X	X			X	
Social Integration	X	X		X	X	X		X

In the table below, the reliability and validity that is found in published studies is summarized by the twelve areas of the Family Map Inventories. In the second, third and fourth column, the type of validity is listed. The fifth column indicates the areas with published reliability.

For example, **Housing Instability** within the Family Map **Basic Needs** section has published construct validity and evidence of validity compared to national averages. That is, the percent of families identified at risk with the Family Map is similar to the percent expected based on other national estimates.

### Family Map Areas with Published Evidence of Validity and Reliability

Family Map Area	Areas with Construct or Discriminate Validity	Areas with Observed Validity	Validity compare to National Percent	Reliability <sup>a</sup> Alpha
1. Basic Needs	Housing Instability Food Quantity		Housing Instability, Food Quantity, Infant Feeding practices, Food Quality	NA
2. Safety - Home & Car	Injury or Accident Poison Accessibility	Fire Safety Injury or Accident Poison Accessibility	Vehicle Safety Secondhand Smoke Fire Safety Poison Accessibility	NA
3. Physical Health	Chronic Condition Exist Chronic Condition Exist Lack of Sleep		Lack of Sleep	NA
4. Early Learning	Read to child		Supportive Learning	Availability of Learning Materials Supportive Play Supportive Learning
5. Discipline Practices			Harsh Discipline Parental Warmth	Parental Warmth
6. Routines	Child Adequate Sleep Amount of TV		Amount of TV	NA
7. Surveillance	Daily Monitoring			NA
8. Social Integration				Social Support
9. Exposure to Violence	Neighborhood Safety Exposure		Neighborhood Safety	Neighborhood Safety
10. Family Cohesion/Conflict	Parenting Stress		Parenting Stress	Parenting Stress
11. Alcohol/Drug Use	Friend/Family Use		Caregiver Use	NA
12. Caregiver Mental Health	Depression Hostility Anxiety		Depression	

<sup>a</sup>A small test-retest examination of reliability is included in (Whiteside-Mansell et al., 2007)

**The following presentation summarized the areas of the Family Map with separate publications or presentations demonstrating validity of the Inventories. As the first developed, the Early Childhood Family Map has the most published evidence of validity. However, most of the areas targeted focus on the parent and included in the Infant Toddler Family Map.**

Whiteside-Mansell, L., Johnson, D., Burrow, N.A., McKelvey, L.M., & Bradley, R. H., (2010, June). *Evidence of validity of the Early Childhood Family Map: A tool to assess risk and strength in Head Start*. Poster presented to the Head Start Research Conference, Washington, DC.

Because the purpose of the Family Map is to serve as a basis for establishing meaningful Head Start family goals and identifying appropriate interventions, there are concrete cut-points for individual items and scales that indicate when a risk or strength is present. Evidence of reliability and validity has been presented by the authors (Whiteside-Mansell et al., 2007). This includes a small test-retest study (n = 29) which supported the instrument as reliable (e.g., similar responses to teachers and data collectors over a two week period).

Validity data compare national estimates of risk with risk identified from the EC-Family Map and found consistent rates (Whiteside-Mansell et al., 2007, 2013).

This presentation examined the expected risk patterns in subgroups. Using data from two large Head Start programs collected as part of typical Head Start home visits by teachers, this presentation provides evidence for many of the constructs assessed by the Early Childhood Family Map. A literature review of each of the subgroups (e.g., children living in food insecure homes) identified areas in which a higher percent of children in the subgroup were expected to experience specific risks. Analysis of 1,150 families in Head Start settings presented in this study suggests that the items and suggested risk cuts on the EC Family Map identify meaningful subgroups of children at a higher risk.

**In the development of the Infant Toddler Family Map Inventory, we examined differences in the parent/teacher partnership and found the Family Map increased the quality of the communication.**

Whiteside-Mansell, L., McKelvey, L., Burrow, N., & Swindle, T. (2014) *Parent-Preschool Teacher Partnership: Evidence of Usefulness of the Family Map Inventory*. Poster presented to the biannual meeting of the World Association for Infant Mental Health, Edinburgh, Scotland.

This study uses data from an evaluation year and full implementation of the Family Map Inventory (FMI) in a rural Early Head Start. Evaluation data provide comparison of educators using the FMI with non-FMI (N=25 vs. 19 educators). During full implementation, 128 educators used the FMI to screen for service need. Educators in both years were trained in standardized 6-hour training. In the evaluation year the FMI was conducted at the fall and spring home visit. In the full implementation year, the FMI was conducted in three parts over enrollment, parent-teacher conference, and home visit.

FMI teachers reported parents talking to them more about home and family topics than comparison teachers reported. This finding was stable even after controlling for pre-test access to parents (p=.023), particularly for family routines, safe childcare, unsafe neighborhoods, and meeting basic needs at home. Similar levels of comfort by teachers and parents indicate that FMI does not disrupt the home visit in a negative way. The FMI screens for home and parenting environmental risks for infants and toddlers in 12 domains. Risk in each area and subarea will be compared to expected national statistics as evidence of validity.

---

## Details on Specific Areas of the Family Map

**This study examines the validity of the two items used to assess food insecurity on the Family Map.**

Swindle, T., Whiteside-Mansell, L., & McKelvey, L. (in press 2012). Food insecurity: Validation of a two-item screen using convergent risks. *Journal of Child and Family Studies* DOI: 10.1007/s10826-012-9652-7

Food insecurity impacts children in over 10 % of US homes with negative effects for health, cognitive, and behavioral development. Experiences of food insecurity in childhood also carry negative consequences across the lifespan. Families cannot be connected with needed services when needs are unidentified. However, early detection is essential if the harmful effects of food insecurity are to be limited for children. An efficient and valid screen of food insecurity is needed for use by practitioners such as childcare providers, home visitors, or other intervention program staff working with low-income families.

The present study provides evidence of validity for a 2-item screen for food insecurity as conducted by childcare providers. Concurrence with a wide range of convergent validity indicators suggests that 2 items can sufficiently identify families with food insecurity. Convergent indicators included other basic needs, physical health, environmental safety, caregiver mental health, parenting practices, and parenting stress. Sensitivity and specificity analyses also support the use of this screen. This study is the first to document the utility of a brief screen for food insecurity by childcare providers. With an efficient screen, these front-line service providers can be a valuable resource to identify and combat FI and its deleterious effects on children.

**These studies examine the validity of the identification of substance use risk used on the Family Map.**

Bokony, P.A., Conners-Burrow, N.A., Johnson, D., Whiteside-Mansell, L., McKelvey, L., & Bradley, R.H. (2010). The Family Map: A tool for understanding the risks for children in families with substance abuse. *NHSA Dialog: A Research-to-Practice Journal for the Early Intervention Field*.

Conners-Burrow, N.A., Johnson, D., Whiteside-Mansell, L., McKelvey, L., Bokony, P. A., & Bradley, R. H. (2010). Protecting Young Children: Identifying Family Substance Use and Risks in the Home. *NHSA Dialog: A Research-to-Practice Journal for the Early Intervention Field*, 13, 192-197.

This study examines the usefulness of a screening process implemented in the context of a Head Start home visit and compares families who screened positive for substance abuse with those who did not on an array of child and family indicators important for healthy child development. The sample included 1,105 low-income families with preschool-age children enrolled in Head Start programs. Families were interviewed using the Family Map, an interview tool used to screen on a wide range of areas important for healthy child development. Children identified as having a

positive screen for family problems with alcohol and other drugs (9.1%) were more likely to be at risk on 10 of 11 additional areas assessed.

### **This study examines the validity of the identification of maternal depression as assessed on the Family Map.**

Conners-Burrow, N.A., Fussell, J., Johnson, D.L., McKelvey, L., Whiteside-Mansell, L., Bokony, P., Kraleti, S. (2013) Maternal Low and High Depressive Symptoms and Safety Concerns for Low Income Preschool Children. *Clinical Pediatrics*, 52, 171-177.

Our objective was to examine the relationship between low and high level depressive symptoms in mothers and children's risks in the areas of home and car safety, monitoring and exposure to violence. This cross-sectional study involved a structured interview administered during a home visit to 978 mothers of preschool age children enrolled in 20 Head Start centers. The majority of mothers were African-American (57.1%), with at least a high school education (87.2%). Participants were interviewed using The Family Map, which is designed to identify areas of concern (including maternal depression) and strength in the home environment.

While only 5.7% scored above the cutpoint of 3 on the depression screen (Patient Health Questionnaire -2), another 21.3% endorsed lower level symptoms (scores of 1-2). A series of logistic regression analyses (controlling for demographics) reveal 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. For example, both mothers with low level symptoms ( $OR = 1.89, CI [1.31, 2.72], p = .001$ ) and high level symptoms ( $OR = 2.04, CI [1.09, 3.80], p = .02$ ) were more likely to provide inadequate supervision compared to mothers with no symptoms. Children whose mothers experience even low level depressive symptoms are at increased risk for safety problems in home environment.

### **These studies examine the validity of the identification of food quality as assessed on the Family Map.**

Swindle, T., Ward, W. L., Whiteside-Mansell, L., Brathwaite, J., Bokony, P.A., Conners-Burrow, N, & McKelvey, L.M. (2014). Pediatric nutrition: Parenting impacts beyond financial resources. *Clinical Pediatrics*, 53, 793-795. doi 10.1177/0009922813505904.

Ward, W. L., Swindle, T., Kyzer, A., Whiteside-Mansell, L. (2014). Low Fruit/Vegetable Consumption in the Home: Cumulative Risk Factors in Early Childhood. *Early Childhood Education Journal*. Advance online publication. doi: 10.1007/s10643-014-0661-6

Maternal depression has long been associated with poor growth and underweight status in infants and toddlers. However, maternal depression has recently been identified as a concern in the etiology of childhood obesity as well. The present study explores the relationship between maternal depression and child obesity by investigating nutritional food quality as well as food insecurity in an early childhood population. We expect that maternal depression symptoms will be associated with lower food nutritional quality of food intake and greater risk of food insecurity.

This study was conducted in a Southern state in 26 Head Start centers. Teachers obtained the Family Map (FM), an assessment tool used to identify potential risk factors that affect child learning and development, toward the provision of educational services, supportive interventions, and referrals to community services. 928 families completed the FM, including items related to maternal depression, food insecurity, and food quality.

Children whose mothers had low level or high symptoms of depression were more at risk for low food quality and food insecurity than children whose mothers had no symptoms of depression. Odds ratios analyses were conducted, adjusted for maternal race/ethnicity, employment status, number of children in the home, level of education, presence of another adult in the home, and child gender. When the mother had low level symptoms of depression, the child was about twice as likely to have problems with food quality and insecurity. When mothers had high symptoms of depression, children were 6 times more likely to be at risk for low food quality and food insecurity compared to children of mothers with no symptoms of depression.

Maternal depression is strongly related to food quality as well as to food insecurity. Future research should investigate the nature of the interplay between these variables as they relate to the etiology of child obesity. Implications for prevention/intervention programming are offered.

### **This preliminary analysis examined the validity of the Family Map Inventory to screen for a safe sleep environment for infants.**

Nabaweesi, R., Whiteside-Mansell, L., Rose Caballero, A., Mullins, H., Miller, B. A., Aitken, M.E. (February 2016). Validity of a community-based screening survey for safe sleep environment. Presentation submitted to the The Southern Society for Pediatric Research, New Orleans, LA.

Sudden Unexpected Infant Death (SUID) including Sudden Infant Death Syndrome (SIDS), often in the sleep environment, is the leading cause of post neonatal infant death. Early childcare providers and home visitors (HV) are often in contact with families of infants at high risk of SIDS. A tool that is feasible to identify risky sleep environments is needed. We examined the validity of three sleep-safety questions on the Family Map (FM), a survey used by HV to screen for home risks and identify needed services.

Participants were enrolled in Teen Thrive or Healthy Families America HV projects. HVs conducted the FM interview routinely. HVs were trained in sleep environment assessment using the FM and a simulation where mothers placed a doll in the baby's normal sleep location and position. Concordance between observed behavior and FM sleep questions was assessed using Cohen's Kappa coefficient.

FM screens were matched to observations for 38 mothers with infants < 6 months old. Participating mothers were 14-24 years old; 90% were primigravidas. For the 'back to sleep' question on the FM, concordance with observed behavior was acceptable (Kappa= 0.58). Co-sleeping responses had poor concordance; parents reported more risks on the FM than was observed. Parents' underreported use of soft materials in the crib on the FM compared to observation.

The FM had mixed results in its usefulness to identify SIDS risks. Refinement of the instrument and further study may lead to a tool that can be used for risk assessment and referral for additional services and education.

## Percent of Infants Observed or Identified with No Risk on Three SIDS Prevention Level A Recommendations

American Academy of Pediatrics Level A recommendations <sup>a</sup>	Observed Safe	Family Map Question	Family Map Report Safe	Kappa	r	N
1. Back to sleep for every sleep	74.3%	Do you place your baby on his/her back to sleep at night or during naps?	82.9%	.58**	.60	35
2. Room-sharing without bed-sharing is recommended	81.0%	Do you co-sleep with your baby at night? (Reverse)	46.7%	.36	.47	30
3. Keep soft objects and loose bedding out of the crib	42.1%	Which of the following do you have in your home? Crib/Bed filled with soft bedding or lots of stuffed toys (Reverse)	76.8%	.10	.17	38

<sup>a</sup> <https://www.aap.org/en-us/about-the-aap/aap-press-room/pages/aap-expands-guidelines-for-infant-sleep-safety-and-sids-risk-reduction.aspx>

*www.thefamilymap.org*