

## **Social and Emotional Development of Infants and Toddlers in Early Head Start: Findings from the Early Promotion and Intervention Research Consortium**

**Chair:** Rachel Chazan Cohen

**Discussant:** Hiram E. Fitzgerald

**Presenters:** Linda S. Beeber, Brenda Jones Harden, Jane K. Squires

- **Risk Factors for Maternal Depression**  
Linda S. Beeber
- **Risk Factors for Aggression**  
Brenda Jones Harden
- **Exposure to Trauma in Young Children: Behavioral and Cognitive Functioning in Low-Income Infants and Toddlers**  
Jane K. Squires

**Cohen:** Findings from the Early Promotion and Intervention Research Consortium were presented (EPIRC). The consortium of 5 grantees designed to develop and test approaches to supporting the mental health of infants, toddlers, and their families in Early Head Start programs. More information on this consortium is available at <http://www.acf.hhs.gov/programs/opre/ehs/epirc/index.html>. This consortium emerged from the Early Head Start Infant Mental Health Initiative, which began in 2001 and also contained a programmatic component, the Pathways training provided by the Early Head Start National Resource Center at Zero To Three.

The five projects in EPIRC cover a range of populations—teenagers, new immigrant Spanish speakers, homeless families, and those living in urban and rural settings. They have also taken different approaches to mental health interventions, with some intervening directly with families and others intervening at the level of training and support for program staff.

EPIRC was committed from the start to generate knowledge across the five projects as well as about the specific model each grantee implemented. A common core set of measures were used across sites, including a questionnaire about family and neighborhood characteristics, and assessments of parental mental health, parenting, family stress, and child social-emotional functioning. This core set of measures was collected at baseline and at common follow-up time in order to answer many questions related to the needs of different populations, the predictors of child and parent outcomes, as well as the implementation and effectiveness of different approaches to mental health interventions.

**Beeber:** Current literature indicates that low-income mothers' risk for severe depressive symptoms is four times that of middle-income mothers. A large body of research also indicates that when mothers are depressed, children are at risk for a number of developmental difficulties.

Maternal depressive symptoms disrupt factors that are known to be crucial for infant and toddler mental health, maternal attentiveness, optimal levels of stimulation, child-centered talk central to language development, healthy modeling of emotional expression and regulation, social interaction, and integration of the mother-toddler diet, developmental stimulation and scaffolding. All of these factors are compromised by depressive symptoms and ultimately compromise the infant and toddler's mental health.

The present cross-site study from the EPIRC investigators examined the unique and additive contributions of contextual factors, including socioeconomic status, family stability, family functioning, and child aggression to depressive symptoms in Early Head Start mothers. A multiethnic sample of parents representing African American, Hispanic/Latino, and White non-Hispanic populations participated in the study, with children between the ages of 12 to 43 months. The sample includes 270 children and parents. Families are included from eleven Early Head Start programs across the United States representing both urban and rural areas. About 39 of the mothers scored at or higher than 16 on the Center for Epidemiologic Studies Depression Scale (CESD).

Key findings were: higher socioeconomic status was positively linked with the latent construct of positive family functioning through high partner support, low parenting stress, and high relationship satisfaction. Positive family functioning, in turn, was negatively associated with maternal depression. Structural Equation Modeling (SEM) indicated that 45 % of the variance in maternal depression was accounted for by the model. Maternal depression was strongly related to mothers' reports of the quality of the couple dyad and her internal reflections of stress related to parenting, but not to behavioral indices of functioning in the mother-child relationship. Child aggression, like socioeconomic status, emerged as an important factor in that it statistically predicted family factors and was indirectly linked to maternal depression.

Early Head Start research and evaluation data showed that about 48 % of the mothers had depressive symptoms based on the CESD, and 12 % had significant symptoms at two time points. The strongest models of maternal depressive symptoms are ecological. Most ecological studies have been conducted in families with lower risks than those in our sample, but they have included life stress, parenting stress, relational satisfaction, family conflict, and social support. There is some evidence for contextual risk mediating the link between maternal depressive symptoms and child behavior problems and some evidence for mutual impact of one feeding into the other.

The model indicated that as levels of child aggression went up, partner support, parenting stress, and relationship satisfaction are adversely affected, and maternal depression was more likely. These data suggest that assessment of maternal depressive symptoms in the face of child aggression is important since maternal treatment may affect child aggression. The data suggest, however, that family interactions and partner support are also important to assess. Because these variables are independently predictive of child aggression, focusing on individual treatment for a depressed mother, as opposed to a family-based intervention, may limit the effect of intervention on child aggression. These findings support the integration of mental health services into Early Head Start and Head Start programs in order to reach these high-risk mothers and families.

**Harden:** The Office of Head Start has a long history of looking at behavior problems in young children. Current estimates suggest that 25 % or more of Head Start children have behavior

problems. Head Start children are at environmental risk because of low socioeconomic status and high psychological vulnerability. Research also suggests that housing problems, economic hardship, and employment issues within the family impact children's behavior. Children's gestational age and prematurity also seem to lead to heightened levels of behavior problems. Hyperactive children and those with difficult or negative temperaments are highly likely to develop behavior problems. The literature points to the fact that behavior problems in Head Start children affect their school readiness.

Contextual variables associated with family functioning also contribute to this phenomenon, including parental functioning, parental stress, parental divorce and separation, and exposure to marital conflict and family violence. Hostile and controlling parenting behavior and intrusive parenting behavior contribute to children's behavior problems, as well as harsh discipline or rejecting behavior. Mediating factors such as positive parenting, nurturing involvement, and creation of firm rules can mediate between ecological risks in children's development of behavior problems.

The present cross-site study from EPIRC examined the unique and additive contributions of contextual factors such as socioeconomic status disadvantage, maternal mental health, family functioning, and partner support to reported aggressive behaviors in Early Head Start children. The study used the same sample described by Beeber. Maternal mental health was measured using the CES-D and the Parenting Stress Index (PSI).

SEM indicated that 36 % of the variance in reported child aggression is accounted for in the current model. In particular, higher levels of maternal mental health difficulties were related to increased child aggression, as was increased family conflict. Decreased partner support was linked to increased child aggression through higher levels of maternal mental health difficulties. These data suggest that young children's aggression is to a significant extent attributable to the psychological functioning of their mothers and larger family systems. Thus the improvement of maternal mental health such as decreased depression and parenting stress may lead to a decline in childhood aggression. Similarly, enhancing family processes such as partner support can have beneficial effects on maternal mental health, and subsequently child outcome. Finally, reducing family conflict may also lead to reductions in child aggression.

The findings of this study highlight the importance of the comprehensive approaches of many Head Start programs, which incorporate family support and mental health services as means to promote positive child outcomes. Some data suggest that toddlerhood might mark the beginning of depressive or aggressive symptomatology in children, so it is important to examine aggression in children prior to the preschool years. Toddler aggression should be looked at in terms of what the child presents in the classroom, as well as family factors that may support those kinds of aggressive behaviors. Programs should also continue a comprehensive focus on the family, including screening for maternal depression and appropriate referrals for family support services.

**Squires:** Results from the Miami site were presented with a focus on trauma exposure and behavioral and cognitive outcomes of children. Trauma may be particularly deleterious to functioning in early childhood, but few empirical studies have investigated relations between trauma exposure and functioning in young children. Even more limited is research examining the mechanisms of those relations. The study aims were to assess acute and ongoing trauma

exposure in Early Head Start children and to examine these factors in terms of child outcomes, both behavioral and cognitive functioning, and to examine aspects of parenting as a mediator of the links between this trauma exposure and child outcomes. It was hypothesized that ongoing trauma, measured via parental reports of family violence, would be related to externalizing and internalizing difficulties and cognitive functioning in infants and toddlers. The study also looked at the role of poverty and how the relationship of income to violence exposure affects child functioning.

Study participants included families of 97 children aged 14 to 41 months in an urban Early Head Start program in Miami. The mean age for children was 27 months, and the parent mean age was 27.5 years. Most of the families involved were African American, Haitian, Afro-Caribbean, and Latino. Family income mean is about \$14,000 per year. Children's exposure to traumatic events was assessed through an adapted version of the Traumatic Events Screening Inventory –Parent Report Revised (TESI). Exposure to family violence was assessed by utilizing three items from the Conflict Subscale of the Family Environment Scale related to family members losing their tempers, throwing things, and hitting each other. Parenting stress was measured using the PSI Short Form. The Child Behavior Checklist externalizing and internalizing subscales were used to assess child behavioral functioning. Child cognitive functioning was measured using the Mental Scale of the Bayley Scales of Infant Development-2nd Edition. SEM through Mplus computer software was used to estimate all models.

On the TESI, 28 % of parents reported that their child had experienced at least one acute trauma, including child was witness to serious accident, been in disaster, hospitalization, eviction or homelessness, separated from caregiver, someone close to the child has died or the child present during a mugging. For the family violence measurement, the three items studied were people in the family throw things, lose their tempers, and hit each other. Thirty percent of parents rated at least one item at three or above. In the Child Behavior Checklist, the mean score for externalizing was 52, 18 % in the subclinical and 10 % in the clinical range. For internalizing, 21 % were in the subclinical and 5 % were in the clinical range.

It was hypothesized that both nonfamilial violence traumas and family violence would be related to externalizing behaviors, and that those relations would be mediated by parenting stress. The model provided excellent fit to the data accounting for 28 % of the variance in child externalizing behaviors. Second, it was expected that only family violence would be related to internalizing behavior, and that the pathway would be mediated by parenting stress. The model provided a good fit to the data accounting for 35 % of the variance in child internalizing behaviors. Third, a mediation model was tested with child cognitive functioning as the outcome variable. It was hypothesized that family and nonfamily stressful experiences would be related to cognitive functioning, and that the relations would be mediated by parenting stress. The model also provided an excellent fit to the data accounting for 12 % of the variance in cognitive functioning.

Results indicated that exposure to trauma and violence accounted for significant variance in young children's functioning, directly and through parenting stress. This study provides initial evidence for specificity of relations between types of trauma and functioning. While the study points to associations, there is no evidence of causality.

**Fitzgerald:** The findings presented here are not particularly new in and of themselves. At face value, they add to a growing body of literature on the effects of early experience on child development. These studies mark an era of Early Head Start and Head Start research moving into the full domain of developmental sciences, gaining evidence of the efficacy of prevention programs. Moreover, these studies represent efforts to find out the factors that influence children's development, other than just that the program is being delivered to them. If the goal is to change the ecological context of the rearing environment, one has to study the efficacy of interventions hypothesized to produce change.

Exposure to trauma and family conflict has a negative impact on children, and the effects of exposure to maternal depression on infant and early child development impacts the hypothalamic, pituitary, adrenal complex stress reactions. Socioeconomic status exacerbates parental psychopathology and parental conflict. Poor partner support exacerbates child aggression, perhaps as a direct effect, but maybe initiated by the child who may not be happy with the mother's partner. The child may initiate increasing aggression directed toward the partner.

Within the normative framework, all people have behavior problems when they start out in life. Longitudinal data available on the study of aggression shows that people are at the peak of their developmental aggression at 2 years of age, as they bite, scratch, kick, push, and so forth. From that age, those behaviors become socialized and dampened in most children. Those children at highest risk have behavioral indicators of undercontrol, early mood dysregulation, rough behavior, sadness, depression, sleep problems, and higher levels of antisocial behavior. By age 5 years, one can differentiate children who have true behavior problems from those on the other trajectory of being socialized. Children who have these presenting state characteristics tend to grow up in high-risk environments. The combination of early child risk, or individual risk, and family environment, or social risk, sets the course for one's developmental pathway.

Data from the Michigan Longitudinal Study may be useful in raising policy points related to the way that money is spent by the Administration for Children and Families in the Office of Head Start and other agencies that fund human development research. These data are from a study that is now 20 years old, reflective of 400 children who were 3 to 5 years of age at the beginning of the study 20 years ago. They were selected into this study because of paternal characteristics of antisocial behavior and alcoholism. Most children were in the normal range of behavior, and those who were not were consistently high across all the variables of poor cognitive function, high aggression, and externalizing behavior.

Children with no evidence of high adversity, but who grow up in troubled families are referred to as resilient, since they do not show the characteristics of the families who rear them.

Socialization works, especially for resilient and nonchallenged children, but it also works for troubled and vulnerable children. The logical policy recommendation is to fund these programs through early childhood, but that is inadequate. The study shows that externalizing behavior increases when the children reach middle school and high school, especially among the vulnerable and troubled children. Notions of what prevention means must be changed in terms of human development. It does not mean zero to 5 years of age, it means zero to 25 years of age.

Human development is a life course pathway and we cannot prevent issues, especially in vulnerable and troubled children, by stopping interventions at 5 years of age.

Data from the Michigan Longitudinal Study pointed to three different developmental pathways, but only the hard continuity pathway will be presented today because unfortunately it is most likely to represent many of the children in Early Head Start and Head Start. It is the pathway that will require Early Head Start, Head Start, and other prevention programs to rethink issues about dosage, amount of time spent in the prevention program, and probably the types of prevention programs delivered.

Many of these children look like their fathers; they are heavily involved in the criminal justice system, with early onset of sexual behavior, smoking, drinking and drug use. They also show externalizing behavior and social withdrawals, poor school readiness, high aggression, antisocial behavior, family disorganization in adolescence and adulthood. This is the developmental pathway that must be addressed, particularly during middle school, a prime age for intervention. When significant others or significant positive events enter the child's life, it deviates them away from a negative pathway and puts them on a normal course of development.

From the data presented this morning, the focus is on relationships: parent-child, parent-partner, parents-child, and the child development staff. The focus on ecological or systems models of intervention is also important. Intervention with the child's whole system is essential, because life is about whole systems. Parent programs, child programs, parent-child programs, especially with infant mental health relationships, access to resources and strengthening kinship and community networks are all important. Finally, programs must link major developmental reorganization periods in normative development much more than has been emphasized in the past. No matter what else is happening to these children, they are also being guided by normative organizational processes. It takes a lifetime to raise a child, why aren't prevention programs life course-oriented?

**Cohen:** What can we as a society do in the broad scheme of things? Early Head Start, even without specific interventions, is doing a good job supporting parents and children, specifically children's social-emotional development. Positive impacts are seen at age 2 and 3 years when children are in the program, and at age 5 years, after they have been out of the program for two years. The program has struggled with some of the other family risk factors. Some positive impacts have been seen on reduction of stress and family conflict at age 2 years, but those findings did not emerge at age 3 years. Parents show more positive parenting behaviors, but family risk factors still exist. At 5 years of age, some new reductions in family risk are seen, including reductions in maternal depression, reduction in child witnessing violence for some groups, especially some of the highest risk group, and reduction of children living with a drug or alcohol problem.

These findings show that interventions should be long lasting, but also that the effects of an intervention can take a long time to show. Some specific analyses were conducted to better understand the reduction of maternal depression that is seen two years after the program. Earlier reductions of parenting stress, family conflict, spanking, and child behavior problems, along with increases in child language and developmental functioning, led to later reductions in maternal

depression.