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The Role of Parenting Stress in Young Children's Mental Health Functioning After Exposure to Family Violence

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Abstract

This study evaluates the associations of young children's exposure to family violence events, parenting stress, and children's mental health functioning. Caregivers provided data for 188 children ages 3 to 5 years attending Head Start programming. Caregivers reported 75% of children had experienced at least 1 type of trauma event, and 27% of children had experienced a family violence event. Child mental health functioning was significantly associated with family violence exposure after controlling for children's age, gender, household income, and other trauma exposure ($\beta = .14, p = .033$). Stress in the parenting role partially mediated the relationship between family violence exposure and young children's mental health functioning ($\beta = .12, p = .015$, 95% confidence interval [0.02, 0.21]). Interventions for young children exposed to family violence should address the needs of the child, as well as the caregiver while also building healthy parent-child relationships to facilitate positive outcomes in children faced with trauma.

Introduction

Young children's exposure to family violence is a major public health problem. Approximately 15.5 million American children live in households in which intimate partner violence has occurred during the past year (McDonald, Jouriles, Ramisetty-Minkler, Caetano, & Green, 2006). It has been estimated that 24% of children ages 2 to 5 years witnessed a violent event within the previous year and 10% witnessed an assault within the family (Finkelhor, Turner, Ormrod, & Hamby, 2009). Family violence can include physical (e.g., hitting, biting, kicking) or emotional (e.g., rejecting, degrading, isolating), aggression, and involves at least one family member as a victim and another as a perpetrator (Margolin & Vickerman, 2007). The problems posed by children's exposure to family violence not only affect their physical health and safety, but also may affect their psychological adjustment, social relations, and academic achievement (e.g., English, Marshall, & Stewart, 2003; Huth-Bocks, Levendosky, & Semel, 2001; Litrownik, 2003).

The majority of family violence occurs during the first 5 years of life (Fantuzzo & Fusco, 2007; U.S. Department of Health and Human Services, 2011), when the developing brain is most vulnerable to the negative effects of trauma and chronic stress (National Scientific Council on the Developing Child, 2005). Family violence by nature is often chronic and repeated, both of which may exacerbate child symptomatology and lead to maladaptive functioning. Information is needed to understand the impact family violence has on young children's mental health, and what role parenting stress may play in mediating or mitigating negative outcomes. This study examined these issues among children ages 3 to 5 years.

Violence in the home occurs at high rates and is noted as one of the most common and severe events of childhood (Margolin & Vickerman, 2007). In a study of parent and partner violence in 453 families conducted by Slep and O'Leary (2005), 90% of households experienced some type of physical aggression (i.e., partner violence) in the past year, over 40% of families reported that 3–4 types of physical aggression occurred in the past year, and 13% reported parent violence severe enough to meet definitions of child physical abuse. Violence in the home does not occur in pure forms, rather there are high rates of co-occurrence between marital violence and child physical abuse (e.g., hitting; Appel, 1998), and children's witnessing of violence (see Kitzmann, Gaylord, Holt, & Kenny, 2003, for a review).

Abusive home environments can jeopardize the developmental progress and personal abilities of children. For example, preschoolers who witness violence have more behavioral problems, social problems, posttraumatic symptoms, greater difficulty developing empathy, and poorer self-esteem than nonwitnesses (Briggs-Gowan et al., 2010; Cunningham & Baker, 2004; Huth-Bocks et al., 2001; Levendosky, Huth-Bocks, Shapiro, & Semel, 2003). Early and prolonged exposure to violence can potentially create more severe problems as this period is important for brain development and for maturation (Teicher, 2003), which accordingly can have negative effects on developmental trajectories (Cunningham & Baker, 2004). Developmental setbacks associated with exposure to family violence can in turn be carried into adolescence and adulthood and contribute to a cycle of intergenerational adversity and violence. Given the impact exposure to family violence can have on young children's health and development, more studies are needed to understand the impact family violence events may have on young children's mental health.

Because young children depend on caregivers to help make sense of experiences and to regulate emotions (Baker & Cunningham, 2005), parental factors, including stress, may greatly impact children's experience of and response to traumatic events (Schechter & Willheim, 2009). Caregiver support and functioning are critical factors in how young children respond to trauma exposure (Lieberman & Knorr, 2007; Scheeringa & Zeanah, 2001), and how trauma exposure is related to negative behavioral outcomes (English et al., 2003). Thus, family violence can have the unfortunate consequence of undermining parents as protectors and as sources of support (Margolin & Vickerman, 2007). From an attachment perspective, children exposed to violence are likely to respond with disorganized attachment when the parent simultaneously is the source of safety and the source of danger (Hesse, 2006). The nonoffending parent, in many cases the mother, may be unable to offer security if she is threatened or victimized (Bedi & Goddard, 2011; Margolin & Vickerman, 2007).

Mothers who are dealing with posttraumatic reactions to victimization may not be as emotionally available, tend to be more impulsive in their actions toward their children, underestimate their children's distress, and are less likely to seek mental health services for their children (Chemtob & Carlson, 2004). Further, mothers of young children who are involved in violent interpersonal relationships are at increased risk for stress and for depression (Huth-Bocks et al., 2001), which can impact parenting capacity. In a report of data using the 2003 National Survey of Children's Health, parents reporting high parenting stress had higher odds of violent and heated disagreements than parents reporting less stress (Moore, Probst, Tompkins, Cuffe, & Martin, 2007).

Children whose parents have high levels of stress are at increased risk for early developmental difficulties, including problems in language, cognition, attachment, emotion regulation, and social competence (English et al., 2003). Head Start programs were designed to promote early child development in families at risk for poor developmental and educational outcomes, including those families whose parents have high levels of stress (National Research Council and Institute of Medicine, 2000). A large percentage of Head Start families has been found to be from low-income, high-risk backgrounds (e.g., Abramsky et al., 2011). According to one report, 13% of Head Start parents indicated that they have been victims of domestic violence, and 10% of children were reported to have witnessed domestic violence during the previous year (Administration for Children and Families, 2001). In a separate study, 39% of Head Start children were exposed to violence at home, and 15% of children had witnessed a close relative being attacked or beaten. Forty-four percent of children in the study were reported by parents to be experiencing trauma symptoms (Administration for Children and Families, 2008). Although family violence has been found to be prevalent in Head Start families, and although one of the prominent goals of Head Start is supporting early child-parent relationships, we are unaware of any studies that have looked specifically at the links between family violence, parenting stress, and child mental health functioning in this population.

Despite the impact exposure to trauma such as family violence can have on developmental trajectories, research on exposure to traumatic events in young children—particularly those attending Head Start programming—is inadequate. Further, although caregiver behaviors can be highly influential in determining the developmental trajectories of children exposed to trauma (Lieberman & Knorr, 2007; Scheeringa & Zeanah, 2001), and although parenting stress is associated with negative mental health outcomes in youth (Crnic & Low, 2002), our understanding of the role parenting stress plays in young children's mental health functioning in the face of trauma is limited.

The current study examined the association of trauma exposure and mental health functioning in children 3 through 5 years of age attending Head Start. Given the distinguishing features of family-related violence and trauma (i.e., it occurs within the context of ongoing relationships and is often chronic and repeated) from other forms of violence (Tolan, Gorman-Smith, & Henry, 2006), we examined the unique effect of family violence and family-related trauma on young children's mental health functioning. A number of studies have shown that individual and family factors may contribute to a child's adjustment after exposure to trauma (e.g., Murray & Farrington, 2005; Phillips, Erkanli,

Keeler, Costello, & Angold, 2006). Therefore, any investigation of the association between exposure to family violence and child mental health functioning must take other risk factors (e.g., child's age, gender, family income level, and exposure to other types of trauma) into account that may be influencing children's functioning after exposure to family violence. Finally, we examined the mediating role of parenting stress on the association between young children's exposure to family violence and their mental health functioning.

Method

Data used for this study were from a larger study examining social determinants of health among children aged 3 to 5 years from racial/ethnic minority backgrounds, low-socioeconomic status backgrounds, and/or who are immigrants and their families.

Participants

Participants included 188 children attending Head Start educational programs and their caregivers (age 16). Only one child and one caregiver per family were eligible for participation. To be enrolled in Head Start services, caregivers self-select to complete an application and are screened by Head Start for eligibility based on program requirements (e.g., family income).

Measures

Trauma events—To measure lifetime occurrence of exposure to trauma events, we used the 24-item Traumatic Events Screening Inventory-Parent Report Revised-Long Version (TESI-PRR; Ghosh-Ippen et al., 2002), which was developed for use with children aged birth to 6 years. The TESI-PRR was used as a screen in the current study to identify children who had been exposed to family violence and nonfamily violence. A family violence sum score was calculated using items endorsed by caregivers (i.e., “yes” a child has been exposed to a specific trauma event at any time in the past; potential range 0–11). Exposure included events directed toward the child (sexual abuse from a family member, physical violence from a family member, verbal abuse by a family member, caregiver neglect, kidnapping by a family member, threatened violence by a family member, separation from a caregiver) or witnessed by the child (sexual abuse, physical violence, or threatened violence between family members; attempted suicide of family member).

A nonfamily violence score was calculated based on the remaining TESI-PRR items not classified as familial in nature (e.g., serious accident, natural disaster) with a potential range of 0 to 13. The TESI-PRR has been correlated with the Parent Report of Children's Experiences ($r = .52$), another measure of trauma exposure, indicating that the two instruments are measuring similar, but not identical constructs (Berent et al., 2008). Additionally, the TESI-PR has reported good test-retest reliability ($\kappa = 0.50$ to 0.79 ; Ford et al., 2000). Child mental health functioning was constructed as a latent variable incorporating child psychosocial health, temperament and self-regulation skills, and behavioral concerns scores.

Psychosocial health—Psychosocial health was assessed using the Child Behavior Checklist (CBCL) for children aged 1½ to 5 years (Achenbach & Rescorla, 2000), a widely used 113-item parent-report measure designed to assess competencies, and behavioral and emotional problems in young children. The CBCL assesses internalizing (anxiety/depression, somatic complaints), and externalizing (aggression, delinquency) emotional and behavioral problems. For this study, the CBCL Total Problems scale *T* scores were used. Scores above 63 indicate clinical level, with higher scores indicating more psychosocial health problems. Reliability and validity of the CBCL is well established (Achenbach & Edelbrock, 1983; Achenbach & Rescorla, 2000). Cronbach's $\alpha = .96$ for this sample.

Temperament and self-regulation—Temperament and self-regulation skills were assessed using the Temperament and Atypical Behavior Scale (Neiswroth, Bagnato, Salvia, & Hunt, 1999), a norm-referenced assessment tool for children 11 to 71 months of age. The Temperament and Atypical Behavior Scale is a 55-item checklist that yields a detailed evaluation of atypical behavior in the four categories of detached, hypersensitive-active, underreactive, and dysregulated. The overall Atypical Behavior Index is a standard score with a mean of 50 and a standard deviation of 10, with higher scores indicating less problem behaviors. Internal consistency for the screener is .83. The corrected split-half reliability is .95 for children with disabilities and for the pooled samples and .88 for children not at risk (Neiswroth et al., 1999). Cronbach's $\alpha = .92$ for this sample.

Behavioral concerns—Behavioral concerns were assessed using the Devereux Early Childhood Assessment (LeBuffe & Naglieri, 1999), a 37-item parent-report instrument of child social-emotional protective factors and behavioral concerns that is appropriate for use with children 2 to 5 years. The 10-item Behavioral Concerns score used in this study assesses challenging and problem behaviors that children may exhibit, with higher scores indicating more behavioral concerns. The Devereux Early Childhood Assessment has adequate psychometric properties with reliability coefficients for parents ranging from .55 (test-retest) to .71 (internal) for the Behavioral Control subscale (LeBuffe & Naglieri 1999). Cronbach's $\alpha = .70$ for this sample.

Parenting stress—The degree of stress related to dimensions the parenting role was assessed using the Parenting Stress Index Short Form (Abidin, 1990), a 36-item self-report measure. Total Stress score, used in this study, is quantified by summing all three subscales (Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child); higher scores indicate higher levels of parenting stress. With a normative sample of 800, Abidin (1990) reported a Cronbach's $\alpha = .91$ for Total Stress. Additionally, a Cronbach's α of .95 has been reported in a sample of low-income, African American Head Start families (Reitman, Currier, & Stickle, 2002). Cronbach's $\alpha = .94$ for this sample.

Procedure

This study was conducted in collaboration with a community-based agency that operates several Head Start centers in an urban city in the northeastern United States. Research team members shared the purpose of the study with staff and staff invited families to participate using an informational letter. We received 489 initial consent to contact forms, of which 270

(55%) were screened for study participation. Attrition from the screening phase was due to, for example, incorrect phone numbers, no response after repeated attempts to contact, and family decision to not participate. Of the families screened, 188 (70%) enrolled in the study. Reasons for nonparticipation after screening included inability to schedule an interview after repeated attempts and not meeting study criteria.

A cross-sectional research design was used in which caregivers reported on children's trauma experiences and mental health functioning, and their own stress in the parenting role. Semistructured face-to-face interviews were conducted at a location of the parent's choosing (e.g., public library). All measures/questionnaires were read aloud to caregivers to address any literacy issues and follow-up questions were posed to respondents when appropriate. Visual aids (e.g., cards with printed Likert-type scales corresponding to specific questionnaires) also were used to help with any potential literacy-related issues. Interviews took approximately 2 hours to complete, and respondents were compensated with a \$45 gift card from local vendors (i.e., grocers). Study materials were in English (76.1%) and in Spanish (23.9%) based on participants' needs. The Yale University Institutional Review Board approved all study procedures and provided oversight in the protection of participants.

Data Analysis

Contextual factors of TESI family violence items were reviewed to verify data collected reflected family violence (i.e., those involved were family members of child). Exploratory analyses indicated that children's Total Problem score on the CBCL was skewed, thus log a transformation was undertaken prior to analysis.

A structural equation model was conducted to assess for association between family violence exposure and child mental health functioning (latent variable), taking into account child's age, gender, and other trauma history using AMOS version 19.0 software. This analytic approach uses the maximum likelihood estimation method to estimate the model and obtain the variance-covariances of the parameters (Arbuckle, 1995–2010). Multiple imputation methods were used in NORM to handle missing data (Schafer, 1999). Data for this study were 95% complete. Criteria to examine good fit was determined by a comparative fit index (CFI) greater than .95 and a rootmean-square error of approximation (RMSEA) less than .08 indicating reasonable fit (Hu & Bentler, 1999).

Bootstrapping was used to determine the significance of direct and indirect effects (Preacher & Hayes, 2008). Bootstrapping (Shrout & Bolger, 2002) is a highly powered, nonparametric procedure based on resampling with replacement and is robust to violations of assumptions to normality. Specifically, 2,000 random samples from the study sample of 188 participants were drawn to obtain unbiased estimates, confidence intervals, and standard errors of indirect effects that are equivalent to values that could be obtained by randomly sampling these indirect effects from the population.

Results

The final sample consisted of 188 children from an urban community. The sample was evenly distributed between boys (51%) and girls (49%), with a mean age of 4.33 years ($SD = 0.66$). The socio demographic composition of the sample is consistent with the racial/ethnic and income composition of the city (see Table 1).

Based on caregiver report on the TESI-PRR, three out of four children had been exposed to traumatic events. Of those exposed, one was currently seeking services at a mental health agency, two were in early intervention programs, one was enrolled in a home visitation program, and three were involved with the state's child welfare agency. Children were exposed to an average of 1.99 ($SD = 1.95$; range 0–9) types of trauma events. Seventy-one children (38%) were exposed to family violence (34 witnesses, 17 victims, and 20 who had experienced both). The most frequent types of family violence experienced included physical fighting between family members (25%), separation from a family member (15%), and threats of physical violence between family members (5%).

Child psychosocial health, temperament, and self-regulation behavior, and behavioral concerns (see Table 2) did not differ by gender or race/ethnicity.

Thirteen percent ($n = 16$) of caregivers reported parenting stress in the clinically significant range (90th percentile). Of those, 11 (68.75%) were in families that had been exposed to at least one type of family violence. Mean Total Stress score was 69.04 ($SD = 21.21$).

The final model that examined the effect of family violence exposure on child mental health functioning through the hypothesized mediator—parenting stress—fit well, $\chi^2(13) = 21.98$, $p = .069$, CFI = .98, RMSEA = .06. Controlling for other trauma history, child's age, and gender, results revealed that higher levels of exposure to family violence was associated with worse child mental health functioning ($\beta = .14$, $p = .033$; see Figure 1). Child exposure to family violence was associated with higher levels of parenting stress ($\beta = .20$, $p = .004$). Furthermore, higher levels of parenting stress was associated with worse child mental health functioning ($\beta = .59$, $p < .001$).

Indirect effects were examined to determine the mediational role of parenting stress in the relationship between family violence exposure and child mental health functioning. Results indicated that this effect was significant ($\beta = .12$, $p = .015$, 95% confidence interval [0.02, 0.21]), suggesting that parenting stress in part explains the influence of family violence exposure on child mental health functioning.

Discussion

The current study evaluated the relationships between family violence exposure, parenting stress, and young children's mental health functioning in an urban community sample. Results indicate that it is common for children 3–5 years of age to experience multiple traumatic events, many of which involve exposure to family violence either as witnesses or as victims. Although 75% of our sample had been exposed to any type of trauma event, more than one in three children (38%) in our sample had been exposed to family violence.

This mirrors recent estimates suggesting approximately one third of children living in dual-parent homes in the United States have been exposed to violence between their parents (McDonald et al., 2006). As seen in the current study, exposure to family violence in particular may represent a significant risk to the healthy development of young children (Fowler & Chanmugam, 2007). Unfortunately, few of our children and their families were currently seeking mental health/other assistance services (e.g., home visiting programs), which speaks to the need for early and appropriate identification and referral for young children who may experience adjustment difficulties after exposure to trauma.

The negative influence of exposure to family violence on child mental health was partially mediated by caregivers' level of stress in the parenting role. Thus, caregivers who reported higher levels of stress in the parenting role were more likely to report worse mental health functioning in their young children after exposure to family violence than caregivers reporting lower levels of parenting stress. Exposure to family violence is associated with reports to child protection (e.g., Kohl, Edleson, English, & Barth, 2005), and fears of apprehension by the state may increase parental (maternal) stress, which in turn can heighten children's adjustment difficulties. Caregiver support and family functioning are critical to how young children respond to trauma exposure (e.g., Lieberman & Knorr, 2007; Scheeringa & Zeanah, 2001), thus, it is unsurprising that young children's reactions to family violence may be shaped in part by the level of parenting stress their caregiver is experiencing. This suggests that interventions for children exposed to family violence should also assess and address caregivers' needs.

The study sample consisted of children attending Head Start programs. Seventy-five percent of the children in our community sample had been exposed to at least one type of traumatic event, nearly twice as high as rates of exposure previously reported in a nationally representative community sample of children aged 3–5 years (Finkelhor et al., 2009). High prevalence rates in our sample may be due to the community/contextual factors (e.g., high levels of violence and poverty) faced by the children and families who participated in the study. Further exploration of contextual aspects associated with family and nonfamily violence would help better understand the prevalence and consequences of violence exposure for young children.

Study findings must be interpreted in the context of its limitations. First, the cross-sectional design cannot definitively address the temporal ordering of relationships in our process model. Although the model was chosen based on the literature stating that caregiver support and functioning are critical factors in how young children respond to trauma exposure (Lieberman & Knorr, 2007; Scheeringa & Zeanah, 2001), our results do not rule out the plausible hypothesis that children's mental health may mediate links between family violence exposure and parenting stress. Study findings would be enhanced through examining the model process longitudinally and assessing change in parenting stress and child mental health over time. Regardless, even if longitudinal data modeling were to find that the reverse relationship was true, it would not take away from the importance of caregiver needs and building of healthy parent–child relationships in families exposed to violence. Second, the present study did not assess caregiver's adjustment to potentially traumatic events. Although positive parent–child attachment has been shown to buffer

against negative outcomes in children following exposure to violence (Levendosky et al., 2003), there is great variability in attachment and parenting competence in families affected by violence. Future studies assessing child mental health and the role of parenting stress in the context of trauma hinges upon identifying parental factors that may contribute to, or impede child adjustment following trauma exposure, in particular, exposure to family violence. Third, information regarding child exposure to trauma was based solely on caregiver report. Further, due to the semistructured interview format, caregivers may have been limited in their willingness to report certain types of traumatic events. Parents provided multiple sources of data regarding the mental health functioning, and reporting across measures was consistent, providing a good measure of reliability in reporting. Although caregiver reports of young children's functioning is feasible and appropriate, future studies that use child-focused research methods to assess for trauma (e.g., child interviews, play-based assessments) would provide more information regarding how the children are affected by exposure to family violence. Finally, though this was one of the first studies to assess parenting stress as a mediator in the relationship of family violence exposure and young children's mental health functioning, caution should be exercised in generalizing the findings beyond the characteristics of our sample.

Research has demonstrated that exposure to family violence may represent a significant risk for the poor development of young children (Fowler & Chanmugam, 2007; Lieberman et al., 2005). The study further supports the literature showing that a caregiver's level of stress as it relates to parenting affects the strength of the relationship between family violence exposure and the child's response to trauma (Levendosky et al., 2003; Schechter & Willheim, 2009). This research supports the need for family interventions that focus on addressing parent and child needs to facilitate positive outcomes in children.

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Figure 1. Results of structural equation model including standardized coefficients. Solid lines represent significant paths. DECA-BC = Devereux Early Childhood Assessment Behavioral Concerns Scale; TABS = Temperament and Atypical Behavior Scale Standard Score, Normalized; CBCL = Child Behavior Checklist Total Score. * $p < .05$. ** $p < .01$. * $p < .001$.**

Table 1

Child and Caregiver Characteristics

	n	%
Child characteristics		
Gender		
Female	92	48.9
Male	96	51.1
Race/ethnicity		
African American	85	45.2
White	8	4.3
Other	95	50.5
Hispanic	100	53.2
Age		
3 years	51	27.1
4 years	102	54.3
5 years	35	18.6
Medicaid receipt		
Yes	164	87.2
No	23	12.2
Unreported	1	0.5
Caregiver characteristics		
	<i>M</i>	<i>SD</i>
Age in years	32.22	8.76
	<i>n</i>	<i>%</i>
Relationship to child		
Biological mother	165	87.6
Biological father	10	5.3
Grandmother	8	4.3
Other ^a	5	2.7
Level of education		
Less than high school	56	29.8
High school degree or equivalent	74	39.4
Associates degree or some college	44	23.4
College degree or greater	14	7.4

Note. *N* = 188.

^aOther relationship to child includes stepfather, aunt/uncle, great aunt, and great grandmother.

Table 2

Child Mental Health Scores

Variable	<i>M</i>	<i>SD</i>
Behavioral concerns ^a	49.12	11.06
Child temperament and atypical behavior ^b	89.68	20.35
Psychosocial health ^c	17.47	16.32

^aDevereux Early Childhood Assessment Behavioral Concerns Scale (mean [*M*] = 50, standard deviation [*SD*] = 10)—higher scores indicate worse problem behaviors.

^bTemperament and Atypical Behavior Scale standard score (normalized; *M*=50, *SD*=10)—higher scores indicate better behaviors.

^cChild Behavior Checklist total scores > 63 are clinically significant; higher scores indicate worse problem behaviors.