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Maternal Distress Explains the Relationship of Young African American Mothers' Violence Exposure With Their Preschoolers' Behavior

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Abstract

Adolescent mothers and their children are particularly susceptible to witnessing or directly experiencing violence. Such violence exposure predicts maternal distress, parenting, and child behavior problems. The current study examined how mothers' depressive symptoms, aggression, harsh disciplinary practices, and home environment independently explain the association between mothers' violence exposure and children's externalizing and internalizing behavior, controlling for their children's violence exposure. Data were collected from 230 African American mothers living in Washington, DC who gave birth as adolescents and whose children were 3 to 5 years old. Path analysis revealed that the effect of mothers' experienced violence on children's externalizing and internalizing behavior was mediated by mothers' depressive symptoms and aggression. However, neither harsh discipline nor stimulation in the home environment acted as significant mediators, and there were no direct or indirect effects of mothers' witnessed violence on child behavior. This study builds on previous work by identifying an association between maternal violence exposure and children's behavior, independent of children's own violence exposure that is explained by mothers' increased distress but not their parenting. These findings suggest that a potential means of preventing behavior problems in minority children born to adolescent mothers is to identify mothers who have been directly exposed to violence and treat their depressive symptoms and aggressive behaviors.

Keywords

intergenerational transmission of trauma; mental health and violence; violence exposure; youth violence

Introduction

Young children born to low-income, minority, adolescent mothers are at increased risk of developing behavior problems (Borkowski et al., 2007; Coley & Chase-Lansdale, 1998; Furstenburg, Brooks-Gunn, & Morgan, 1987; Pogarsky, Thornberry, & Lizotte, 2006), which can be precursors to later delinquency and conduct disorders (Brook, Whiteman,

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Finch., & Cohen, 1996; Fergusson, Horwood., & Ridder, 2005; Fergusson & Lynskey, 1998; Frongstien, Greenberg, & Robins, 2005). Urban, minority, adolescent mothers and their children are also particularly vulnerable to community and interpersonal violence (Kennedy, 2006), both of which have been linked to increased externalizing and internalizing behavior in young children (Linares et al., 2001; Margolin & Gordis, 2004; Osofsky, 1999). Most of this literature has focused on the consequences of children's own violence exposure, yet there is some evidence implicating intergenerational transmission of negative sequelae of maternal violence exposure (Aisenberg, 2001; Dubowitz et al., 2001; Morrel, Dubowitz, Kerr, & Black, 2003; Thompson, 2007). The current study tests the effects of African American adolescent mothers' violence exposure on their young children's externalizing and internalizing behavior and explores likely mediators of this relationship to identify potential mechanisms for preventing negative child behavioral outcomes.

A mounting body of research indicates that mothers who have been the victims of violence, especially domestic violence (Kitzmann, Gaylord, Holt, & Kenny, 2003), have children who exhibit increased externalizing and internalizing behavior (Morrel et al., 2003). Thompson (2007) provided evidence that mothers' history of victimization during childhood, but not adulthood, positively predicted their 4-year-old children's behavior problems. In contrast, Dubowitz and colleagues (2001) reported a cumulative effect of mothers' victimization during childhood and adulthood on their school-age children's externalizing and internalizing behavior problems.

Suggested explanations for these findings highlight the role of mothers' psychological health and parenting behaviors (Aisenberg & Ell, 2005). The theory of intergenerational transmission of trauma proposes that parents with a history of trauma "pass on" negative emotional and behavioral sequelae either through children's direct exposure to parental distress or through parents' detached, harsh, or even abusive behavior toward the child (Schwerdtfeger & Nelson Goff, 2007). Some researchers hypothesize that parents living in violent communities use harsher disciplinary practices to "toughen up" children so they can adaptively navigate their environment (Krenichyn, Saegert, & Evans, 2001), or parents are excessively strict and restrictive to limit their children's exposure to violence (Osofsky, 1999). Also, violence-exposed parents may experience depression due in part to the hopelessness they feel about protecting their children (Osofsky & Jackson, 1993; Richters & Martinez, 1993).

There is empirical evidence that victimized mothers' depressive symptoms and use of harsh discipline (defined in these particular studies as verbal and psychological aggression) mediate the effects of maternal victimization on both child internalizing and externalizing behavior (Dubowitz et al., 2001; Koverola et al., 2005; Morrel et al., 2003; Thompson, 2007). What remains unclear is the process by which maternal distress and parenting behavior affect each other and in turn explain the effect of maternal violence exposure on child behavior. Our own research has revealed direct effects of mothers' violence exposure on their depressive symptoms and general aggression, which in turn predict increased use of harsh disciplinary strategies and provision of less stimulating home environments (Mitchell et al., 2010). In the current study we extend our previous findings, examining behavioral outcomes in children and testing our proposed conceptual model shown in Figure 1.

The current study builds on existing research in three important ways. First, studies examining mediators of the effects of maternal violence exposure on children do not always account for the effects of children's own violence exposure. Children who are the victims of violence may exhibit their ensuing distress through increased externalizing (e.g., aggression) and internalizing (e.g., withdrawal) behavior (Linares et al., 2001; Litrownik, Newton, Hunter, English, & Everson, 2003). Social learning theory (Bandura, 1977) suggests that

children who witness violent events may exhibit more externalizing and internalizing behavior because they see externalizing behavior modeled by perpetrators and internalizing behavior modeled by victims. Without accounting for children's own exposure to violence, it is uncertain whether maternal violence exposure has any unique direct or indirect effect on child behavior. In the present study, maternal reports of preschool-age children's directly experienced (i.e., victimization) and witnessed violence are included in the analysis to elucidate the unique effects of maternal violence exposure on child behavior, above and beyond the effects of children's own violence exposure.

Second, although several researchers have distinguished between the effects of maternal victimization experienced during childhood versus adulthood (Dubowitz et al., 2001; Thompson, 2007), there are other ways to classify violence exposure that may clarify its effect on child behavior. For example, recent research has called attention to the independent effects of witnessed versus directly experienced violence, also referred to as victimization (Litrownik et al., 2003). The preponderance of evidence suggests that being the victim of family violence, not just a witness, has more consistent effects on children's aggressive and anxious/depressed behavior (Osofsky, 1999; Proctor, 2006) and, when witnessed events are severe enough that both mother and child note its occurrence, witnessing violence can also influence children's externalizing and internalizing behavior (Litrownik et al., 2003). Moreover, there is evidence that among urban African American adolescents witnessing community violence predicts different types of distress from directly experiencing community violence; witnessing is associated with more vigilance, and victimization is associated with more despondency about the future (Howard, Feigelmani, Cross, & Rachuba, 2002). There may be similar distinctions between the effects of mothers' witnessed versus directly experienced violence on child behavior (Aisenberg & Ell, 2005; Osofsky, 1999). Thus the present study examines whether mothers' experienced and witnessed violence are distinct from each other in their relationships to child behavior.

Third, we are examining these processes specifically in a sample of African American young mothers who gave birth as adolescents and who are living with their preschool-age children in an urban community characterized by high levels of violence. Adolescent mothers living in low-income, urban neighborhoods tend to be poor and disproportionately African American or Latina (Ventura, Abma, Mosher, & Henshaw, 2008), which mirrors the profiles of youth for whom violence exposure is most frequent and prevalent (Kennedy, 2006; Margolin & Gordis, 2000; Martinez & Richters, 1993; Scarpa, 2003). Indeed, the few studies on violence exposure that include young mothers suggest that their exposure rates are high and comparable to rates among low-income, urban youth generally (Horowitz, Weine, & Jekel, 1995; Lipschitz, Rasmusson, Anyan, Cromwell, & Southwick, 2000). As a particularly vulnerable population, violence exposure among young African American mothers' may negatively affect their children's social development.

In sum, the present study builds on the existing literature by investigating the mediational roles of maternal psychological health and parenting behaviors in explaining associations between maternal violence exposure and child behavior. In addition, this study examines the distinct effects of mothers' witnessed and experienced violence on child externalizing and internalizing behavior, above and beyond the effects of children's own violence exposure, in a sample of young, African American mothers and their pre-school-age children. Based on prior research and the theory of intergenerational transmission of trauma, we expect that mothers' witnessed and experienced violence will be associated with increased child externalizing and internalizing behavior and that the associations will be significant while controlling for children's own violence exposure. We also predict that mothers' violence exposure will be associated with increased depression and aggression, which in turn predicts

greater use of harsh discipline and less stimulating home environments, and these parenting practices will predict more child behavior problems.

Method

To address our research questions we use data from a cross-sectional study of African American mothers living in a violence-prone, urban area who were 13 to 20 years old when their 3 to 5 years old children were born.

Participants

To recruit young African American mothers, flyers providing information about the study's purpose, age requirements, and contact information were distributed at community-based sites such as day care centers and primary health care clinics. Out of 2,349 mothers who expressed interest in participating, 262 (11%) were eligible based on the following inclusion criteria: mother 18 to 24 years old; child 3 to 5 years old; mother African American and non-immigrant; mother has legal and physical custody of child; and child free of serious, chronic health problems. The overwhelming majority of eligible mothers (97%) agreed to participate, but 8% of these were unavailable at their scheduled appointment times and attempts to reschedule their interviews failed. Thus the final analytic sample consisted of 230 young African American mothers who gave written informed consent and completed in-person interviews. Additional details of recruitment procedures are reported elsewhere (Mitchell et al., 2009).

The young mothers participating in this study were, on average, 22 years old ($SD = 1.50$), and most (69%) had at least a high school education. Approximately one third (38%) attended school and 43% were employed. The majority (61%) of young mothers lived with their own mothers and/or grandmothers, and 17% lived alone with their children. Most (78%) mothers were no longer romantically involved with their target child's biological father; 8% were romantically involved but not living with the father; and 13% were cohabiting with or married to their child's father. The largest portion of young mothers (34%) reported annual household incomes in the US\$0-US\$5,000 range, and only 22% reported annual household incomes greater than US\$30,000. On average, the target children of these young mothers were 50.3 months old ($SD = 10.59$), and approximately half (49%) were male.

Procedure

Structured interviews were scheduled at a time and place convenient to the mothers, typically their own homes, and were conducted in English by trained research assistants who were female and African American or Latina. Interviews lasted 1.5 to 2 h, and for their participation mothers were given a US\$50 gift certificate redeemable at a local retail store.

Measures

Violence exposure—Mothers completed the Survey of Exposure to Community Violence: Self Report Version, which was developed using a low-income, ethnic minority sample (Richters & Martinez, 1990). Participants responded to 27 items asking how frequently they had directly experienced (e.g., been hit or slapped, sexually assaulted) or witnessed (e.g., heard gunfire while in home, seen others attacked/stabbed) various types of violence on a 5-point scale from 0 (*never*) to 4 (*many times*). Subscale composite scores were created by summing responses across items, with higher scores indicating more frequent violence exposure. Cronbach's alpha was .74 for *mother experienced* (10 items) and .86 for *mother witnessed* (17 items) violence. Because information on location and

relationship to perpetrator was not collected for each episode of violence, violence exposure could not be classified as family/ domestic or community.

Mothers also completed the Violence Exposure Scale for Children (Fox & Leavitt, 1995), which assesses parental perceptions of children's exposure to violence and has previously been administered to primary caregivers of minority preschoolers living in urban areas (Shanifar, Fox, & Leavitt, 2000). For each violent event, mothers reported how frequently their child had witnessed (12 items/events) or been the victim (8 items/events) of the event using a 4-point scale from 0 (*never*) to 3 (*lots of times*). Subscale composite scores were created by summing responses across items. Cronbach's alpha was .57 for *child experienced* and .81 for *child witnessed*. Because the experience of one violent event does not necessarily increase the likelihood that a child will experience a different event, the experienced violence subscale was not expected to have high internal reliability.

Maternal psychological health—The Center for Epidemiologic Studies Depression Inventory (CES-D; Radloff, 1977) was used to measure mothers' symptoms of depression during the past week. This original 20-item self-report version was designed to detect major or clinical depression in adolescents and adults and covers a range of depressive symptoms including interpersonal behaviors, withdrawal, and somatization. This measure has been widely used in studies of maternal depression (Mosack & Shore, 2006) and in samples of African American parents (Jackson, Gyamfi, Brooks-Gunn, & Blake, 1998; Lutenbacher & Hall, 1998). Participants reported the frequency with which they experienced each symptom on a 4-point scale from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). A total depression score was created by summing responses across the 20 items with higher scores indicating more frequent experiences of depressive symptoms and a score greater than or equal to 16 represents a positive screen for depression. Cronbach's alpha for the current sample was .86.

The Aggression Questionnaire Short Form (Buss & Warren, 2000) was used to measure mothers' self-perceived levels of general aggression and anger and ability to restrain themselves from committing destructive acts. The AQ Short is comprised of 15 items representing the following subscales: physical aggression (e.g., "I may hit someone if he/she provokes me"), verbal aggression (e.g., "My friends say I argue a lot"), anger (e.g., "At times I get very angry for no good reason"), hostility (e.g., "At times I feel I have gotten a raw deal out of life"), indirect aggression (e.g., "If I'm angry enough, I may mess up someone's work"), and total aggression. Participants responded to items using a 5-point Likert-type scale from 1 (*not at all like me*) to 5 (*completely like me*), and subscale composite scores were computed by summing item-responses then converting them to *T*-scores. To reduce the number of variables in the final regression models, only scores for *total aggression*, which has the highest internal reliability ($\alpha = .90$), were included in our analyses.

Parenting—The Parent Practices Interview (Webster-Stratton, 1998), adapted from the Oregon Social Learning Center Discipline Questionnaire, was used to measure mothers' disciplinary actions. This measure has been used repeatedly with culturally diverse and socioeconomically disadvantaged samples (Reid, Webster-Stratton, & Hammond, 2007; Webster-Stratton, Reid, & Hammond, 2001). For the primary analyses we focused on the 14-item harsh discipline subscale. Mothers reported how frequently they used four different parenting strategies (e.g., "raise your voice," "threaten to punish him/her but not really punish him/her") in response to their child's misbehavior and how often two particular disciplinary situations arise (e.g., "How often do arguments with your child build up and you do or say things you don't mean to?") on a 7-point scale from 1 (*never*) to 7 (*always*). They also reported the likelihood they would utilize four disciplinary strategies in each of two

hypothetical situations (“if [child] hit another child”; “if [child] refuses to do what you wanted him/her to do”) using a 7-point Likert-type scale from 1 (*not at all likely*) to 7 (*extremely likely*). Composite scores for harsh discipline were computed by averaging item responses; Cronbach’s alpha for this sample was .67.

The Home Observation for Measuring the Environment (HOME) Inventory (Caldwell & Bradley, 1984) was conducted by trained observers and used to measure the stimulation and support available to children in their home environments. The early childhood version of the HOME was designed for use with children 3 to 6 years old and is appropriate for use across racial and ethnic groups (Bradley, Corwyn, & Whiteside-Mansell, 1996). It consists of 55 binary items clustered into 8 subscales: learning materials, language stimulation, physical environment, parental responsiveness, learning stimulation, modeling of social maturity, variety in experiences, and acceptance of child. Per the instrument manual (Caldwell & Bradley, 1984), overall composite scores for *home quality* were computed by replacing missing item values with the subscale mean and then summing across all items. Cronbach’s alpha was .83.

Child behavior—Mothers completed the Child Behavior Checklist (Achenbach & Ruffle, 2000), a commonly used and validated 113-item measure of children’s emotional and behavioral functioning. For each item, mothers reported the frequency their child exhibited each behavior during the past 6 months on a 3-point scale from 0 (*never*) to 2 (*frequently*). After summing responses across items, raw scores for externalizing and internalizing behavior were converted to *T*-scores based on age and gender norms.

Family demographics—Maternal education and employment were included as control variables because evidence suggests they are highly correlated with young children’s behavioral outcomes (Bornstein, Hahn, & Suwalsky, 2003; Jackson, Brooks-Gunn, Huang, & Glassman, 2000). *Mother education* was measured by asking participants the highest grade or level of school they had completed with response categories ranging from 0 (never attended school) to 5 (some college or bachelor’s degree). *Maternal employment* was measured by asking participants how many hours per week they worked for pay in a typical work week (range 0–84, $M = 14.92$, $SD = 18.92$). Employment was measured as hours worked instead of a dichotomous variable because there is evidence suggesting that the amount of time mothers spend working outside the home can influence their children’s behavior (Greenstein, 1995).

Analytic Strategy

Before conducting any multivariate analyses, the distributions of all of the independent, mediating, and dependent variables were examined for normality. Maternal and child violence exposure variables were positively skewed, but using log-transformed variables did not affect the direction or significance of results. Therefore, the reported analyses include the original, nontransformed violence exposure variables.

We examined the associative pathways between maternal violence exposure and children’s behavior problems by conducting path analysis using MPlus 5.0 statistical software (Muthen & Muthen, 1998–2008). To account for commonalities among the endogenous variables, correlations between depressive symptoms and aggression, between harsh discipline and home quality, and between child externalizing and internalizing behaviors were estimated in the model. To explore the potential process by which maternal violence exposure affects their children’s problem behavior, we specified all possible simple (i.e., single mediator) indirect effects in the model. Based on previous findings from this study, we also tested six higher level (i.e., dual mediator) indirect effects depicted in Figure 2. Model fit was

estimated with maximum likelihood estimation using the sample covariance matrix. We assessed model fit using the chi-square statistic, root mean square error of approximation (RMSEA $\leq .08$), the comparative fit index (CFI $\leq .95$), and the Tucker Lewis index (TLI $\leq .90$), which are considered a good combination of fit indices for use with small sample sizes (e.g., $N < 250$; Fan, Thompson, & Wang, 1999; Hu & Bentler, 1999; Yadama & Pandey, 1995). According to generally applied heuristics (i.e., 10 cases per variable) there was sufficient statistical power to test the proposed model (Bentler & Chou, 1987; Tanaka, 1987).

Results

Descriptive Results

Table 1 presents descriptive statistics for each of the control, independent, mediating, and dependent variables. On average, this sample of mothers reported moderately low frequencies of experienced violence for themselves and for their children. Nonetheless, most mothers (62%) had been hit or slapped at least once and 28% had been sexually assaulted. Among their young children, mothers reported that 12% had something thrown at them and 10% had been chased. Mothers reported relatively higher levels of witnessed versus experienced violence for themselves and for their children. Most mothers (60%) had seen someone carrying a gun or knife and 11% had seen someone killed. A notable portion of children had seen someone arrested (43%), and 36% had seen someone beaten up.

As a group, mothers reported experiencing a moderately high frequency of depressive symptoms, with mean scores comparable to those reported in previous studies of African American mothers (Surkan et al., 2008) but fewer screening positive for depression (Koblinsky, Kuvalanka, & Randolph, 2006). This sample of young African American mothers also exhibited an average level of aggression, based on the scale author's norming data for females, which included African Americans (Buss & Warren, 2000). On average, mothers reported employing harsh discipline strategies "sometimes," and observer ratings of stimulation in the home environments were moderately high. On the Child Behavior Checklist (CBCL), approximately 17% of children had *t*-scores above the cutoff for externalizing problems and 12% for internalizing problems.

The correlation matrix presented in Table 2 reveals significant correlations among maternal violence exposure, maternal psychological health, parenting, and child behavior based on Bonferroni adjusted *p* values. Maternal education and employment were not significantly associated with any of the other variables (results not shown), thus they were dropped from the path analysis models. Interestingly, there was a significant correlation between mothers' reports of their child's violence exposure, both witnessed and experienced, and higher maternal aggression. Mother-reported child-witnessed violence was also significantly associated with maternal violence exposure (witnessed and experienced) and maternal depressive symptoms.

Although most of the hypothesized associations were significant, there were a few unexpected bivariate results. First, neither mothers' witnessed nor experienced violence was significantly associated with harsh disciplinary practices or child internalizing behavior. There were also no significant associations between maternal psychological health and observer ratings of stimulation in the home environment. Finally, harsh disciplinary practices and less stimulating home environments were significantly associated with child externalizing but not internalizing behavior.

Path Analysis Results

The initial model we tested was nearly saturated; therefore, goodness of fit statistics reflected an almost perfect fit. We thus tested a trimmed model in which only the significant pathways were included, and fit indices for this model ($\chi^2 = 31.7$, $df = 14$, $p = .004$; RMSEA = .075; CFI = .96; TLI = .91) indicated adequate fit. Figure 3 illustrates the significant direct pathways amongst the variables, and the indirect effects (not shown) are described below. Child witnessed violence was excluded from the model because it was not significantly associated with child externalizing or internalizing behavior. Structural R^2 s suggest the model explains low to moderate proportions of variance in young mothers' depressive symptoms ($R^2 = .14$, $p < .001$), aggression ($R^2 = .10$, $p < .01$), harsh discipline ($R^2 = .13$, $p < .01$), home quality ($R^2 = .05$, $p < .10$), child externalizing behavior ($R^2 = .33$, $p < .001$), and child internalizing behavior ($R^2 = .31$, $p < .001$).

The only significant direct link between maternal violence exposure and child behavior was a negative effect of mothers' experienced violence on their reports of child internalizing behavior. However, the total effect of mothers' experienced violence on child internalizing was positive ($\beta = .11$), indicating that the direct and indirect effects of mothers' experienced violence sum to an overall positive effect on child internalizing behavior. In terms of the indirect effects, mothers' experienced violence was positively associated with child internalizing behavior through increased maternal depression ($\beta = .09$, $SE = .03$, $p < .001$) and general aggression ($\beta = .07$, $SE = .03$, $p < .05$). In addition, although there was no direct relation between mothers' experienced violence and child externalizing behavior, there was a positive indirect link through maternal depression ($\beta = .08$, $SE = .03$, $p < .01$) and aggression ($\beta = .05$, $SE = .02$, $p < .05$). Mothers' witnessed violence was not directly or indirectly associated with child behavior.

Other significant paths (Figure 3) between violence exposure and psychological health indicated that mothers who witnessed more violence were more aggressive ($\beta = .14$, $SE = .07$, $p < .05$). Also, there were significant associative pathways between psychological health and parenting. Mothers who rated themselves as more aggressive were harsher ($\beta = .39$, $SE = .07$, $p < .001$) and provided less stimulating home environments for their children ($\beta = -.21$, $SE = .06$, $p < .001$). Moreover, maternal aggression indirectly predicted more externalizing behavior through a less stimulating home environment ($\beta = .03$, $SE = .01$, $p < .05$). Although not depicted in the model for clarity's sake, there were significant associations between child-experienced violence and externalizing ($\beta = .33$, $SE = .06$, $p < .001$) and internalizing ($\beta = .30$, $SE = .06$, $p < .001$) behavior.

Discussion

Results of the present study suggest that pre-school-age children of young African American mothers exposed to violence display more externalizing and internalizing behavior because violence-exposed mothers exhibit more depressive symptoms and general aggression. These findings are consistent with other literature indicating that maternal distress mediates the association between maternal victimization and child outcomes (Dubowitz et al., 2001; Koverola et al., 2005; Morrel et al., 2003; Thompson, 2007). However, the present study clarifies previous findings by demonstrating (a) mothers' experienced but not witnessed violence is associated with child behavior problems; (b) the effect of mothers' violence exposure on child behavior is unique from the effect of child violence exposure (of which mothers are aware); and (c) mothers' depressive symptoms and aggression, but not harsh discipline or stimulation in the home environment, explain the association between maternal violence exposure and children's behavior problems.

On the whole, these findings suggest that mothers who witness more violence (and report that their children witness more violence) do not have children who exhibit more behavior problems than mothers who witness less violence. This may be because witnessing is a more distal form of violence exposure that is less affecting. On the other hand, young African American mothers may be desensitized to seeing violence in their neighborhoods (Farrell & Bruce, 1997; Ng-Mak, Salzinger, Feldman, & Stueve, 2004; White, Bruce, Farrell, & Kliewer, 1998). Indeed, rates of witnessed violence were notably high, but there was no significant association with maternal depressive symptoms. Also, although there was a significant, albeit small association between witnessed violence and general aggression, this did not statistically translate into an indirect effect of witnessed violence on poorer parenting or child behavior.

Nonetheless, the present study demonstrates that mothers' directly experienced violence affects children's behavior regardless of whether children also are also violence exposed. We found that above and beyond child violence exposure, mothers' experienced violence was positively associated with children's externalizing and internalizing behavior because violence-exposed mothers were more aggressive and/or experienced more depressive symptoms. Contrary to our hypotheses, the effect of mothers' directly experienced violence was not explained by their harsh disciplinary practices or a lack of stimulation in their homes. It seems that mothers' psychological health is the primary factor explaining why children whose mothers are violence-exposed display more behavior problems. It may be that violence-exposed mothers who are more depressed and generally aggressive model such internalizing and externalizing behavior for their children even if that behavior is not directed toward the child as harsh disciplinary practices or lack of stimulation in the home. Alternatively, mothers who are genetically predisposed to respond to stressful situations with depression or aggression may have passed on similar traits to their children.

By examining the independent contributions of mothers' psychological health and parenting, this study helps to clarify the process through which the negative effects of mothers' exposure to violence are transmitted to children. Whereas previous studies found that harsh discipline mediates the association between maternal violence exposure and child behavior (Dubowitz et al., 2001; Morrel et al., 2003), our study of young African American mothers did not yield comparable results. As in other studies of harsh discipline and problem behavior among African American children (Deater-Deckard & Dodge, 1997; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004), we found no significant association between young mothers' harsh disciplinary practices and pre-school-age children's externalizing or internalizing behavior. Previous research conducted by our group revealed a moderating effect such that adverse effects of harsh discipline on young African American children's problem behavior may only occur in the context of high maternal violence exposure (Mitchell et al., 2009). In short, our findings suggest that, in this population, the role of harsh discipline in explaining the effects of violence exposure on child behavior may be superseded by the effects of maternal distress.

Limitations

The findings in this study are susceptible to shared variance problems because all data were collected via mother report. For example, mothers' perceptions of child behavior may be influenced by their distress (Luoma, Koivisto, & Tamminen, 2004). Although we expected mothers to be present at, or informed of, most of their young children's experiences of violence, mothers' knowledge of certain events (e.g., being hit or yelled at by another caregiver) may be particularly limited, which could explain the moderate reliability of the Child-Experienced Violence subscale. As others have suggested (Suglia, Ryan, & Wright, 2008), the commonly used, summary measure of violence exposure that we employed does not account for the different implications of the context in which violence exposure occurs

(e.g., relationship to perpetrator, proximity to home) nor the varying degrees of severity, and thus psychological implications, of different forms of violence (Trickett, Duran, & Horn, 2003). Furthermore, the hypothetical nature of our measure of harsh discipline may not reflect how often mothers actually employ such disciplinary strategies. Mothers' actual use of harsh discipline, as opposed to their endorsement of its use in hypothetical situations, may be more strongly associated with violence exposure and child behavior than our findings suggest. In addition, in our sample of young mothers, many of whom lived with their own mothers or grandmothers, the HOME measure may have reflected the contributions of other caregivers, not just the mothers' parenting. Moreover, almost half of the children were not present for the interview; therefore, this measure may not have accurately captured the stimulation and support that children in our sample typically experience at home.

The generalizability of our findings is limited to African American children born to adolescent mothers who live in urban areas and may be further limited by self-selection into the study, which could explain why this sample was relatively high-functioning in terms of psychological health and parenting behavior. However, we believe this is an important group to study because of their particularly increased risk for both violence exposure and behavior problems, which have compounding negative implications for later psychosocial outcomes (e.g., posttraumatic stress disorder, conduct disorder, high school drop out, teen pregnancy, incarceration; Fergusson et al., 2005; Fronstin et al., 2005, Howard et al., 2002). Further research on the effects of violence exposure for young mothers of other ethnic or cultural groups is recommended. Also, future longitudinal research is recommended because the cross-sectional design of our study precludes interpretations of causality or directionality of the effects of maternal violence exposure.

Conclusion

This study clarifies and extends previous findings by revealing a unique effect of maternal violence exposure on pre-school-age children's externalizing and internalizing behavior that is explained by maternal distress. Mothers' exposure to violence, even if their children are not also exposed, can have negative implications for child behavior problems if mothers are consequently more depressed and generally aggressive. The findings suggest that identifying and treating depression and aggression in violence exposed mothers could help to prevent externalizing behavior problems in their young children. This could be a very promising approach to interrupting the inter-generational transmission of trauma as there are proven interventions that reduce maternal distress and thus child behavior problems (Shaw, Connell, Dishion, Wilson, & Gardner, 2009).

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Amy Lewin, PsyD, is an assistant professor in the Center for Clinical and Community Research at Children's National Medical Center in Washington, D.C. She received her doctorate in clinical psychology from Rutgers University in 1995. Since that time, she has worked as a clinical psychologist specializing in early childhood and has been the director of research for the Generations Program that provides primary medical care to adolescent parents and their children. Her research interests include primary and secondary teen pregnancy prevention, teen parenting and coparenting, and the influence of community-level stressors on parenting behavior.

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Figure 1.
Conceptual model of the effects of maternal violence exposure on child behavior

Figure 2.
Hypothesized higher order mediational pathways

Figure 3.
Path analysis results: significant direct effects $\beta(SE)$

Table 1

Demographics, Maternal and Child Violence Exposure, Maternal Psychological Health, Parenting, and Child Behavior

Variables	<i>M (SD)</i>	%	Scale Range
Mother demographics			
Education			
Less than HS diploma		31	
HS diploma or GED		39	
Some college		30	
Hours employed per week	14.92 (18.92)		
Violence exposure			
Child witnessed	7.22 (4.82)		0–36
Child experienced	2.15 (2.14)		0–24
Mother witnessed	27.80 (12.58)		0–68
Mother experienced	4.67 (4.91)		0–40
Maternal psychological health			
Depressive symptoms	14.02 (9.81)		0–40
Clinical cutoff (≥ 16)		34	
Aggression (<i>t</i> -score)	53.81 (9.81)		0–100
Parenting			
Harsh discipline	3.07 (0.74)		1–7
Home quality	41.57 (5.68)		0–55
Child Behavior			
Child externalizing (<i>t</i> -score)	51.43 (11.32)		0–100
Problem cutoff ($t \geq 64$)		12	
Child internalizing (<i>t</i> -score)	53.41 (10.34)		0–100
Problem cutoff ($t \geq 64$)		17	

Note: $N = 230$.

Correlations among Maternal and Child Violence Exposure, Maternal Psychological Health, Parenting and Child Behavior

Table 2

	Child Experienced	Mother Witnessed	Mother Experienced	Maternal Depressive Symptoms	Maternal Aggression	Harsh Discipline	Home Quality	Child Externalizing	Child Internalizing
Child witnessed	.43***	.45***	.44***	.32***	.37***	.17	-.19	.41***	.33***
Child experienced		.16	.16	.17	.27**	.25**	-.17	.44***	.38***
Mother witnessed			.60***	.28***	.29***	.11	-.01	.29***	.20
Mother experienced				.37***	.29***	.10	-.01	.27**	.14
Depressive symptoms					.49***	.26**	-.17	.41***	.41***
Aggression						.35***	-.21	.46***	.49***
Harsh discipline							-.23*	.28***	.17
Home quality								-.29***	-.21
Child externalizing									.72***

*
p < .05.

**
p < .01.

p < .001.