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Caregiver and Adolescent Discrepancies in Perceptions of Violence and their Associations with Early Adolescent Aggression

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Abstract

This article examined the role of caregiver messages about violence and exposure to neighborhood violence on adolescent aggression in light of research regarding discrepancies between parents and their children. Drawing upon data from an urban African American sample of 144 caregiver/early adolescent dyads ($M = 12.99$; $SD = 0.93$; 58.7% female) we examined covariates of discrepancies between caregiver and adolescent reports of perceptions of violence as well as their association with adolescent aggression. Analyses suggested that concordance in perceptions of violence was associated with children's attitudes about violence and caregivers' perceptions of family communication. Structural equation modeling indicated a unique role for individual perceptions and suggested that agreement in awareness of neighborhood violence could be protective for early adolescent involvement in aggression.

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Authors' Contributions

SLJ conceived of the study, participated in planning and interpreting the analyses, and drafted the manuscript. RR performed all analyses and provided substantive feedback. CB participated in the design of the study including conceptual guidance, and revised drafts of the manuscript. DH and TC conceived and implemented the parent study and provided substantive revisions to drafts of the manuscript. All authors read and approved the final manuscript.

Conflicts of Interest

The authors' report no conflicts of interest.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from all individual participants included in the study.

Keywords

Violence; Parents; Discrepancies; Structural Equation Modeling

Introduction

Parents play an important role in buffering the consequences of exposure to violence by both providing support (Ozer, Levi, Douglas, & Wolf, 2015) as well as coaching around how to handle conflict (Kliewer, Parrish, Taylor, Jackson, Walker, & Shivvy, 2006). Although parents may provide opportunities to socialize their children to appropriate ways to both respond and cope with conflict situations, parents and adolescents often differ in their perceptions of violence (Ceballo, Dahl, Aretakis, & Ramirez, 2001; Lindstrom Johnson, Finigan, Bradshaw, Haynie, & Cheng, 2011). The current study aimed to examine specific individual (i.e., aggressive attitudes), family (i.e., communication), and neighborhood factors (i.e., collective efficacy) related to individual perceptions about violence and congruence in perceptions between caregivers and early adolescents. We also examine the potential role of discrepancies, or conversely informant agreement (De Los Reyes, 2011; Goodman, De Los Reyes, & Bradshaw, 2010), in understanding the association between caregiver messages about violence and neighborhood violence and early adolescent aggression.

Traditional efforts to explore discrepancies have largely focused on differences in parent and child reports of child behaviors. Much of this work has been motivated by a desire to understand the “truth” of child behaviors in order to promote accuracy in diagnoses and improved treatment outcomes (De Los Reyes, 2011). Other studies have begun to examine discrepancies in perception of family relationship quality and functioning, where such differences are not necessarily assumed to represent error (De Los Reyes, 2011). While less work has examined the role of discrepancies in perceptions of violence, recent studies have theorized mechanisms through which agreement in the appropriate response to violence and awareness of neighborhood violence would influence youth wellbeing and the likelihood of involvement in violence (Garthe, Sullivan, & Larsen, 2015; Goodman et al., 2010). The current study leveraged data from a sample of youth living in a neighborhood where violence is normative and for whom parent socialization is critical to foster safety and security (Overstreet, 2000). Understanding the interplay between early adolescents and their caregivers messages about violence as well as their understanding of the neighborhood environment (i.e., neighborhood violence) may inform intervention efforts to modify or enhance parenting practices and reduce engagement in youth violence. We also examined how agreement among these factors was associated with aggression, which in turn may inform our understanding of family intervention strategies. Thus, this work may contribute to the broader research base focused on understanding conditions that facilitate adolescent disclosure about violence and the effects of this disclosure (Frijns, Keijsers, Branje, & Meeus, 2010; Graham-Bermann, Kulkarni, & Kanukullu, 2011). Furthermore, these findings may inform our understanding of characteristics of parent/adolescent dyads that facilitate both the successful transmission of norms as well as foster adolescent disclosure.

Parental Messages about Violence

While it is often assumed that parents are unequivocally supportive of non-violent solutions to conflict, exploration of the nuances in parents' messages about violence suggests some parents may actually be endorsing aggressive responses to threat, particularly parents living in violent neighborhoods (Eron et al., 2002; Lindstrom Johnson, Finigan, Haynie, Bradshaw, & Cheng, 2013; Solomon, Bradshaw, Wright, & Cheng, 2008). A recent study of 6th and 7th grade students found that early adolescent students' perceptions of parental support for violence were positively related to aggressive behaviors and negatively related to effective non-violent responses over the course of the school year (Garthe et al., 2015). Another study found that parent's report of messages supporting violence were associated with children's report of aggressive strategies that were then negatively related to later social skills development (Kliewer et al., 2006). When parent and child perceptions have been modeled together, parental messages have typically been envisioned as being temporally associated with the child's report of messages (i.e., actor to recipient) (Lindstrom Johnson et al., 2011). While little is known about determinants of discrepancies in reports of messages about violence, both individual attitudes about aggression as well as neighborhood characteristics, particularly perceptions of collective efficacy, have been shown to be associated with individual perceptions of messages about violence (Kliewer, 2013; Lindstrom Johnson et al., 2011).

One framework that informs our understanding of these processes is the Attribution Bias Context Model (De Los Reyes & Kazdin, 2005), which proposes that the primary sources of discrepancies are informant attributions and perspectives. Based on the actor-observer phenomenon, this model suggests that parents tend to attribute the cause of their own behavior to contextual characteristics (e.g., factors specific to the conflict), whereas they attribute their child's behavior to individual characteristics (e.g., impulsivity). This may help explain findings of discrepancies in parent/adolescent reports of parental support of violence (Lindstrom Johnson et al., 2011; Solomon et al., 2008). While this difference may be related to social desirability bias on the part of parents, studies have found significant correlations between parent and youth's attitudes about violence (Solomon et al., 2008), and have found parent's attitudes about violence to be predictive of youth's involvement in violence (Copeland-Linder et al., 2007; Garth et al., 2015; Orpinas, Murray & Kelder, 1999; Solomon et al., 2008). An additional source of the discrepancy may stem from a lack of communication between a parent and their child about expectations for handling possible violent conflict. Other studies have explored aspects of parent/child conversations including the number of topics discussed and intensity of the conversation and found them to be related to the extent of discrepancies in parent/child report of internalizing and externalizing behaviors (Treutler & Epkins, 2003). A better understanding of the source of discrepancies (e.g., lens of interpretation, social desirability bias, lack of communication) is needed to inform interventions to help promote parental coaching around violence.

Exposure to Neighborhood Violence

Another commonly observed discrepancy between parent and child report is children's victimization, whereby parents typically under-estimate their child's exposure to violence (Cebello et al., 2001; Howard, Cross, Li, & Huang, 1999, Lewis et al., 2013). Although lack

of knowledge of direct victimization can inhibit parents' ability to help their child cope and respond appropriately, lack of knowledge of exposure to violence may also have negative implications for child wellbeing. One recent study found that, while 42% of youth reported witnessing victimization, only 15% of parents reported that their child had witnessed victimization (Lewis et al., 2013). Parental awareness of exposure to violence is critical as many youth service providers (i.e., clinicians and pediatricians) rely on parent report to initiate services. While there has been limited research exploring the association between discrepancies in awareness of victimization (or informant agreement) and child outcomes, some studies have reported an association with internalizing symptoms (Ceballo et al., 2001; Howard et al., 1999), parent/child relationship quality (Howard et al., 1999), and perpetration of violence (Howard et al., 1999).

Studies have generally found that discrepancies in reports of exposure to violence are larger for boys and older children (Ceballo et al., 2001; Howard et al., 1999), as well as for youth involved in delinquent activities (Lewis et al., 2013). These factors highlight one of the primary hypothesized reasons for discrepancies: youth involvement in environments outside of parental control (Goodman et al., 2010). While this may be true, a recent conceptual model, the Discrepancies in Victimization Implicate Developmental Effects (DiVIDE), aimed to more completely conceptualize predictors of discrepancies as well as parent/child factors that may relate to the strength of the relationship between discrepancies and child wellbeing (Goodman et al., 2010). The authors note that the primary source of information about victimization in adolescence is disclosure, which research suggests is facilitated by a warm and trusting parent/child relationship (Darling, Cumsville, Caldwell, & Dowdy, 2006). Disclosure and therefore a shared perspective is thought to create a situation where the child feels understood and accepted and the parent is able to provide appropriate support and coaching on how to handle the situation (Goodman et al., 2010). This is complementary to the larger body of work that suggests that the benefit of parental knowledge is explained mainly by children's spontaneous disclosure of information (Kerr & Stattin, 2000). Unfortunately, some studies suggest that adolescents may perceive constraints to disclosure, the primary one being others' (i.e., their parents) lack of comfort (Ozer & Weinstein, 2004). Additionally, some youth may actively withhold information from their parents about exposure to violence because of concerns about possible restrictions in activities (Dinizulu, Grant, & McIntosh, 2014). While little is known about predictors of adolescent disclosure of exposure to violence, a broader literature base on therapeutic relationships suggests that it may be fostered by strong parent/child relationships as evidenced by factors such as family communication (Graham-Bermann et al., 2011).

Overview of Current Article

This study draws on data from 144 urban African American caregiver/early adolescent dyads living in violent neighborhoods. Thus for this population responding to and coping with violence represent particularly salient concerns that have implications for the development of mental health problems (Schwartz, Gorman, Nakamoto, & Tobin, 2005) and engaging in future violence (Fowler, Tompsett, Braciszewski, Jacques-Tierra, & Baltes, 2009). Additionally, it helps control for neighborhood differences in levels of violence. This article adds to the scarce literature examining discrepancies in caregiver's and early adolescent's

reports of perceptions of violence through the use of data from both caregivers and early adolescents regarding messages about violence, exposure to neighborhood violence, and youth aggression. The first aim is to explore the individual and contextual covariates of caregiver and early adolescent agreement in caregiver messages about violence and exposure to violence. Based on the prior literature, we hypothesized that informant agreement would be influenced by individual attitudes about violence, family communication, and neighborhood collective efficacy (Goodman et al., 2010; Lindstrom Johnson et al., 2001). The second aim is to understand the influence of caregiver's and early adolescent's report of messages about violence and exposure to violence on both caregiver's and early adolescent's reports of aggression. We hypothesized that caregiver's messages supportive of violence would be positively associated with early adolescent aggression (Garth et al., 2015). We also hypothesized that in this sample at-risk for exposure to violence, greater informant agreement around caregiver's messages supportive of violence would be positively associated with early adolescent aggression (Solomon et al., 2008). We hypothesized that greater exposure to violence would be positively associated with early adolescent aggression (Fowler et al., 2015). We also hypothesized that in this sample at-risk for exposure to violence, greater informant agreement about exposure to violence would be negatively associated with early adolescent aggression (Goodman et al., 2010).

Method

Participants

Participants included 144 caregiver/early adolescent dyads. Approximately 73.4% of caregivers were mothers, 6.3% were fathers, with the remaining being stepparents, grandparents, or aunts (see Table 1). Caregiver/adolescent dyads were recruited from 6th grade classes in three urban middle schools on probation for persistently dangerous status as mandated by the *No Child Left Behind Act of 2001*, and/or located in neighborhoods characterized by violence (for additional details on the study, see Lindstrom Johnson et al., 2011; 2013). For this study, a random number generator was used to select a subset of caregivers from participants in the larger school-based violence prevention study for participation. Contact was attempted with 276 guardians with interviews completed for 51.8% of caregivers/youth dyads. Participants were reflective of the environment, with all reporting both caregiver and youth race as African American. Youth had a mean age of 12.99 ($SD = .93$), and approximately 60% of caregivers reported a high school education or less. See Table 1 for additional demographic characteristics. Parents/guardians provided written consent to participate for themselves and their child, youth provided written assent. Procedures for this study were approved by the Johns Hopkins School of Medicine and the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Institutional Review Boards.

Procedure

During the baseline assessment, caregivers and their adolescent separately completed audio-assisted questionnaires and received \$50 cash remuneration per family for participation. Although the majority of assessments were conducted in participants' homes, a small number of participants requested their interview take place at a community location (i.e., a

private room at their child's school). Interviews were conducted by two trained research assistants.

Measures

Caregiver Messages about Violence—The Perceptions of Parental Attitudes on Fighting Scale was used to assess Caregiver Messages about Violence (Orpinas et al., 1999). This scale starts with the prompt “Your parents tell you...” and assesses agreement with 10 statements using a 4-item Likert scale ($\alpha = .80$). Example statements include “ignore name calling” and “if someone asks you to fight, hit them first.” A parallel scale for caregivers was developed for this project (i.e., “You tell your child...”). Previous work with the scale has indicated internal reliability ($\alpha = .78$; Lindstrom Johnson et al., 2011) and significant correlations with the adolescent scale were evident (see Table 2). Items were reverse coded as needed and summed so that a higher value corresponded to greater caregiver support of violence.

Exposure to Neighborhood Violence—The Perceived Neighborhood Violence Scale is a five-item self report assessment of exposure to neighborhood violence (Sampson, Raudenbush, & Earls, 1997). This measure was created for an urban African American population and has been proven to be highly reliable (Mujahid, Diez Roux, Morenoff, & Raghunathan, 2007). Caregiver and early adolescent participants indicated on a 5-point Likert scale how often the following events occurred in their neighborhood over the past year: a fight in which a weapon was used, a violent argument between neighbors, a gang fight, a sexual assault, and a robbery or mugging. Items were reverse coded as needed and summed so that a higher value corresponded with greater exposure to neighborhood violence (caregiver $\alpha = .87$; adolescent $\alpha = .77$).

Youth Aggression—Youth aggression was measured using two well-validated different scales, including the Modified Aggression Scale (Bosworth, Espelage, & Simon, 1999) for adolescent report and the Aggression subscale of the Child Behavior Checklist (CBCL; Achenbach, 2001, Nakamura, Ebesutani, Bernstein, & Chorpita, 2009) for caregiver report. The Modified Aggression Scale asks about involvement in thirteen different aggressive behaviors either at school or at home/in the neighborhood. Behaviors range from overtly aggressive acts (i.e., hitting) to more relationally aggressive acts (i.e., spreading rumors) with response choices ranging from never to five or more times. Responses were summed by location with a higher score indicating higher report of aggressive behaviors ($\alpha = .91$ school; $\alpha = .91$ home/in the neighborhood). The Aggression subscale of the CBCL asks for caregiver's perceptions of the truth (not true, somewhat or sometimes true, or very true or often true) of 18 short statements about their child's behavior. Items include behaviors such as arguing, fighting, and teasing. Responses were summed with a higher score indicating more aggressive behavior ($\alpha = .89$).

Attitudes toward Violence—The 8-item Attitudes about Retaliation Scale was used to assess attitudes about violence (Hill & Noblin, 1991). Sample items included “if someone hits you, you should hit them back” and “it is okay to hurt people,” to which participants responded on a 4-point Likert scale. Items were reverse coded as appropriate and summed

such that a higher score indicated more aggressive attitudes. The scale had not previously been used with caregivers; therefore, we conducted a confirmatory factor analysis. The results indicated that it was necessary to remove two items (“if someone hurts you, you should forgive and forget” and “if someone hits you, you should walk away”). Due to our interests in informant agreement the same two items were dropped from the adolescent scale (caregiver $\alpha = .69$, adolescent $\alpha = .82$).

Family Communication was measured using the 10-item Open Family Communication Scale (Barnes & Olsen, 1985). The scale includes items such as “my parent (or child) discuss our ideas and beliefs with each other” and “my parent (or child) calmly discuss problems with each other”. Responses are on a 5-point Likert scale from *strongly disagree* to *strongly agree*. Items were reverse-coded as appropriate and summed so that a higher score indicated more open family communication (caregiver $\alpha = .87$, adolescent $\alpha = .87$).

Neighborhood Collective Efficacy—The Collective Efficacy scale by Sampson et al (1997) assessed both informal social control and social cohesion, through a series of 10 questions (caregiver $\alpha=.82$; adolescent $\alpha=.62$). The social control items measured the likelihood that neighbors would intervene in various situations (e.g., children skipping school, a fight breaking out), whereas the social cohesion items measured willingness of people to help and the extent to which people in the neighborhood can be trusted. Participants responded on a 5-point Likert scale and some questions were reverse scored so that a higher score indicated higher levels of collective efficacy.

Covariates—Demographic data were provided by caregivers about their relationship to the adolescent participant, their race/ethnicity, and their education level; adolescent participants provided information about their gender and age.

Analyses

Descriptive statistics as well as the examination of individual, family, and neighborhood correlates of concordance were conducted in SPSS (version 23; IBM, 2015). Based on the distribution of violence perception difference scores we choose a broader estimate of agreement (Allen et al., 2013). For each item in the Caregiver Messages about Violence and the Exposure to Violence scales, caregiver/adolescent agreement was coded the value of caregiver and adolescent responses being within one point (i.e. caregiver value of 3 and adolescent value of 2 are in agreement and vice versa). Percent agreement was then calculated for each item. To create separate measures of concordance (one for Caregiver Messages and one for Exposure to Violence), scale scores were dichotomized as high violent versus low violent using the mean as the cut point for caregivers and adolescents. Caregiver/adolescent dyads were then coded according to their agreement: concordant–high violence, discordant (either high caregiver/low adolescent or low caregiver/high adolescent), concordant–low violence. MANOVAs were used to determine differences between groups, with post-hoc analyses performed using Tukey’s test, which allows for a conservative estimate in the case of varying sample sizes. Additionally, due to the multiple tests, a Bonferroni correction was utilized to determine significance ($p .025$).

We then used structural equation modeling (SEM) in Mplus (version 7.00; Muthén & Muthén, 1998–2015) to fit the hypothesized model. The path model utilized maximum likelihood (ML) estimation as the item parcels represented something akin to a continuous variable. Although the amount of missing data was low, Full-Information Maximum Likelihood (FIML) method was used to address missing data (see Enders, 2010). In order to reduce collinearity, interaction variables were centered (Jaccard & Turrisi, 2003). All models in the current study iterated to convergence without issue. Model fit was evaluated using the chi-square test as well as the congruence of the magnitude and direction of the estimated parameter values with theory-based assumptions as traditional fit indices (i.e., root mean squared error of approximation, standardized root mean squared residual, etc.) have been shown to inaccurate and unstable for low sample size and just identified models (Kenny, Kanistan, & McCoach, 2014).

Results

Descriptive and correlational data are reported in Table 2. Inspection of these findings suggested several areas of convergence between youth and their caregivers, but also some important areas of divergence. For example, caregiver's and adolescent's reports of exposure to violence were significantly correlated ($r = .23, p .01$); caregiver's and adolescent's report of caregiver messages about violence were not correlated. Similarly, a non-significant correlation was found between caregiver's and adolescent's report of aggressive attitudes, however both caregiver's and adolescent's report of family communication and collective efficacy were significantly correlated ($r = .21, p .05$; $r = .31, p .01$). Adolescents reported significantly greater mean support of caregiver messages acknowledging use of violence ($t = 4.74; p .001$) and attitudes supportive of violence ($t = 7.84; p .001$) compared to their caregivers. No significant mean differences were found for exposure to violence, family communication, or neighborhood collective efficacy.

Table 3 presents caregiver/adolescent agreement by item for both caregiver messages about violence and exposure to violence. Overall higher caregiver/adolescent agreement was found for caregiver messages about violence versus exposure to neighborhood violence. The lowest level of caregiver/adolescent agreement for caregiver messages about violence was about the "best" way to handle a potential conflict situation (62.2%); questions about other more direct responses to acts of aggression demonstrated fairly high levels of caregiver agreement (91.5%–95.7%). Levels of agreement were slightly lower for items specifically focusing on responses to being asked to fight or being hit (72.7%–82.9%). Agreement around exposure to violence was consistently approximately 60% regardless of the severity of the act (e.g., a violent argument or a sexual assault).

When examining correlates of concordance for messages about violence (Table 4), there was a statistically significant difference in attitudes about violence by concordance group (i.e., concordant non-violent, discordant, concordant violent; $F=3.592; p .01$). Adolescents in concordant violent dyads were more likely to hold violent attitudes than their peers in concordant non-violent dyads ($p .01$). When examining correlates of concordance for exposure to violence (Table 4), there was a statistically significant difference in family communication by concordance group ($F=2.802; p < .05$). Caregivers in concordant violent

dyads reported less open communication than either discordant ($p = .05$) or concordant non-violent dyads ($p = .01$). No significant differences were found in collective efficacy by concordance group for either messages about violence ($F=1.269, p>.05$) or exposure to violence ($F= 1.581, p>.05$).

Figure 1 presents the results of the path model showing the relationship between caregiver's and adolescent's perceptions of caregiver messages about violence and exposure to neighborhood violence and caregiver's and adolescent's reports of youth aggression. Results indicate that greater adolescent perceptions of caregiver messages that supported violence were associated with an increase in adolescent report of aggression at home ($\beta = 6.06, p = .05$) and school ($\beta = 8.88, p = .001$). No effects were found for caregiver's report of messages about violence. Greater adolescent report of neighborhood violence was associated with greater adolescent report of aggression at home ($\beta = 4.14, p = .05$) and at school ($\beta = 3.21, p = .10$). Greater caregiver report of neighborhood violence was related to increased caregiver report of youth aggression ($\beta = 1.55, p = .05$). No cross-informant relationships (i.e., caregiver report to youth report) were significant. When examining concordance, caregiver and adolescent agreement regarding neighborhood exposure to violence was associated with a decrease in adolescent's report of aggression at home ($\beta = -2.46, p = .05$) and at school ($\beta = 1.27, p = .10$). Figure 2 graphically presents the results of these interactions. Specifically, Figure 2 illustrated that for adolescents with high exposure to neighborhood violence (+ 1 *SD*), parental concordance appeared to be protective. Results indicate that this model explained approximately 11% of the variance in youth report of aggression at home, 15% of the variance in youth report of aggression at school, and 6% of the variance of caregiver report of aggression.

Discussion

This article aimed to better understand the relationship between two related socialization processes, caregiver's messages about violence and awareness of exposure to neighborhood violence, and early adolescent aggression. In doing so, we leveraged both caregiver's and adolescent's reports of processes and outcomes, and determined their shared and unique contributions to youth aggression. Similar to other studies (Goodman et al., 2010; Solomon et al., 2008), we found variability between caregivers and adolescents in both their reports of caregiver's messages about violence and exposure to neighborhood violence. Caregiver/adolescent discrepancies in reports of caregiver's messages about violence were related to youth attitudes about violence whereas discrepancies in exposure to neighborhood violence were related to caregiver's perceptions of family communication. Agreement between caregiver/adolescent dyads around exposure to neighborhood violence was associated with decreased youth report of aggression; this finding is consistent with the protective effect hypothesized in the conceptual model proposed by Goodman et al. (2010). Also consistent with prior research (Fowler et al, 2009; Garthe et al., 2015), our findings indicated support for an association between caregiver messages about conflict and exposure to violence and increased youth aggression. These associations were strongest among informant-specific relationships (i.e., adolescent to adolescent, caregiver to caregiver; see Abar, Jackson, Colby, & Arnett, 2015; Dirks, Boyle, & Georgiades, 2011).

Caregiver/Adolescent Variability

The correlations observed between caregiver/adolescent report of both caregiver messages about violence and exposure to violence were generally low (see Table 2). Interestingly, when using a measure of percent agreement, caregiver and youth dyads appeared to have more similar perceptions of both caregiver's messages about violence as well as exposure to violence (see Table 3). This was particularly true for caregiver's messages about violence where for most items dyads were in agreement 80–90% of the time. This difference in findings may be an artifact of caregivers' general tendencies to report lower levels of support for violence and exposure to violence and highlights the importance of carefully considering the measurement of discrepancy assessed. Other studies suggest the possibility of the presence of an unobserved factor that contributes to either the under-reporting (i.e., social desirability) or over-reporting (i.e., adolescents' perceptions of being tough) of a characteristic (Abar et al., 2015).

Since little work has examined discrepancies in parent/adolescent perceptions of parental messages about violence or exposure to violence, it is important to consider whether it is best to conceptualize such differences as deviations from an absolute truth or whether they are best conceptualized as individually providing unique information as hypothesized in the Attribution Bias Context Model (De Los Reyes & Kazdin, 2005). In the current study, more inconsistency (as measured by percent agreement and mean difference scores) was found for exposure to violence than caregiver's messages about violence. This finding is also particularly interesting given that exposure to violence might be seen as a construct with an absolute truth (i.e., a certain amount of exposure happened) whereas parental messages about violence, which may be gathered from both parent/adolescent conversations as well as parental modeling of responses to violence (Kliewer et al., 2006), may be a construct with a more subjective notion of truth. This might explain the findings of stronger unique effects for adolescent's perceptions of caregiver's messages about violence, whereas the only concordance effect (i.e., interaction) was found for exposure to violence. It is also interesting to consider the correlates of discrepancy in this light, as differences in adolescent's attitudes about violence, an individual factor, were related to concordance in caregiver's messages about violence, whereas differences in caregiver's perceptions of family communication were related to concordance in exposure to violence. This pattern of findings suggests that interventions to support effective communication of non-violent norms may need to address the adolescents' attitudes about violence, whereas interventions to support disclosure of exposure to violence may need to focus on family relationships.

Associations with Youth Aggression

Similar to the findings by Garthe and colleagues (2015) regarding the association between students' perceived parental support for violent responses to conflict and youth aggression, the current study extended this line of research to delineate between acts of aggression in both the school and home/neighborhood context. The finding that perceived parental messages are associated with both aggressive acts in the school as well as the home/neighborhood supports the practice of bringing parents into school in response to child involvement in fighting or bullying (Murray et al., 2014). Caregivers'/parents' role in preventing violence through the setting of expectations of behavior in potential conflict

situations appears to operate regardless of the context of the violence and the potentially different motivations for aggression. In a recent qualitative study of low-income families, parents felt strongly that violence prevention began at home and that they served as important role models (Chen, Flores, & Shetgiri, 2015). Interestingly, our study is one of the first to explore the role of caregiver's report of messages supportive of violence on either adolescent or caregiver report of aggression. However, no significant associations were identified. These findings lend support to the larger literature that tends to find stronger associations between informant-specific relationships (Abar et al., 2015; Dirks, Boyle, & Georgiades, 2011) and suggest that this construct (i.e., parent's report of coaching about violence) may be subject to issues of social desirability (Abar et al., 2015; De Los Reyes & Kazdin, 2005). These findings may also be interpreted as support for the value of understanding the unique contributions of adolescent perceptions (i.e., lens of interpretation; De Los Reyes & Kazdin, 2005).

These findings are also aligned with Goodman and colleagues' (2010) DiVIDE model, which highlighted the potential utility of understanding how parent/adolescent agreement about exposure to violence contributed to child adjustment and wellbeing. Our study is the first to explore this question, and provides support for their hypothesis that agreement between parents and adolescents may promote feelings of being understood and accepted, and therefore have a positive impact. We also found that caregiver/adolescent agreement about neighborhood violence was associated with a decrease in youth report of aggression. This effect was most evident for adolescents reporting high exposure to violence, as these youth are most at-risk for negative outcomes facilitating youth disclosure may be particularly important for these youth (Graham-Bermann, Kulkarni, & Kanukullu, 2011). Interestingly, caregivers in these dyads (i.e., concordant violent) had significantly lower perceptions of open family communication, which is thought to explain the protective effect of concordance (Bidaut-Russell et al., 1995). However, it should be noted that our measure of exposure to violence did not assess caregivers' awareness of their adolescent's exposure to violence, but merely their own perceptions of the neighborhood. Thus perhaps the protective effect we found is based on adolescents' ability to observe their caregivers modeling of coping strategies (Kliewer et al., 2006) and therefore might operate outside of conversation.

Limitations

While this study benefited from a dataset rich in parallel measures of caregiver's and adolescent's attitudes, perceptions, and reports of behaviors there are some limitations to the findings that should be noted. First, the sample size was limited and some scales had lower than desired internal consistency, which may have hindered our ability to more fully examine the above questions. Although this is a predominantly African American sample, it was purposefully an at risk sample, thus the finding probably do not generalize to African Americans in less risky environments, and may apply other groups in violence neighborhoods. Additionally, the analyses presented in this article are cross-sectional in nature, thus cannot determine causality. Other studies have tested models in which adolescent aggression is predictive of parental messages and have found limited support for this reverse causation hypothesis (Garthe et al., 2015; Murray et al., 2014). Also, as noted

above, we assessed caregiver's own perceptions of the neighborhood and not their awareness of their adolescent's exposure, which differs slightly from the larger literature base around discrepancies in parent/child reports. Furthermore, while the sample included a broad range of caregivers, the majority were mothers, with very few fathers participating, limiting our ability to understand differences in socialization by caregivers.

Conclusions

These findings highlight the potential value of considering diverse perspectives on both parental messages about violence and exposure to neighborhood violence in explaining youth aggression. Both caregiver and early adolescent reports of these potential socialization factors and to some extent caregiver/adolescent concordance were associated with youth aggression. More work is needed to understand the complexities of parenting in a violent environment. As suggested by the current findings, concordance in perceptions of messages about violence and neighborhood violence are likely influenced by individual, family, and neighborhood factors. Current family-based violence prevention initiatives encourage caregivers to advocate for non-violent responses to violence without taking into account either the context or the parent/child relationship. In a neighborhood where violence is normative, these interventions may be ineffective because the parent does not believe that non-violence is appropriate in certain situations (Lindstrom Johnson et al., 2013) and does not transmit a non-violent message to the child. Additionally, our article suggests that understanding ways to facilitate disclosure of exposure to violence may be critical for youth in these neighborhoods exposed to higher levels of violence. Some studies have suggested that youth may worry about the consequences of disclosure such as restrictions on activities and friends (Frijns, Keijsers, Branje, & Meeus, 2010). As early adolescence has been cited as a particularly critical time period for parent socialization (Farrell, Henry, Mays, & Schoeny, 2011), our article supports the importance of understanding parental socialization processes in order to reduce youth aggression both at home and school.

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Biographies

Sarah Lindstrom Johnson is an Assistant Professor in the School of Social and Family Dynamics at Arizona State University. She received her Ph.D. in Public Health from the Johns Hopkins Bloomberg School of Public Health. Her research takes a positive youth development approach towards identifying ways to prevent youth involvement in risk behaviors, which focuses on supporting developmental assets and improving the environments in which youth learn and grow. Much of this work involves partnerships with youth serving organizations such as schools, primary care clinics, and community organizations.

Ray Reichenberg, M.Ed., M.A., is a doctoral student in the School of Social and Family Dynamics at Arizona State University. His research interests include methodological issues related to psychometrics and educational assessment, particularly the application of Bayesian theory and methods in latent variable modeling and assessment. Catherine Bradshaw, Ph.D., M.Ed., is a Professor in the Curry School of Education at the University of Virginia. She is the Associate Director of the Johns Hopkins Center for the Prevention of Youth Violence and the Co-Director of the Johns Hopkins Center for Prevention and Early Intervention. Her research focuses on children's aggressive and problem behaviors and the design and evaluation of school-based prevention and intervention programs.

Dr. Haynie received her doctorate in developmental psychology from the Catholic University of America in 1993 and a Master of Public Health from the Johns Hopkins Bloomberg School of Public Health in 1996. Dr. Haynie conducts behavioral research, both observational and intervention evaluation, on adolescent health behaviors. Her expertise is in adolescent development, parent-child relationships, and adolescent risk behaviors. She has extensive experience with the development and implementation of school based intervention programs for adolescents and their families.

Dr. Tina L. Cheng is Professor of Pediatrics at Johns Hopkins School of Medicine with joint appointment in the Bloomberg School of Public Health. Dr. Cheng is active in clinical care, research, advocacy and teaching of medical students, residents, fellows, and public health students. Her work focuses on addressing child health disparities including measurement of disparities, comprehensive and community-based models of primary care, youth development and violence prevention.

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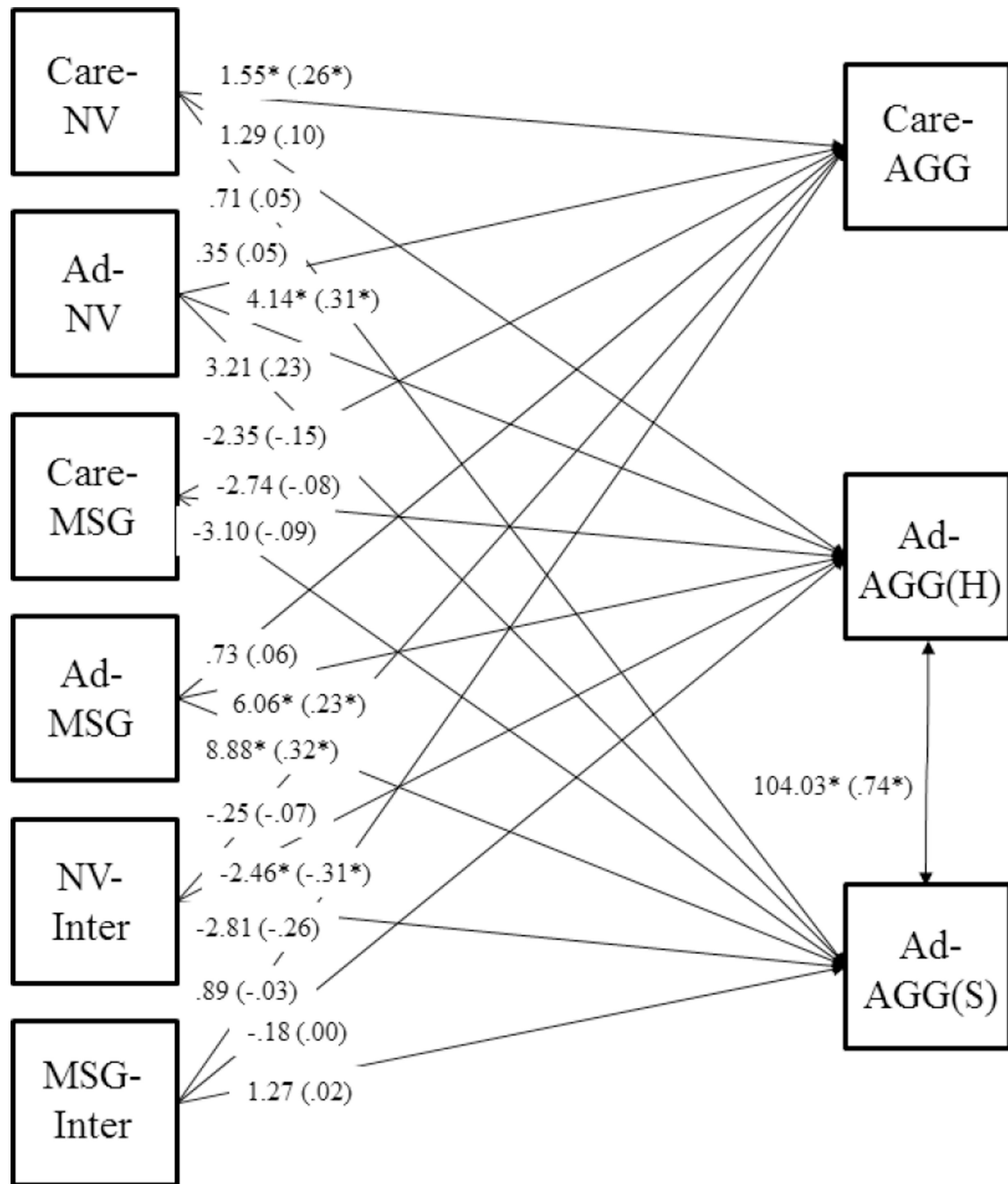


Figure 1.
Path Model

Note: Care-NV= Caregiver report exposure to neighborhood violence; Ad-NV= Adolescent report exposure to neighborhood violence; Care-MSG= Caregiver report messages about violence; Ad-MSG= Adolescent report messages about violence; NV-Inter= Interaction of caregiver and adolescent exposure to neighborhood violence; MSG= Interaction of caregiver and adolescent messages about violence; Care-AGG= Caregiver report aggression; Ad-

AGG(H)= Adolescent report aggression at home/neighborhood; Ad-AGG(S)= Adolescent report aggression at school

* $p < .05$; estimates are reported as unstandardized estimates (standardized estimate); analyses controlled for youth gender, parent education level, and parent relationship.

Model fit: CFI=.99; TLI=.96; RSMEA=.04

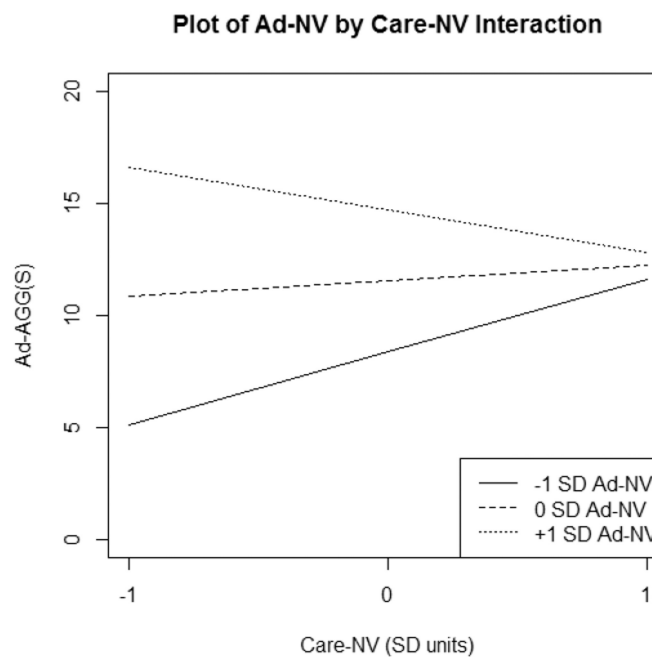
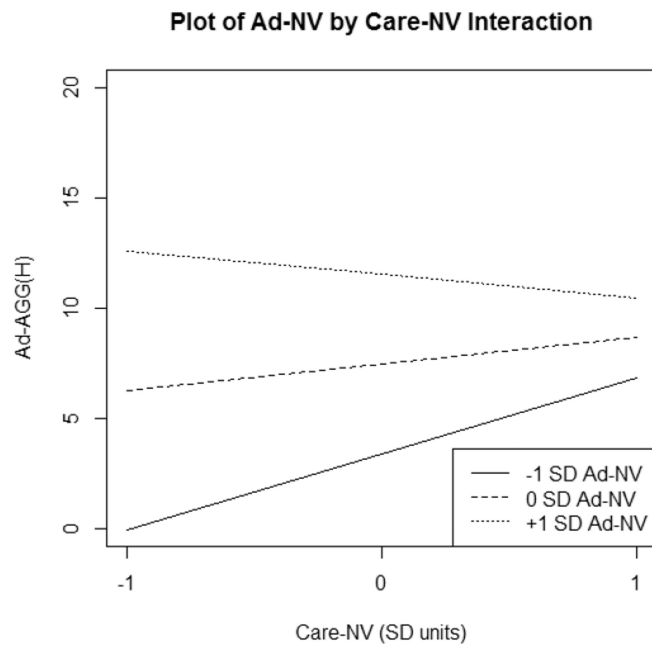


Figure 2. Caregiver × Adolescent Perceptions of Neighborhood Violence Interaction
 Note: Care-NV= Caregiver report exposure to neighborhood violence; Ad-NV= Adolescent report exposure to neighborhood violence; of caregiver and adolescent messages about violence; Ad-AGG(H)= Adolescent report aggression at home/neighborhood; Ad-AGG(S)= Adolescent report aggression at school

Table 1

Participant Characteristics

Caregiver/Adolescent Characteristics (<i>N</i> = 144 dyads)	<i>N</i> (%)
Caregiver Relationship to Youth	
Mother	105 (73.4)
Father	9 (6.3)
Stepparent	3 (2.1)
Grandparent	11 (7.7)
Aunt	11 (7.7)
Other	4 (2.8)
Caregiver Race	
Black/African American	141 (100)
Caregiver Education	
Did not graduate from high school	40 (28.6)
Graduated from high school/GED	44 (31.4)
Attended some college	48 (34.3)
Graduated from college	8 (5.7)
Adolescent Gender	
Male	59 (41.3)
Female	84 (58.7)
Adolescent Age	12.99 (.93)

Note: Adolescent age represents $M(SD)$. Numbers may not add up to sample size due to missingness.

Table 2

Descriptive Statistics

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Caregiver Aggression	8.07 (6.12)												
2. Child Aggression Home	.15	8.73 (12.17)											
3. Child Aggression School	.15	.76**	11.68 (13.35)										
4. Caregiver Messages	-.00	-.05	-.02	17.09 ^a (3.77)									
5. Child Messages	.06	.21*	.26**	.13	19.57 ^a (4.62)								
6. Caregiver Exposure to Violence	.18*	-.08	-.13	.11	.02	11.95 (4.85)							
7. Child Exposure to Violence	.07	.12	.13	.07	.14	.23**	12.62 (4.58)						
8. Caregiver's Attitudes about Violence	.16	-.04	.06	.39**	.01	.04	.01	12.08 ^b (2.95)					
9. Children's Attitudes about Violence	.05	.34**	.40**	.02	.61**	-.04	.13	.05	15.53 ^b (4.13)				
10. Caregiver Family Communication	-.43**	.00	-.05	-.14	-.32**	-.19*	-.17*	-.21*	-.05	38.58 (6.62)			
11. Child Family Communication	-.24**	-.03	-.07	.02	-.26**	.06	-.1	-.04	-.10	.21*	38.98 (7.71)		
12. Caregiver Collective Efficacy	-.15	.00	-.09	-.22*	.03	-.28**	-.17	.07	.03	.21*	.08	32.27 (7.52)	
13. Child Collective Efficacy	.09	-.14	-.26**	.13	-.20*	.03	-.18*	.12	-.18*	.05	.31**	.06	32.27 (5.57)

Note: Diagonal shows mean and standard deviation [*M(SD)*]

** *p* .01;

* *p* .05;

^{a, b} difference significant at the *p* .001 level

Table 3

Caregiver/Adolescent Agreement by Item

Item	Percent Agreement
Caregiver Messages ^a	
If someone calls you names ignore them.	92.3%
If someone asks you to fight you should tell a teacher or another adult.	83.9%
If someone asks you to fight you should try and talk your way out of it.	75%
No matter what- fighting is no good- there are other ways to solve the problem.	87.1%
You should think through a problem, calm yourself, and then talk the problem out with your friend.	89.1%
If someone hits you, hit them back.	72.7%
If someone calls you names, hit them.	95.7%
If someone calls you names, call them names back.	94.4%
If someone ask you to fight, hit them first.	91.5%
If you can't solve the problem by talking, it is best to solve it by fighting.	62.2%
Exposure to Violence ^b	
A fight in which a weapon was used.	62.2%
A violence argument between neighbors.	57.7%
A gang fight.	63.3%
A sexual assault or rape.	65.2%
A robbery or mugging.	58.5%

^aMean difference score Parental Messages Scale -2.51 (5.54).

^bMean difference score Exposure to Violence Scale $-.69$ (5.88).

Table 4

Mean Differences by Concordance Group

	Attitudes about Violence (Caregiver)	Attitudes about Violence (Child)	Family Communication (Caregiver)	Family Communication (Child)	Collective Efficacy (Caregiver)	Collective Efficacy (Child)
CAREGIVER MESSAGES						
Concordant Violent	12.81	17.4 ^b	36.64	37.32	31.93	31.22
Discordant	11.47	15.69 ^a	38.77	39.88	30.88	33.10
Concordant Non- violent	12.81	13.66 ^b	40.2	39.43	33.97	33
EXPOSURE TO VIOLENCE						
Concordant Violent	12.00	16.33	35.51 ^{c,d}	38.83	29.94	32.78
Discordant	12.21	14.83	39.39 ^c	39.04	32.38	32.56
Concordant Non- violent	11.93	15.41	39.78 ^d	38.83	34.16	31.59

Note:

^{a,c} difference significant at $p < .05$;^{b,d} difference significance at $p < .01$