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Adolescent Reports of Aggression as Predictors of Perceived Parenting Behaviors and Expectations

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Abstract

This study examined the associations between adolescent self-report of aggression and adolescents' perceptions of parenting practices in a sample of African American early adolescents living in low-income, urban communities. Sixth graders (N = 209) completed questionnaires about their aggressive behaviors and perceptions of caregivers' parenting practices at two time points during the school year. Path model findings reveal that adolescent-reported aggression at Time 1 predicted higher levels of perceived parent psychological control and perceived parent expectations for aggressive solutions to conflicts at Time 2. Findings suggest that early adolescent aggression elicits negative parenting behaviors at a subsequent time point.

Keywords

parenting; adolescent at risk behavior; urban populations; African American related

Introduction

Research on adolescent aggression often seeks to identify parenting practices that promote or prevent adolescent violence perpetration. A large body of research has demonstrated the protective potential of parenting practices such as parental support and monitoring (Hoeve et al., 2009; Orpinas, Murray, & Kelder, 1999; Patterson, Forgatch, Yoeger, & Stoolmiller,

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1998; Patterson & Stouthamer-Loeber, 1984; Reid & Patterson, 1989; Richards, Viegas Miller, O'Donnell, Wasserman, & Colder, 2004; Simons-Morton, Hartos, & Haynie, 2004) in reducing aggression and related problem behaviors. In addition, interventions to enhance positive parenting practices may prevent and reduce youth problem behavior (e.g., DeGarmo & Forgatch, 2005; Dishion & Andrews, 1995; Forgatch, DeGarmo, & Beldavs, 2005). Even when other ecological factors are examined, research suggests that parenting remains important in explaining the development and progression of adolescent aggression. Moreover, effective parenting practices have been shown to buffer against the negative effects of other factors, including the adolescent's individual characteristics, peer affiliations, witnessing of community violence, and neighborhood conditions (e.g., Brookmeyer, Henrich, & Schwab-Stone, 2005; Crosswhite & Kerpelman, 2009; Gorman-Smith, Henry, & Tolan, 2004; Smith, Flay, Bell, & Weissberg, 2001). For example, although peers have been found to play an increasing role in shaping attitudes and behaviors as children transition to adolescence and during adolescence, parents' directly and indirectly influence adolescent behavior (Patterson & Dishion, 1985; Simons, Chao, Conger, & Elder, 2001; Simons-Morton et al., 2004; Smith et al., 2001). Simons et al. (2001) found that decreases in ineffective parenting reduced adolescents' affiliation with deviant peers, and, in turn, less deviant peer affiliation was associated with decreases in delinquency.

Examining the influence of parenting behavior on adolescent aggression is a unidirectional approach to understanding the relationship between parenting and adolescent aggression. This approach is inconsistent with the well-established view that child behavior influences parent behavior, just as parenting behavior influences the child. More specifically, parents may respond to the presence or absence of their child's aggression by changing their parenting behavior (Kerr & Stattin, 2003; Maccoby, 1992). These changes in parenting behavior may in turn contribute to changes in their child's behavior that result in diminishing or increasing levels of aggression. Patterson and colleagues (Patterson, Reid, & Dishion, 1992; Reid & Patterson, 1989; Vuchinich, Bank, & Patterson, 1992) conducted the earliest studies examining the reciprocal interplay between parent and child behavior to elucidate the process of aggression development and persistence. Although a growing body of research has extended this work for a range of youth problem behaviors (e.g., Laird, Pettit, Bates, & Dodge, 2003; Pardini, Fite, & Burke, 2008), few studies have included African American study participants who live in urban environments, even though these environments clearly place youth at elevated risk for involvement in aggression and other problem behaviors. The purpose of this study was to examine potential directions of influence in a low-income, urban, predominately African American sample. More specifically, we examined whether adolescent reported aggressive behavior is associated with perceived parenting practices, and whether perceived parenting is associated with adolescent reported aggressive behavior.

Researchers who examine parenting practices and their effect on adolescent aggression typically categorize these practices as either responsive or demanding parenting. High levels of parental support (one type of responsiveness) have been found to be associated with lower levels of subsequent aggression and other problem behaviors in many studies (e.g., Brookmeyer et al., 2005; Pittman & Chase-Lansdale, 2001; Prelow, Bowman, Weaver, & Scott, 2007; Simons-Morton et al., 2004). Research also reveals that demanding parenting

practices such as parental communication of expectations and additional efforts to have current, accurate knowledge of adolescents' whereabouts are protective against subsequent adolescent engagement in aggression and related problem behaviors (Orpinas et al., 1999; Richards et al., 2004; Simons-Morton et al., 2008; Simons-Morton et al., 2004).

A relatively small number of studies have explored a second direction of influence: adolescents' behavioral (e.g., conduct disorder, delinquency, alcohol, depression, and sexual risk) influence on subsequent measures of parenting (e.g., Pardini, 2008; Sameroff & Mackenzie, 2003; Vuchinich et al., 1992). These studies are generally referred to as reciprocal or bidirectional effects studies because both potential directions of influence are examined. Focusing largely on responsive and demanding parenting practices, this body of research generally examines whether parenting at Time 1 predicts adolescent outcomes at Time 2, and in turn, whether adolescent outcomes at Time 1 predict parenting at Time 2 (or Time 2 outcomes predict parenting at Time 3). Researchers have found that greater adolescent problem behaviors predicted lower levels of subsequent measures of responsive parenting practices like support (Stice & Barerra, 1995), high quality parent – adolescent relationship quality (Fanti, Henrich, Brookmeyer, & Kuperminc, 2008), parent connectedness (Henrich, Brookmeyer, Shrier, & Shahar, 2006), parental warmth (Hipwell et al., 2008), attachment (Gault-Sherman, 2012), and nurturance (Rueter & Conger, 1998). Similarly, adolescent problem behavior has been associated with higher levels of poor parent – child communication (Pardini et al., 2008) and harsh parenting (Brody & Ge, 2001; Rueter & Conger, 1998).

Researchers have also found relationships between adolescent behavior and subsequent measures of demanding parenting practices. A number of studies suggest that adolescent problem behavior (e.g., bullying, delinquency, antisocial behavior) predicts demanding parenting practices such as parental monitoring and enforcement and having knowledge of a child's whereabouts and actions when unsupervised (a possible indicator of positive parent – youth communication and that monitoring occurred; Fite, Colder, Lochman, & Wells, 2006; Georgiou & Fanti, 2010; Huh, Tristan, Wade, & Stice, 2006; Laird et al., 2003; Pardini et al., 2008; Willoughby & Hamza, 2011). Parental monitoring, enforcement, and knowledge were also found to predict lower levels of adolescent problem behaviors in these studies.

This literature is not entirely consistent. For example, a handful of study models have revealed only child effects on parenting (Fanti et al., 2008; Gault-Sherman, 2012; Kerr & Stattin, 2003). Fanti et al. (2008) found that, though adolescent externalizing behavior was associated with diminished father – adolescent relationship quality, father – adolescent relationship quality was unrelated to externalizing behavior. Kerr and Stattin (2003) also found only child effects on parenting practices. Youth report of delinquency predicted lower levels of parent support, monitoring, and knowledge, but these parenting practices were unrelated to subsequent delinquency.

One striking gap in this body of literature is the lack of studies that include African American youth and their parents who live in low-income, urban communities. Disadvantaged urban minority communities provide an economic and social context that exacerbates the risk for aggression and related problem behaviors (e.g., Attar, Guerra, &

Tolan, 1994; Bruce, 2004; Decoster, Heimer, & Wittrock, 2006). Indeed, a small body of literature has focused on identifying contextual factors associated with parenting and adolescent outcomes among African Americans who live in low-income, urban communities. For example, through direct and indirect pathways, financial strain and neighborhood stress have predicted negative parenting practices and adolescent outcomes (Gutman, McLoyd, & Tokoyawa, 2005; Roche & Leventhal, 2009; Taylor, Seaton, Dominguez, & Rodriquez, 2004). In light of such contextual factors, African American parents raising their children in low-income, urban communities may be prone to use high levels of control in an attempt to protect their adolescents from involvement in aggression and other problem behaviors (Hill, Bromell, Tyson, & Flint, 2007). Some African American parents living in high-violence, urban environments may perceive the presence of gangs or racism in the criminal justice system as potential hazards and, in response, may demonstrate greater levels of vigilance or no nonsense parenting to foster adolescent resilience (Brody & Flor, 1998; Hill et al., 2007).

Another parenting practice that may conceptually overlap with a more controlling parenting approach is psychological control, a highly restrictive and intrusive form of parenting practice that involves the parent withdrawing love from the child, inducing the child to feel guilty, and invalidating the child's feelings (Barber, 1996). Psychological control has been positively associated with problem behaviors like aggression and delinquency in previous prospective studies (e.g., Bean, Barber, & Crane, 2006; Gaertner et al., 2010; Galambos, Barker, & Alameida, 2003; Kincaid, Jones, Cuellar, & Gonzalez, 2011; Pettit, Laird, Dodge, Bates, & Criss, 2001; Taylor, Lopez, Budescu, & McGill, 2012). This parenting practice has not, however, been widely studied in relation to similar adolescent outcomes in low-income, urban, African American samples. Results of studies of this population have been mixed (Bean et al., 2006; Kincaid et al., 2011; Taylor et al., 2012). Given the limits of the current literature, additional research is needed on the potential relations between adolescent aggressive behavior and parenting among African American families who reside in low-income, urban environments.

Study Purpose

The purpose of this study was to examine possible prospective associations between adolescent reported aggression and subsequent parenting practices in a sample of adolescents at elevated risk for aggression involvement; that is, African American youth living in low-income, urban communities. We also examined whether parenting practices were associated with subsequent adolescent aggression. The extant literature suggests that adolescent aggression is associated with greater levels of ineffective parenting practices (or lower levels of protective parenting practices) at a subsequent time point. Similarly, previous research suggests that high levels of protective parenting are associated with lower levels of adolescent aggression at a subsequent time point, and ineffective parenting is associated with greater adolescent aggression at a subsequent time point. These hypotheses guided the study.

Method

Participants

Participants in the current study were sixth graders recruited from two middle schools in a large mid-Atlantic city. All sixth graders were eligible for study recruitment except students repeating the sixth grade ($n = 44$) and students in self-contained special education classes (none). Of the eligible students ($N = 469$), parental consent was given for 274 students. Youth assent was given immediately prior to the administration of the baseline survey. The baseline survey was completed by 251 students for a study participation rate of 54%. Reasons students did not participate in the baseline survey included transfers, chronic truancy, suspensions, inability to read, and parental study withdrawal ($n = 23$). Although the 54% participation rate is relatively low, some other school-based studies involving minority youth have experienced similar participation rates (Reyes, Kobus, & Gillock, 1999; Spoth, Redmond, Shin, & Azevedo, 2004). Although individual-level data on nonpartici-pants were unavailable, a comparison of the available school level and aggregated study participant demographic data suggests that each schools' study participant group was close to representative of their respective school population. In school A, 97% of the study participants were African American and 57% were male, and 99.7% of the school A population was African American and 51% male. In school B, 95% of the study participants were African American and 48% were male, and 93% of the school B population was African American and 54% male.

An additional 38 students were lost to follow-up due to transfers, absences, inability to read, and study withdrawal. As a result, a total of 213 youth (45% of eligible) completed the baseline and follow-up survey 3 months later; four students were excluded due to excessive missing data. The final sample consisted of 209 sixth graders. Participant demographics (both schools combined) were as follows: 96% African American, 54% male, and mean age of 12 years. In addition, 62% lived in households with one biological parent and at least one other adult (including a second biological parent), followed by 28% living in households with one biological parent, and 9% living in other household configurations (e.g., household with one grandparent).

Procedures

This study is an analysis of data from a 3-year randomized, controlled trial testing the impact of a school-based violence prevention curriculum on early adolescent aggressive behaviors. The institutional review boards of the Johns Hopkins University and the Eunice Kennedy Shriver National Institute of Child Health and Human Development approved this study. Because the purpose of the broader study was to prevent/reduce aggressive and antisocial behavior among high-risk early adolescents, the researchers targeted schools with high-risk early adolescents in the city where the lead study institution was located. The schools selected were located in neighborhoods with high levels of unemployment, violent crime, and families of lower socioeconomic status. The schools selected were also those where the school principal and other administrators agreed to collaborate on this study. These schools, though not demographically representative of most schools in the city and state, are representative of schools in communities with similar levels of risk in the city

where the study was conducted. Both schools selected were on probation for "persistently dangerous," a No Child Left Behind designation based on the numbers of student expulsions and suspensions for violent offenses (Maryland State Department of Education, 2012).

Data from the second year of this intervention study (2004 – 2005 academic school year) were analyzed for this study. Parent consent forms were provided to youth to take home at the beginning of the school year, and youth returned signed consent forms to their homeroom teachers. Youth assent was obtained by research staff immediately prior to the administration of the baseline survey. While in the sixth grade, participating youth completed baseline (Time 1) and follow-up (Time 2) surveys 3 months later. Study incentives were offered to youth for the return of consent forms (donut breakfasts for homeroom classes that returned a specified percentage of consent forms) and participating in the study (e.g., t-shirts, pencils, pens). Despite these efforts, subsequent research with parents at the study schools and anecdotal information revealed a number of factors contributed to the low response rate, including students inconsistently bringing materials from school to parents, low literacy levels among many parents that may have affected comprehension of the research consent form, and parents' mistrust of academic research involving their children. A detailed description of other study procedures has been given elsewhere (Murray, Haynie, Howard, Cheng, & Simons-Morton, 2010).

Measures

Perceived parental expectations—Adolescent's perceptions of parental expectations about fighting were measured using an adapted version of the Parental Support for Fighting Scale (Orpinas et al., 1999). The adapted measure included 10 items from the original scale and an additional two items developed for the larger aggression study. Five of the scale items reflect statements about parental expectations for peaceful solutions to aggression (e.g., My parent/guardian wants me to "ignore someone if he or she calls me a name," "tell a teacher or another adult if someone asks me to fight"), and seven items reflect parental expectations for aggressive solutions to aggression (e.g., My parent/guardian wants me to "stay and fight instead of walking away so I won't be a coward or a 'chicken,"' "stay and fight so I won't get 'picked on' even more"). The adapted Parent Support for Fighting Scale has a 10-point Likert-type response scale ranging from 1 (*strongly disagree*) to 10 (*strongly agree*).

Items were submitted to principal components analysis (PCA) with varimax rotation. Consistent with findings of previous research (Multisite Violence Prevention Project, 2006), a two-factor solution yielded a more meaningful structure conceptually than did a three-factor solution (detailed PCA results have been published elsewhere; Murray et al., 2010). Thus two scales were created, Perceived Parental Expectations for Peaceful Solutions (seven items; alpha = .73 at Time 1, .80 at Time 2) and Perceived Parental Expectations for Aggressive Solutions (five items; alpha = .78 at Time 1, .84 at Time 2). The former represents a protective parenting practice and the latter represents an ineffective parenting practice.

Perceived parental support, parental knowledge, and parental psychological control—Perceived parental support was measured using the 10-item Acceptance subscale

from the revised Child Report of Parent Behavior Inventory (Barber, 1996). Items asked about having a parent the adolescent perceived as supportive (e.g., I have a parent/guardian who "is easy to talk to," "gives me care and attention"). Participants responded on a five-point response scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Perceived parental knowledge was measured using the five-item monitoring scale (Brown, Mounts, Lamborn, & Steinberg, 1993). Items included statements about adolescent's perceptions of parents' knowledge of their whereabouts, companions, and activities when unsupervised (e.g., I have a parent/guardian who "really knows where I am after school," "really knows where I go at night"). Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). One monitoring item was excluded from the analysis because data on this item were not collected at Time 2 of the youth survey.

Perceived parental psychological control was assessed with the eight-item Psychological Control Scale Youth Self-Report (Barber, 1996). Items asked about having a parent who the adolescent perceived as psychologically controlling—withdrawing love, inducing guilt, and invalidating the child's feelings (e.g., I have a parent/guardian who "brings up past mistakes when he/she criticizes me," "if I have hurt feelings, stops talking to me until I please her/him again"). Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Previous research has distinguished between measures of support, knowledge, and psychological control (e.g., Schaefer, 1965; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). PCA with varimax rotation was performed to determine whether items loaded on factors consistent with the perceived support, knowledge, and psychological control scales in this sample. Based on the results of these preliminary analyses, two variables were created (detailed PCA results have been published elsewhere; Murray et al., 2010). The first variable reflects a support/knowledge dimension, and the second reflects a psychological control dimension. Scale scores demonstrated high internal consistency for both support/knowledge (13 items; Cronbach's alpha = .85 at Time 1, .86 at Time 2) and psychological control (7 items; Cronbach's alpha = .71 at Time 1, .81 at Time 2). The support/knowledge variable represents a protective parenting practice, and the psychological control variable represents an ineffective parenting practice.

Adolescent reported aggression—Aggressive behavior was measured using an overt aggression index. This measure, adapted from the Aggression Scale (Orpinas & Frankowski, 2001), assessed the frequency of three overt aggressive behaviors "at home or in the neighborhood" in the previous 30 days ("Push, shove, slap, or kick another student?" "Hurt someone on purpose?" "Threaten to hit or hurt another student?"). Responses ranged from 0 (*strongly disagree*) to 5 (*strongly agree*). Question responses were summed to create a final adolescent reported aggression index score.

Analytic Strategy

Multiple imputation (MI) was used to address missing data. MI is a multistage procedure that involves the imputation of missing values with a set of plausible values and provides the advantage of yielding more precise parameter estimates than datasets with missing values imputed one time (Schafer, 1999). MI is also a superior alternative to listwise deletion that

would reduce the sample size. Prior to performing MI, the data were evaluated to ensure that missing values were missing at random (MAR) rather than systematically missing (Allison, 2002). The rate of missingness across scale and index scores ranged between 0.04% and 9.00%, a level of missing that MI simulation studies indicate will provide acceptable estimations of parameter estimates (Schlomer, Bauman, & Card, 2010; van Ginkel, van der Ark, & Sijtsma, 2007). The MI procedures resulted in 10 multiply imputed data sets. The MI data set was generated and frequencies and *t* tests were conducted in SPSS version 19 (IBM Corp., 2010).

Variable screening revealed that the study variables exhibited some degree of skew. Using the criteria of an absolute skew index value of greater than 3 to identify extreme skew (Kline, 2005), we found that none of the study variables met this criteria. Multivariate analyses were conducted using Mplus version 7 (Muthén & Muthén, 2012). Two measurement models were developed to test whether the observed protective parenting practices variables (perceived parental expectations for peaceful solutions and perceived parental support/knowledge) and the observed ineffective parenting practices variables (perceived parental expectations for aggressive solutions and perceived parental psychological control) could be combined to create a protective parenting latent variable and ineffective parenting latent variable, respectively. In each model, the Time 1 and Time 2 aggression-dependent variables were included as observed variables. The measurement models exhibited poor fit; that is, the shared variance among the observed parenting variables was insufficient to justify a common latent variable.

Next, two path models were tested to examine the relation between (a) aggression and protective parenting practices and (b) aggression and ineffective parenting practices. Because the study employed a within-school randomization design, school was controlled for in each model in addition to youth sex, youth age, and group assignment (intervention and control). The strategy of placing both protective parenting practices variables in one model and both ineffective parenting practices variables in one model is consistent with the study hypotheses. These models also enhance the ability to explain some of the complex inter-relationships among the parenting variables when compared to testing models of each parenting variable individually. (A measurement model and a path model that included all four parenting variables were also developed to explore whether these models might exhibit good fit. Neither model, however, exhibited a good fit.)

A fully specified model was tested and examined for overall goodness of fit. If the initial model exhibited good fit, all nonsignificant parent and aggression variable paths were removed. These steps were repeated until a well-fitting, parsimonious model was achieved. Following the suggestion of Hu and Bentler (1999), the criteria for assessing goodness of fit included a nonsignificant chi-squared statistic, Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI) values of .95 or higher, and root mean square error of approximation (RMSEA) value of close to .06 or lower (Hu & Bentler). The application of these cutoff criteria for evaluating goodness of fit has been criticized as overly restrictive (Marsh, Hau, & Wen, 2004). As an alternative to using rigid cutoff criteria for assessing model fit, Buhi, Goodson, and Neilands (2007) suggest that “values further away from the recommended cutoff points indicate potential inconsistency between the model and sample data, whereas

values near the recommendations suggest that the model might be useful" (p. 81). This guideline was also considered in the evaluation of model fit.

Results

Table 1 shows the descriptive statistics for each study variable. Results of *t* tests revealed that perceived parental expectations for peaceful solutions increased significantly ($t = -3.48$, $df = 208$, $p < .01$) and perceived parental psychological control decreased significantly ($t = 3.01$, $df = 208$, $p < .01$) between Time 1 and Time 2. The initial perceived parental expectations for aggressive solutions and perceived parental psychological control path model exhibited a good model fit [$\chi^2 = 27.27$, $df = 13$, p = .16; TLI = .89; CFI = .95, RMSEA = .04, CI (.0, .08)]. Nonsignificant parenting and aggression variable paths were removed and the resulting second model was tested. This final perceived parental expectations for aggressive solutions and perceived parental psychological control model is shown in Figure 1 [$\chi^2 = 21.56$, $df = 19$, $p = .30$; TLI = .96; CFI = .97, RMSEA = .02, CI (.0, .06)].

The model revealed significant paths between Time 1 aggression to Time 2 parent expectation for aggressive solutions (.14, $p < .05$), Time 1 aggression to Time 2 psychological control (.19, $p < .0001$), Time 2 psychological control to Time 2 aggression (.14, $p < .05$), and Time 2 parent expectation for aggressive solutions to Time 2 aggression (.31, $p < .0001$). Significant paths were also found between Time 1 aggression and Time 2 aggression (.33, $p < .0001$), Time 1 parent expectation for aggressive solutions to Time 2 parent expectations for aggressive solutions (.30, $p < .0001$), and Time 1 psychological control to Time 2 psychological control (.29, $p < .0001$). The perceived parental expectations for peaceful solutions and perceived parental support/knowledge did not exhibit good model fit [$\chi^2 = 27.27$, $df = 13$, $p = .01$; TLI = .59; CFI = .82, RMSEA = .07, CI (.03, .11)]. Thus, the significant paths were not examined.

Discussion

This study examined the prospective relationships between adolescent reported aggression and perceived parenting practices. Study findings indicate that early adolescent aggressive behavior predicted increases in ineffective parenting. Adolescent reported aggressive behavior at Time 1 predicted an increase in perceived parental expectations for aggressive solutions to conflict and perceived parent psychological control. These findings are consistent with previous research in diverse samples demonstrating that a range of adolescent problem behaviors predict parenting associated with an increased risk for adolescent problem behavior (Brody & Ge, 2001; Henrich et al., 2005; Rueter & Conger, 1998; Stice & Barrera, 1995). For example, Huh et al. (2006) found that adolescent externalizing behaviors predicted lower levels of parental support and behavioral control (i.e., consistency, enforcement, and monitoring) at a later time point. Brody and Ge (2001) found that low levels of early adolescent self-regulation were related to an increase in harsh parenting. Other studies have also indicated that higher levels of maladaptive child and adolescent behavior predicted amplified negative parenting practices like harsh punishment

(Hipwell et al., 2008); ineffective discipline (Fite et al., 2006); harsh, inconsistent parenting (Rueter & Conger, 1998); rejection; and inconsistent discipline (Lengua, 2006).

Neither perceived parental expectations for aggressive solutions to conflict nor perceived parent psychological control at Time 1 predicted adolescent reported aggressive behavior at Time 2. Thus, the findings from the path model analyses revealed only unidirectional relationships from adolescent to parent. Our path model findings that aggression at Time 1 was associated with an increase in psychological control and expectations for aggressive solutions at Time 2 could be explained in a number of ways. First, the findings could be due to changes in adolescents' perceptions, rather than by an actual change in parenting behavior. For example, aggressive adolescents may perceive their parents efforts to control their behavior to be psychologically controlling. The findings could reflect a true and general pattern in which parenting is more responsive to adolescent aggression than adolescent aggression is to parenting. Such child effects-only findings have been found in other studies. These studies included tests of multiple models, however, and most models found parent effects on child behavior and child effects on parenting (Fanti et al., 2008; Gault-Sherman, 2012; Kerr & Stattin, 2003). The sixth-grade participants in this study were transitioning to a middle-school environment characterized by high levels of violence. So the norms of the school environment as well as an early adolescent's new middle school peer group may have fostered new patterns of aggressive behavior while minimizing the direct influence of parenting practices. This potential explanation highlights the importance of unmeasured variables in this study such as perceptions of school safety, witnessing community violence, affiliation with problem behaving peers, and other contextual factors. There is compelling evidence that particular parenting practices may moderate (or exacerbate) the negative influence of an adolescent's social environment and problem behavior outcomes (Brookmeyer et al., 2005; Gorman-Smith et al., 2004; Mason, Cauce, Gonzales, & Hiraga, 1996; Smith et al., 2001).

Another possible explanation for the lack of parent effects findings is that a sufficient number of youth had longstanding patterns of aggressive behavior, such that associations between perceived parenting at Time 1 and adolescent reported aggression at Time 2 were generally not found in the sample. Furthermore, the findings could also be an artifact of the short follow-up time of 3 months. In previous longitudinal studies follow up was typically carried out in 6-month or 1-year intervals (e.g., Gault-Sherman, 2012; Henrich et al., 2006; Fite et al., 2006; Pardini et al., 2008), with only one study having a time lag as short as 2 to 3 months (Vuchinich et al., 1992). However, univariate study findings suggest that 3 months was sufficient time for the early adolescents to perceive some changes in their parents' use of particular parenting practices. More specifically, youth perceived that their parents increased their endorsement of peaceful solutions to conflict and decreased use of psychological control at Time 2. The length of the time intervals between measurements is an important methodological issue that merits continued attention in future research.

Study findings should be interpreted in light of several additional limitations. First, the inability to control for the shared variance among all four parenting variables and the aggression variable might raise caution regarding interpretations. The study path models, though theoretically meaningful, would have been enhanced with the inclusion of all the

parenting variables. However, the exploratory path models with all four parenting variables failed to exhibit a good fit. Although we found that none of the variables met the criteria for extreme skew, path modeling testing is less robust than *t* tests to high levels of variability and skew. It is possible that given a larger sample size for these analyses of secondary data, more statistically significant relationships could have been detected, were they to exist. Even though previous studies of similar populations have reported response rates comparable to that found in this study, the low response rate nonetheless indicates that caution should be taken when interpreting the current study findings. They may not generalize to all the youth in the population of interest. Next, youth reports of parent/guardian's behavior may have also been influenced by the caregiver arrangements of the families represented in this predominately African American sample of youth who live in low-income, urban communities. Youth may not only have multiple caregivers within their family and home environment, but the composition of their primary caregivers may occasionally change as new challenges and opportunities arise within the family context (Howard, 1996). Thus, diverse or vague interpretations of "parent" or "guardian" may have affected youths' responses to questions about parenting. Nonetheless, youth perceptions of parenting messages were seen as salient in shaping adolescent behavior.

Conclusions

Study findings contribute to the mounting body of evidence suggesting that parents may use ineffective parenting practices in response to their early adolescent's problem behavior. Ineffective parenting such as the communication of messages endorsing aggressive solutions to conflict and the use of psychological control may contribute to escalating levels of aggression and other more serious problem behaviors (e.g., delinquency) over time. The long-term consequences of ineffective parenting may be particularly harmful to early adolescents at an elevated risk for engagement in aggression, including youth exposed to high levels of school and community violence. Study findings also have implications for the design of aggression prevention interventions for African American parents living in violence-entrenched communities. It may be particularly important to offer strategies that help parents restrict their child's autonomy in ways that help them to appropriately manage their child's behavior without using psychological control. Strategies for communicating expectations should not only focus on the content of messages (i.e., messages that endorse peaceful solutions to conflict), but ensuring that the parent's messages are communicated clearly and consistently. In addition, these parents may benefit from learning skills to cope with the stresses of living in a high violence environment, thereby facilitating their capacity to effectively address their early adolescent's aggressive behavior.

This study is one of the first to provide evidence of a relationship between aggressive behavior and subsequent parenting among African American families living in low-income, urban communities with excessive levels of violence. Additional research is merited that explores potential linkages between adolescent aggression and subsequent parenting in similar samples. Future investigations would be enhanced with the inclusion of measures of factors known to influence adolescent behavior in high risk, urban environments and measurement time interval lengths of at least 1 year.

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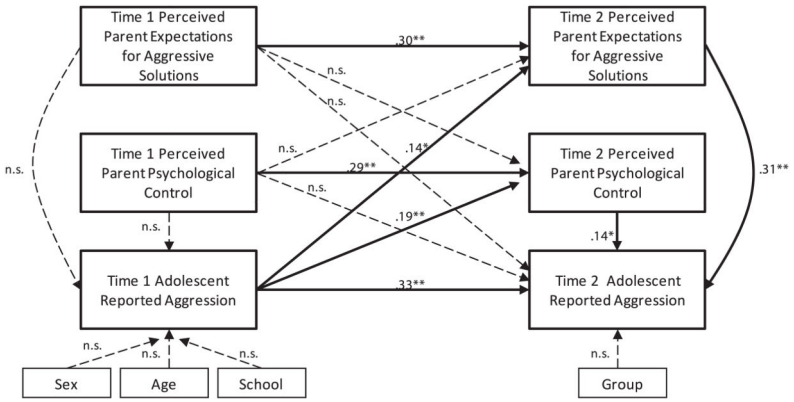

Figure 1.

Early Adolescent Reported Aggression and Perceived Parent Expectations for Aggressive Solutions and Parent Psychological Control Path Model ($N = 209$)

*$p < .05$. **$p < .0001$.

Table 1

Descriptive Statistics for Study Variables ($N = 209$)

	Time 1			Time 2			
Variables	**Range**	***M***	***SD***	**Range**	***M***	***SD***	**Mean Difference**
Outcome variables							
Adolescent reported aggression	0 – 15	3.92	4.92	0 – 15	3.46	3.90	− .46
Predictor variables							
Perceived parental expectations-peaceful solutions	1 – 10	6.67	2.46	1 – 10	7.50	2.60	.83 *
Perceived parental expectations-aggressive solutions	1 – 10	4.45	2.46	1 – 10	4.61	2.46	.16
Perceived parental support/knowledge	1 – 5	4.03	.72	1 – 5	4.09	.87	.06
Perceived parental psychological control	1 – 5	3.04	.87	1 – 5	2.83	.72	− .21 *

Note: Because SPSS 19 only generates an overall mean and standard error for multiply imputed data sets, an estimate of the overall standard deviation for each variable was calculated based on the overall standard error.

* $p < .01$.