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Bidirectional Relationships Between Parenting Processes and Deviance in a Sample of Inner-City African American Youth

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Abstract

The current study assessed for bidirectional relationships among supportive parenting (knowledge), negative parenting (permissiveness), and deviance in a sample ($N = 5,325$) of poor, inner-city African American youth from the Mobile Youth Survey (MYS) over 4 years. Cross-lagged path analysis provided evidence of significant bidirectional paths among parenting processes (knowledge and permissiveness) and deviance over time. Follow-up multigroup tests provided only modest evidence of dissimilar relationships by sex and by developmental periods. The findings improve our understanding of developmental changes between parenting behaviors and deviance during adolescence and extended current research of the bidirectionality of parent and child relationships among inner-city African American youth.

Keywords

African Americans; deviance; parenting; knowledge; permissiveness

Introduction

There continues to be a growing interest among both developmental and criminological researchers in the bidirectional associations between parenting processes and measures of child/adolescent adjustment, with particular attention on the extent to which positive parenting strategies (i.e., discipline, monitoring, and involvement) reduce the risk of negative adolescent adjustment. Some previous studies have shown that positive parenting processes reduce adjustment problems in youth (Barbot, Hunter, Crossman, Grigorenko & Luthar, 2014; Buist, Dekovi, Meeus & Aken, 2004; Childs, Fite, Moore, Lochman & Pardini; Gault-Sherman, 2012; Pearl, French, Dumas, Moreland, & Prinz, 2014; Roche, Little, Ghazarian & Leventhal, 2011; Williams & Steinberg, 2011; Willoughy & Hamza, 2011). Previous bidirectional and transactional studies have largely focused on the role of positive parenting efforts in the reduction of negative behaviors, with some exceptions (see Bradley

& Corwyn, 2013; Childs et al., 2014). Thus, much remains unknown about how neglectful or disengaged parental strategies play out developmentally on adolescent adjustment or vice versa; of course, previous studies have consistently noted neglectful parenting styles have long been implicated in poor adjustment (e.g., Lamborn, Mounts, Steinberg & Dornbusch, 1991; Straus & Savage, 2005). In addition, much of this work has been conducted on predominantly European or European American youth, based mostly on modest samples (cf., Bradley et al., 2013; Hipwell et al., 2008). Together, these issues contribute to a somewhat limited understanding of how and whether parenting processes in African American families impact adolescent adjustment and vice versa over time.

Some previous longitudinal work on ethnically/racially mixed cohorts have focused exclusively on school-aged males (e.g., Keijsers et al., 2011; Pardini et al., 2008), which limits the applicability of these findings to more diverse samples, for instance. In fact, studies focused on ethnically or racially homogenous developmental contexts remain both rare in number as well as mixed in findings. Thus, in order to add to this knowledge base, the current study examined the bidirectional associations between parenting processes and adolescent deviance in a homogeneous, disadvantaged, urban African American population. Although the homogeneity of the sample limits the generalizability to other populations, it affords the unique opportunity to more extensively test these bidirectional links in a specific minority population. In addition, few studies have tested for potential similarities or differences in these longitudinal relationships by sex or by developmental period. Furthermore, the current study focuses on a non-metropolitan sample of African American school-aged youth. Consequently, the study makes a number of unique contributions to the literature, including the focus on a homogenous African American sample and by testing for potential sex and developmental differences in these bidirectional links over time.

Bidirectional Effects of Parenting Processes and Adolescent Adjustment

The mutual influences of parenting and child/adolescent adjustment has been the focus of many studies, which document the reciprocal effects between parenting processes and a number of outcomes, including achievement (Dotterer, Hoffman, Crouter & McHale, 2008; Zhang, Haddad, Torres & Chen, 2011), externalizing behaviors (e.g., Attention Deficit Hyperactive Disorder (ADHD), Oppositional Defiant Disorder (ODD), Conduct Disorder (CD); Burke, Pardini & Loeber, 2008; Lifford et al., 2008), depression (Roche et al., 2011), and sleep problems (Bell & Belsky, 2008), but also self-regulation (Brody & Ge, 2001; Moilanen, Rasmussen & Padilla-Walker, 2014).

Similar findings have also emerged from studies focused on effective parenting strategies, primarily monitoring behaviors, and problem behaviors (e.g., Bradley et al., 2013; Branje, Hale, & Meeus, 2008; Buist et al., 2004; Childs et al., 2014; Jang, & Smith, 1997). For instance, a recent two-wave study of $n = 289$ high-school students in the Netherlands (Keijsers et al., 2010) as well as a four-wave study of $n = 2,941$ students followed from grades 9 through 12 in Canada (Willoughby et al., 2011) both assessed the effects of different measures of parental monitoring on adjustment outcomes. Findings provided evidence that parental knowledge or adolescent disclosure predicted changes in delinquency, and reduced the risk of involvement in delinquent behaviors.

The evidence from more diverse, nationally representative samples is less clear. For instance, a study by Gault-Sherman (2012) found no support for the mutual influence of monitoring on delinquency, but provided evidence of reciprocal effects between effective parenting efforts (attachment) and delinquency. Thus, findings on the effects of parental monitoring on delinquency are inconsistent, but largely suggest that effective or positive parenting strategies are associated with reduced adverse behavior outcomes in adolescents, and vice versa.

Bidirectional Effects Among African American Youth

A modest number of studies have focused on the bidirectional links between parenting processes and child/adolescent adjustment in predominantly African American samples. For example, based on a random sample of school-aged African American children, Pearl et al. (2014) found some evidence of bidirectional effects between parenting quality and externalizing behaviors. Positive parenting strategies, measured by caregiver perceptions of positive parenting, effectiveness of parenting discipline, parenting efficacy, and parental satisfaction was associated with child externalizing behaviors and vice versa. Similarly, a study by Elkins et al. (2014) followed a sample of mostly African American aggressive youth (79%) from 4th through 9th grades and found partial support for bidirectional links between supportive parental control strategies (i.e., effective discipline and monitoring) and substance use. Elkins and colleagues concluded that because the sample consisted of aggressive youth, parents of aggressive children might demonstrate more coercive parenting efforts (e.g., control and harsh parenting) than supportive parenting.

It is also important to highlight that previous bidirectional studies on African American youth investigated the bidirectional developmental changes in parenting and adolescent criminality, measured by offending behaviors. For example, Keijsers et al. (2011) tested for developmental changes in parenting and offending behaviors in a high risk sample ($n = 503$) with just over half African American youth (57.8%) over the course of 10-waves of data and found consistent support for bidirectional effects between parenting and offending behaviors in childhood, early adolescence, and middle adolescence. They also noted that parent-child relationships improved in childhood, but worsened in adolescence (early and middle adolescence), which is consistent with findings in previous work (e.g., Steinberg & Silk, 2002). On the other hand, other work by Pardini et al. (2008) tested for reciprocal effects between parenting and conduct problems, measured by Conduct Disorder (CD) and Oppositional Defiance disorder (ODD) in males, followed from 6 to 16 years of age, and tested for potential similarities or differences in these links across African American and European American youth. Their results supported differences in the parent-child relationship from childhood to adolescence; however, they found no evidence of racial differences in these findings between African American and European American young males.

Although the majority of work on parenting styles and adjustment in African American families noted strong bidirectionality, some studies reported no evidence of reciprocal effects. One such study by Childs et al. (2014) attempted to extend the literature by examining the bidirectional associations between harsh parenting strategies (corporal

punishment, inconsistent, discipline, poor involvement, low positive parenting and poor monitoring) and callous-unemotional traits (or antisocial behaviors) in a diverse longitudinal sample, where 63% of participants were African American youth; however, they found no evidence of reciprocal effects between parenting and child behaviors. Thus, future research on parenting efforts and child antisocial behaviors is needed to further elucidate these inconsistent findings.

Previous empirical studies have examined parenting processes in African American families primarily from an at-risk perspective, often based on samples of low-income African American families from the inner-city developmental context (e.g., Griffin, Botvin, Scheier, Diaz & Miller, 2000; Vazsonyi, Pickering & Bolland, 2006). In fact, most of the empirical literature on parenting processes in African American families living in low-income, inner-city neighborhoods are based on youth living in economically disadvantaged areas in large metropolitan areas, including Chicago, Detroit, Philadelphia, or Washington D.C. (for reviews see Ardel & Eccles, 2001; Gorman-Smith, Henry & Tolan, 2004), with some exceptions (e.g., Bean et al., 2006; Murry, McNair, Myers, Chen & Brody, 2014; Vazsonyi, Pickering, Bolland, 2006). This can be partly attributed to relatively high-poverty rates in African American families. Such studies have found evidence that parents living in the urban developmental milieu are more likely to employ extreme parenting strategies, including negative ones, to enforce discipline (Gabarino & Kostelney, 1993), for instance. Thus, one of the important questions remains on how parenting in African American families influences adolescent adjustment over time and whether these effects vary by developmental context (i.e., neighborhood).

Based on the review of bidirectional studies on African American families in the literature, it seems that the existing literature remains deficient in a number of ways. First, the majority of studies on parenting in African American families almost exclusively focus on heterogeneous samples of both African American and European American youth, which limits the generalizability of these findings to African American adolescents. Second, most of the previous studies focuses on the understanding of behavior problems in adolescents in the context of effective or positive parenting processes. Research in this area has shown that positive parenting efforts are essential to the prevention of poor adjustment among youth, as it reduces the likelihood of poor adjustment in adolescents. Despite existing research, few studies have juxtaposed both positive and negative parenting processes as they relate to adjustment. Finally, research on potential bidirectional effects of parenting and the development of deviance over time in African American adolescence is quite sparse, particularly focused on an exclusively African American sample, with the exception of previous work by Keijsers et al. (2011).

Given the aforementioned limitations, the current investigation sought to build on previous efforts by testing for bidirectional links between two parenting processes (knowledge and permissiveness) and deviance. The present study sought to uncover how two distinct forms of parenting processes, measures of both positive (knowledge) and ineffective parenting (permissiveness), influence deviance over four waves of data. Further, previous etiological work on problem behaviors and deviance provides evidence that African American families living in poor inner-city neighborhoods are more likely to exercise overly strict parenting

(e.g., related to parental knowledge) than those living in other urban neighborhoods (Beyers, Bates, Pettit & Dodge, 2003; Dodge, McLoyd, & Lansford, 2005); however, findings from these studies are mixed and inconsistent. Thus drawing clear conclusions about these relationships remains difficult. In addition, studies focused on ethnically or racially homogeneous minority samples remain rare as well as mixed in findings. Thus, to add to this knowledge base, the current study employs a multi-cohort, homogenous, non-metropolitan, sample of low-income, inner-city African American youth followed over time.

Sex and Age Differences in Parent-Adolescent Relationships

Examining sex and age differences in the parent-adolescent relationships remains a salient issue. First, we know there exist potential sex differences in parent-adolescent relationships because of how male and female youth communicate with their parents. For example, female adolescents disclose more to parents as compared to males (Kerr & Stattin, 2000; Stattin & Kerr., 2000). Despite this evidence of sex differences, studies testing for bidirectional effects have reported similar reciprocal processes between parenting processes and adjustment outcomes in both male and female youth (Keijsers et al., 2010) as well as in samples consisting of only female youth (e.g., Hipwell et al., 2008). Evidence from prior unidirectional work has indicated sex differences in the parent-adjustment links (Kerr & Stattin, 2010; Meeus, Branje & Overbeek, 2004). However, these latter studies have been limited by a reliance on cross-sectional data and the use of relatively small samples; thus, understanding the reciprocal effects between parenting processes and adjustment measures in male and female adolescents remains an important question. Moreover, sex differences in the associations between parenting strategies and subsequent adjustment in ethnic/racial minority youth have largely been unexplored.

Similarly, previous studies noted important developmental changes in the parent-child relationship in adolescence. The age-graded theory by Sampson & Laub (2005), for instance, postulates that the parent-child relationship is stronger during the early adolescence and gradually decreases over time. In addition, a number of studies allude to age-related or developmental differences in parenting effects across ethnic or racial groups, although Pardini et al. (2008) observed no such differences between African American and European American youth. Furthermore, relatively few studies have longitudinally investigated whether parenting practices contribute to changes in adjustment over time or whether the nature of these associations varies across different ethnic/racial groups. Therefore, the current study makes a unique contribution to the literature by testing for potential sex differences in the bidirectional relationships between parenting processes and deviance in a sample of African American adolescents.

The Current Investigation

Framed by the coercive family framework (see Figure 1), the current investigation sought to extend previous work on the importance of parenting processes in adolescent deviance and vice versa by testing the bidirectional relationships between two parenting processes, namely knowledge and permissiveness, and deviance. Consistent with this model, it was hypothesized that parental knowledge would be negatively associated with deviance from

Wave 1 to Wave 4, and in turn, parental knowledge would be negatively associated with deviance from Wave 1 to Wave 4. Second, it was hypothesized that permissiveness would positively predict deviance from Wave 1 to Wave 4, and similarly, permissiveness would be positively associated with deviance scores from Wave 1 to Wave 4. Because longitudinal stability paths were specified and tested in the models, we effectively examined whether cross-lagged paths predicted developmental changes in these constructs over time. Additionally, the study also tested for moderation effects by sex and age groups in the relationships between parenting processes and deviance over time.

Method

Sample and Procedures

The data are part of the Mobile Youth Survey (MYS), an ongoing longitudinal study of urban, African American adolescents living in high-poverty neighborhoods in the city of Mobile, as well as the neighboring town of Prichard, Alabama (Bolland, 2003; Bolland et al., 2007; Church et al., 2012; Spano, Vazsonyi, & Bolland, 2009; Vazsonyi, Pickering, & Bolland, 2006). According to the 2010 Census data (U.S. Census Bureau, 2012) African Americans make up about 50.6% of the population in Mobile and 85.8% of the population within the city of Prichard, in comparison to the 25% of total Alabama population. Data for the MYS survey were collected annually between 1998 and 2011 from a total of approximately $N = 11,838$ youth, between the ages of 9 and 19 years over the 14 year time-frame. The MYS uses a multiple cohort design, where new cohorts are added each year and tracked onwards life-course trajectories of a variety of behaviors in adolescents, including risk behaviors (e.g., violence, alcohol use, drug use), family factors (e.g. family structure) and individual perceptions (e.g., self-worth, future orientation and support from neighborhood) over time. Since the initial assessment in 1998, the active recruitment responses rate was around 90%, reflecting an increased confidence in the survey and research team. Researchers informed each of the participants and their caregivers about the purpose of the study. Once consent was obtained, the survey was administered in groups of 20 to 30 participants. Each participant received an incentive of \$10 prior to 2005 and \$15 in subsequent years (Church et al., 2012).

The current investigation used data collected from youth in 2008 and followed over the next four years. Only youth between 11 to 19 years across all four years were used. The sample included $N = 5,325$ participants ($n = 2,637$; 49.5% females) from 2008 to 2011. Of these participants, $n = 593$ had data in all 4 years, $n = 1,038$ participants had data at 3 points in time, $n = 1,410$ had data at 2 points in time and $n = 2,283$ had data at 1 point in time. Multigroup tests were conducted to assess for differences by sex and age groups. The analyses procedure consisted of two steps. First, multigroup comparisons by sex groups included $n = 2,688$ males (50.5%) and $n = 2,637$ females (49.5%) across all four years. In step two, we tested for changes in the paths across age groups. As mentioned, the MYS data utilized a multiple cohort design in which different age cohorts were followed over time. In order to capitalize on the available data and assess for differences over the developmental period, the data were restructured into three age groups which roughly correspond to three stages: early adolescence (11–13 years), middle adolescence (14–16 years) and late

adolescence (17 years and older). This age-based restructuring resulted in the following sample sizes by age groups: $n = 964$ (11–13 year-olds), $n = 1,978$ (14–16 year-olds), and $n = 2,383$ (17 years and older). The summary of the restructured age groups is reported in Table 1.

Measures

Age—Adolescents were asked, “How old are you?” Responses ranged from 11 to 19 years of age in the sample.

Sex—Participants were asked to indicate their gender. Responses were given as 1 (male) or 2 (female).

Grade in school—Adolescents were asked to report their grade in school. Responses ranged from grades 4–12 (1 = grade 4 and 9 = grade 12).

Parental knowledge—The three items used to measure parental knowledge in the study were originally conceptualized as measures of parental monitoring, developed by Lamborn et al. (1991); they have been used as a measure of such in a number of papers based on the MYS data set, including Park, Lee, Sun, Rivera, Vazsonyi & Bolland, 2010; Ritchwood, Howell, Traylor, Church & Bolland, 2014; Spano, Rivera, & Bolland, 2011; Stewart & Bolland, 2002; Vazsonyi, Pickering & Bolland, 2006) as well as other studies, providing evidence of both reliability and validity (Fletcher, Steinberg, & Williams-Wheeler, 2004; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). Adolescents were asked how much their parents knew about their whereabouts and activities. For example, sample items included, “Does your mother or father really know about what you do on weeknights and weekends?” and “Does your mother or father try to find out how you spend your time?” Responses were measured on a scale ranging from 1 (I don’t go out) to 4 (they know a lot). A mean of the four items was calculated, where a higher score indicated a greater parental knowledge. Reliability coefficients are included in Table 1.

Parental permissiveness—Parental permissiveness was assessed by using four questions developed by Lamborn et al. (1991) and again used in previous work based on the MYS sample (Park et al., 2010; Ritchwood et al., 2014) as well as other ones (Lamborn et al., 1994; Milevsky, Schlechter, Netter & Keehn, 2007; Steinberg, et al., 1992). Respondents were asked whether they could stay out late on weeknights. For example, respondents were asked, “Are you able to stay out as late as you want on school nights?” Responses were 0 = No and 1 = Yes. A summative scale of the four items was calculated ranging from 0–4, thus a higher score indicated higher levels of parental permissiveness. A mean of the three items was calculated, where a higher score indicated a greater parental knowledge. Reliability coefficients are included in Table 1.

Deviance—Deviance was measured by six items developed by Lamborn et al. (1991) and asked whether adolescents were involved in physical fights, carried a weapon, smoked cigarettes, or involved in alcohol or drug use in the past 30 days. A sample item was, “In the

past 30 days, have you ever been involved in a fight?” Responses to these items ranged from 1 (No) to 3 (Yes, more than once). An average of the six items was computed to obtain a single measure of deviance; higher scores indicated greater involvement in deviance. Reliability coefficients are included in Table 1.

Plan of Analysis

Following initial descriptive and correlational analyses, cross-lagged or reciprocal regression models were tested using path analysis to examine for bidirectional relationships between parenting processes and deviance over time. Analyses were conducted in AMOS 22 (Arbuckle, 2013) and focused on observed variables only. Missing data were handled using the Full Information Maximum Likelihood (FIML) feature of AMOS, which yields unbiased parameter estimates and standard errors for observed variables (Arbuckle, 2013). Standard fit statistics, including the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA) and the chi-square statistic (χ^2) were used to assess for model fit across all path analyses (Byrne, 2013). In order to test for differences in the model, we conducted multigroup comparisons by sex and by age groups, where free default models (unconstrained) were compared to fixed models (constrained). These models were evaluated by assessing for differences in the chi-square statistic in the unconstrained versus constrained models. A summary of the fit for the unconstrained (Model 1a) and the constrained model (Model 1b) for the analyses by sex as well as the unconstrained (Model 2a) and constrained models (Model 2b) across age groups are displayed in Appendix A.

Results

Descriptive Statistics and Correlations

Descriptive statistics were computed in SPSS 22 for measures of parenting processes (knowledge and permissiveness) and deviance across four points in time in the data. Means, standard deviations, and Cronbach’s alphas are presented in Table 1. An investigation of skewness based on guidelines by West, Finch, and Curran (1995) indicated that all study measures (knowledge, permissiveness, deviance) were within an acceptable range (values < 2.0); therefore, no changes were necessary for the main data analysis. Bivariate correlations of the study measures are presented in Table 2. As anticipated, parental knowledge was negatively correlated with deviance, and parental permissiveness was positively associated with deviance across time points.

Analyses of the Cross-lagged Paths

The longitudinal bidirectional relationships between parenting processes (knowledge and permissiveness) and deviance were examined using the hypothesized cross-lagged model presented in Figure 1. Stability coefficients were found to be statistically significant for each of the constructs, indicating that the parental processes (i.e., knowledge and permissiveness) were fairly stable over time. Fit indices showed just acceptable model fit to the data [χ^2 (36), = 456.395, $p < .001$, CFI = .898, RMSEA = .046], although fit is less important in a path model with observed variables. The standardized coefficients of the cross-lagged paths were statistically significant, with the exception of parental knowledge from Wave 1 to deviance

at Wave 2 (see Figure 2). As hypothesized, parental knowledge negatively predicted developmental changes in deviance at Wave 3 ($\beta = -.05, p = .008$) and Wave 4 ($\beta = -.07, p = .003$), but were unrelated to deviance at Wave 2. Further, deviance also negatively predicted developmental changes in parental knowledge at Wave 2 ($\beta = -.08, p = .001$), Wave 3 ($\beta = -.06, p = .004$) and Wave 4 ($\beta = -.14, p < .001$), respectively in the model. Similarly, the cross-lagged paths from parental permissiveness to deviance are shown in Figure 2. As hypothesized, parental permissiveness significantly predicted developmental changes in deviance at Wave 2 ($\beta = .06, p = .003$), Wave 3 ($\beta = .09, p < .001$) and Wave 4 ($\beta = .11, p < .001$). At the same time, deviance also significantly predicted developmental changes in parental permissiveness at Wave 2 ($\beta = .14, p < .001$), Wave 3 ($\beta = .08, p < .001$), and Wave 4 ($\beta = .14, p < .001$).

Multigroup or Invariance Tests

Following the examination of the cross-lagged paths, multigroup or invariance tests were conducted to identify potential differences in the parenting processes and deviance links using the model shown in Figure 1. Multigroup tests for sex differences yielded a significant chi-square, providing evidence of differences between adolescent males and females [$\chi^2(21) = 50.986, p < .001$], although alternative fit indices (CFI = 0.008, RMSEA = .003) provided limited evidence of such differences. However, path by path analyses follow-up tests revealed significant differences in two of the twelve cross-lagged paths, providing some evidence of sex differences. Deviance at Wave 3 positively predicted permissiveness at Wave 4 in both male and female youth; however, the effect was larger for male youth ($\beta = .56, p < .001$) than female youth ($\beta = .28, p < .05$). Similarly, the effect of parental knowledge at Wave 3 to deviance at Wave 4 was only significant for males ($\beta = -.08, p = .002$), not females. Stability paths also showed some significant sex differences in the paths from knowledge at Wave 1 to knowledge at Wave 2 as well as permissiveness at Wave 1 to permissiveness at Wave 2, where the effects were greater in adolescent females; in addition, deviance at Wave 1 to deviance at Wave 2 and deviance at Wave 2 to deviance at Wave 3 were larger for male youth as compared to female youth.

Following multigroup tests for sex differences, we also tested for differences in these paths across age groups (11–13 year olds, 14–16 year olds, and 17 years or older youth). Again, the chi-square difference statistic was significant [$\chi^2(42) = 79.842, p < .001$], although alternative fit indices did not provide evidence of differences in model fit (CFI = .010, RMSEA = .003). Pairwise path by path follow-up tests (11–13 year olds versus 14–16 year olds; 11–13 year olds versus 17 years or older youth; and 14–16 year olds versus 17 years or older youth) showed that of the twelve cross-lagged paths, only two differed significantly. When we compared youth in the 11–13 age group to 17 years or older youth, the path from deviance at Wave 1 to parental knowledge at Wave 2 was only significant for youth in the 11–13 age group ($\beta = -.29, p = .026$), which suggests that parents' knowledge of youth whereabouts reduced the risk of youth involvement in deviant behaviors during early adolescence. Similarly, the comparisons of these effects between youth in the 14–16 age group and the 17 years or older age group showed that the path from deviance at Wave 1 to parental permissiveness at Wave 2 was significant ($\beta = .51, p < .001$) in youth 17 years or

older; as such, adolescents involved in deviant activities were more likely to elicit permissive parenting styles, however, this was not significant among youth in the 14–16 age group.

Discussion

Much of the existing literature on the link between parenting processes and adolescent adjustment is based on a unidirectional approach or world view, consistent with social control (Hirschi, 1969) or attachment work (Ainsworth, 1989; Bowlby, 1979). The current study sought to add to the body of knowledge on bidirectional effects between parenting processes and measures of adolescent adjustment, informed by the coercive family process framework developed by Patterson (1982), which has received considerable attention in the literature (for reviews see Gault-Sherman, 2012; Pearl et al., 2014; Willoughby et al., 2011). Thus, based on a cross-lagged regression design, we tested the reciprocal influences of both parental knowledge and parental permissiveness on deviance across four waves of data collected from a sample of poor, inner-city African American youth. Additionally, because it remains largely unknown whether these links vary by sex or age groups, particularly among African American youth, the present study also sought to address these shortcomings.

The results from the current study provide support for bidirectional relationships between parental knowledge and deviance as well as between parental permissiveness and deviance. The fact that parental knowledge was negatively associated with deviance was consistent with previous longitudinal efforts; however the research was mostly conducted on younger samples or ones comprised of mostly European American children (Laird, Pettit, Bates & Dodge, 2003; Pettit, Laird, Dodge, Bates & Criss, 2001). This suggests that parents' awareness of their children's whereabouts and of their companions or peers (high knowledge) significantly reduces the risk for deviance, while a lack of parental knowledge (low knowledge) increases the same. The findings also showed that deviance, in effect, elicited developmental changes in parental knowledge over time. One explanation for this finding may be that adolescents involved in deviant behaviors generally withheld knowledge of their whereabouts from parents, thus deviance elicited less knowledge. Similarly, deviance also elicited greater parental permissiveness over time, again suggesting bidirectional processes between parenting and deviance. Because youth engaged in more deviance over time, parents progressively lost control of their adolescents and became more permissive. This is consistent with previous studies which found that greater involvement in delinquent behaviors was associated with decreased knowledge by parents (e.g., Laird et al., 2003) and that conduct problems contributed to poor parental knowledge and low involvement (Pardini et al., 2008). Thus, the present study provides evidence which suggests that African American parents in this sample were less likely to increase knowledge efforts or vigilance over their child's activities in response to their child's involvement in deviant activities which in turn increases the opportunities for delinquent activities outside the home (e.g., Dishion, Nelson & Bullock, 2004). An alternative explanation might be that African American parents develop a greater tolerance for their child's norm violations that in turn decrease parental attempts to monitor their youth.

Study findings also show that parental permissiveness positively predicted developmental changes in deviant behaviors. Previous cross-sectional studies on the influence of ineffective

parenting on adolescent adjustment (e.g., Lamborn et al., 1991) also found evidence that parental permissiveness or relaxed parental controls was positively associated with deviance. This suggests that fewer parental rules or controls increases the risk for adolescents' involvement in norm-violating activities outside the home; it is not surprising when considered from Baumrind's (1971) perspective as permissive parents allow their children to make their own decisions and place few demands on them. The apparent lack of control by parents coupled with little rule-setting by permissive parents, for instance, simply increases the opportunity for involvement in deviant activities outside the home. Furthermore, we also found evidence of relationships between deviance and developmental changes in parental permissiveness, suggesting that adolescents involved in deviant acts also elicited fewer parental controls over time, which effectively suggests that these parents became more permissive. It is not entirely clear whether less restrictive parenting behaviors were the direct result of adolescent participation in deviant activities or a result of some other mechanism. What seems clear is that ineffective parenting strategies, namely permissiveness, appears to support negative adjustment among African American youth residing in this high risk developmental milieu. Conversely, these findings also suggest that these parents, as rated by youth, appear more likely to grant autonomy and independence to their children (Finkenauer, Engels, & Meeus, 2002), although it seems to be systematically related to negative behaviors by adolescents.

Additionally, the current investigation assessed for potential moderation effects by sex (males versus females) and age groups (11–13 year olds, 14–16 year olds, and 17 years or older youth) over time. Although the mutual influences of parenting processes on adolescent adjustment has been established, few studies have explicitly considered the effects by potential moderators of these relationship. In this respect, the current study addressed this limitation by testing for potential differences by sex and age groups and found that the effects were generally similar across groups. Indeed, the results indicate that ineffective parenting strategies (permissiveness) was more prevalent among males than females. As a consequence, we can conclude that permissive parenting is associated with increased deviance involvement in males. Evidence from multigroup or invariance tests by age group indicated that parental knowledge of the whereabouts of youth was associated with less deviance involvement among younger adolescents (11–13 year olds). This is not surprising considering that adolescents are less likely to engage in deviant activities when parents are aware of their whereabouts. On the other hand, comparisons of these effects among youth in the 14–16 age group and 17 years or older age group revealed similar results, where deviance positively predicted parental permissiveness, although the effect was only significant for older adolescents (17 years and older). A potential explanation for this effect might be a deterioration in parent–child communication during late adolescence. This would lead to older youth being less likely to divulge information of their whereabouts to parents which in turn might lead to more permissive parenting.

The findings confirm that youth reporting high knowledge of their whereabouts by parents were less likely to engage in deviant behaviors, whereas parental permissiveness was indicative of subsequent norm-violations in adolescents; in this sense, laissez faire attitudes by parents seemed to exacerbate deviance perpetration over time that in turn further reinforced deviance developmentally. In sum, the results of the current study add to the

literature as well as the understanding of the importance of the bidirectional and reciprocal parenting processes that operate in the etiology and explanation of deviance, particularly in this sample of poor, inner-city African American youth.

While the strengths of the study are highlighted, the study is not without limitations. First, the data are exclusively based on self-reports; thus all parenting variables were collected from the perspective of the adolescent rather than behaviors reported by parents. Future studies should address the potential for mono-method as well as reporter-bias by including parent ratings, for instance. Second, because the study focused on data collected over a four-year period attrition was a concern. Third, the generalizability of the findings is limited by the fact that the sample consisted almost entirely of poor, inner city African American youth from Alabama. Although generalizability is limited because of this, we also find it a strength of the study as most longitudinal projects focused on minority youth were conducted in large metropolitan areas of the United States.

Finally, although the study makes a valuable contribution to the study of the bidirectional relationships between parenting processes and deviance, a number of measurement issues represent limitations. First, the items used to assess parental knowledge in the current study broadly consisted of items of adolescent disclosure, rather than questions about parents' knowledge of activities. Previous studies (e.g., Kerr & Stattin, 2000; Stattin & Kerr 2000; Kerr, Stattin & Burk, 2010) have called into question the use of parental knowledge as a descriptive term because other ones (e.g., knowledge, disclosure, and solicitation) appear to be more precise representations of actual parental behaviors. Second, the deviance measure inquired about behaviors during the past 30 days, while perceived parenting (knowledge and permissiveness) used a lifetime framework; thus, it is possible that the size of the observed links were affected, perhaps depressed, simply because of the mismatch in the reference timeframe. A final limitation of measurement is related to the fact that the psychometric properties of the parental permissiveness measure significantly reduced the explained variance in the observed relationships, due to attenuation.

Conclusions

The main purpose of the investigation was to advance previous research on the bidirectional relationships between parenting and deviance, with a consideration of potential moderation effects by sex and age groups. Perhaps most significantly, bidirectional effects between parenting processes (knowledge and permissiveness) and adolescent behaviors were found in this sample of low-income, inner-city African American youth. Previous research on reciprocal effects of parenting on deviance was largely based on European American or European youth, which limited the generalizability of findings to the African American population. Furthermore, the findings provided additional support for the role of effective parenting strategies (knowledge) in deterring deviant behaviors, but also how more relaxed parenting efforts (permissiveness) foretold deviance. It is important in future studies to investigate the reciprocal influences of parenting processes on adjustment by utilizing different and more broadly conceptualized parenting measures to provide more clarity on the influence of parenting processes on problem behaviors. Given the importance of parental knowledge in reducing problem behaviors, enhancing parent-adolescent communication

throughout the second decade of life might inform future prevention and intervention efforts focused on problem behaviors and deviance.

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Appendix A

Structural Model: Model Comparisons and Summary of Multigroup Analyses (Invariance Tests)

Model	χ^2	<i>df</i>	<i>p</i>	χ^2/df	<i>p</i>	CFI	RMSEA	χ^2	CFI	RMSEA
Model 1a (Unconstrained)	475.125	72	< .001	6.599	< .001	.894	.032	–	–	–
Model 1b (Constrained)	526.111	93	< .001	5.657	< .001	.886	.029	50.986	.008	.003
Model 2a (Unconstrained)	583.321	108	< .001	5.401	< .001	.876	.028	–	–	–
Model 2b (Constrained)	663.163	150	< .001	4.421	< .001	.866	.025	79.845	.010	.003

Note. χ^2 = Chi square statistic, *df* = degrees of freedom, χ^2/df = Chi square to degrees of freedom ratio, χ^2 = Difference in chi square between the default and unconstrained and constrained models, CFI = Comparative Fit Index, CFI = Difference in Comparative Fit Index between the default model and the unconstrained and constrained models, RMSEA = Root Mean Square Error of Approximation, RMSEA = Difference in RMSEA between the unconstrained and constrained models. Models 1a) and 1b) represents the bidirectional effects of parenting processes on deviance by sex and Models 2a) and 2b) represents the bidirectional effects of parenting processes on deviance by developmental period

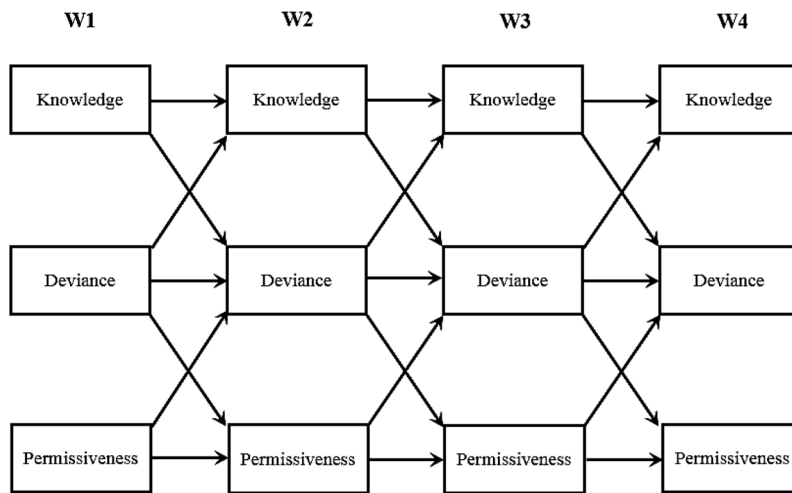


Figure 1. Conceptualized model of the bidirectional links between parenting processes (knowledge and permissiveness) and deviance

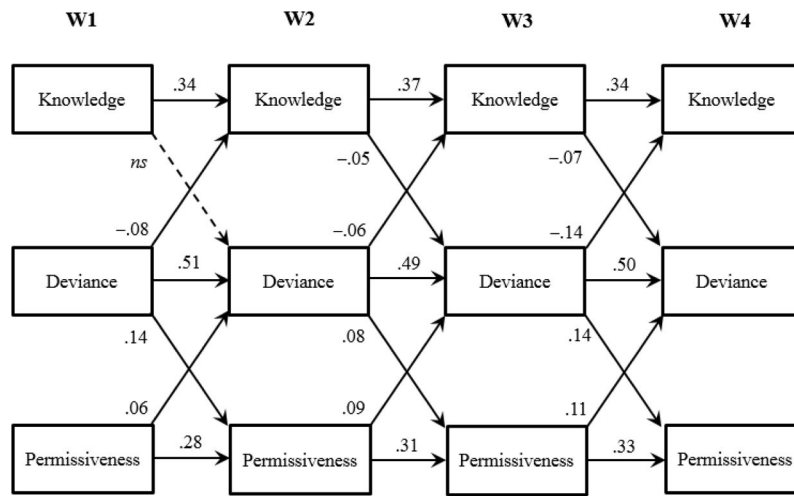


Figure 2. Cross-lagged Relationships between Parenting Processes and Deviance over time (standardized coefficients)

Notes. Paths significant at $p < .001$; $\chi^2(36) = 456.395, p < .001$; CFI = .898; RMSEA = .046.

Table 1

Frequency and descriptive statistics of study variables

	W1	W2	W3	W4			
Sex							
Male	1,397	1,421	1,389	1,087			
Female	1,378	1,446	1,317	1,063			
Age Groups							
11–13 years	684	1,116	1,487	1,610			
14–16 years	1,021	1,521	1,897	2,120			
17 years and older	1,095	1,473	1,594	1,595			
Wave	Measure	N	M	SD	Skew	Kurtosis	α
W1	Knowledge	2,803	2.33	.59	-.48	-.70	.68
	Permissiveness	2,804	1.79	1.39	.12	-1.17	—
	Deviance	2,805	1.31	.41	1.56	1.92	.72
W2	Knowledge	2,891	2.36	.58	-.52	-.61	.69
	Permissiveness	2,893	1.86	1.40	.09	-1.20	—
	Deviance	2,896	1.35	.43	1.46	1.65	.72
W3	Knowledge	2,724	2.35	.56	-.45	-.69	.61
	Permissiveness	2,722	1.89	1.41	.03	-1.21	—
	Deviance	2,726	1.32	.40	1.41	1.60	.68
W4	Knowledge	2,160	2.33	.56	-.43	-.66	.74
	Permissiveness	2,160	2.05	1.41	-.12	-1.19	—
	Deviance	2,161	1.37	.44	1.27	1.00	.70

Table 2
Correlations between knowledge, permissiveness and deviance across four waves

	1	2	3	4	5	6	7	8	9	10	11	12
Wave 1												
1. Knowledge	–											
2. Permissiveness	-.06**	–										
3. Deviance	-.23**	.26**	–									
Wave 2												
4. Knowledge	.33**	-.03	-.13**	–								
5. Permissiveness	-.03	.30**	.19**	-.06**	–							
6. Deviance	-.12**	.19**	.49**	-.21**	.31**	–						
Wave 3												
7. Knowledge	.30**	-.06*	-.18**	.38**	-.07**	-.13**	–					
8. Permissiveness	-.06*	.26**	.10**	-.06*	.33**	.16**	-.07**	–				
9. Deviance	-.11**	.19**	.40**	-.16**	.21**	.46**	-.23**	.28**	–			
Wave 4												
10. Knowledge	.25**	-.04	-.08*	.29**	-.08**	-.15**	.33**	-.10**	-.18**	–		
11. Permissiveness	-.08*	.26**	.17**	-.07*	.27**	.19**	-.07**	.36**	.21**	-.08**	–	
12. Deviance	-.11**	.14**	.31**	-.15**	.20**	.46**	-.18**	.23**	.51**	-.20*	.29**	–

Note:

* $p < .05$;

** $p < .01$