Youth Violence: How Gender Matters in Aggression Among Urban Early Adolescents

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Abstract

Although research suggests gender differences in both forms and functions of aggressive behavior, there has been limited research into these types among African American early adolescents. This study examined the types and patterns of aggression in girls and boys in that group. Participants were 452 predominantly African American middle school youth (50.4% girls) aged 11-13 (X = 11.97) enrolled in three urban public schools. Students were invited to participate in a school-based intervention designed to prevent aggressive and deviant behaviors. Assessments occurred pre- and post-intervention. Surveys were analyzed to identify gender differences in the levels and types of aggressive behaviors, as well as differences in predictors of aggressive behaviors. Predictors were measured at baseline; aggressive behaviors at follow-up. There were significant gender differences in types of aggressive behaviors and their predictors indicating a need to develop and implement more suitable, gender-tailored prevention and treatment approaches.

Keywords

INTRODUCTION

Early adolescent African American youth have the largest proportion of juvenile delinquency cases related to interpersonal aggression (Knoll & Sickmund, 2010). African American youth who exhibit aggressive or violent behaviors in school are disproportionately punished compared to their white counterparts, as has been documented for more than 25 years (Children's Defense Fund, 1975; Skiba, Michael, Nardo & Peterson, 2002). African American youth are suspended from school more often than whites (Maryland State Department of Education, 2002) and when their behaviors lead to involvement with the juvenile justice system, they are punished more often and more harshly. (Knoll & Sickmund, 2010). The rate at which African American youth are referred to juvenile court is about

140% greater than the rate for white youth (Knoll & Sickmund, 2010). African American girls, especially those from low income families, are more likely to have engaged in a violent behavior than girls in all other racial groups (Substance Abuse and Mental Health Services Administration, 2009). However, since most research has been conducted on boys and extrapolated to girls, an understanding of gendered developmental patterns of aggressive behaviors, including those which lead to violence, is needed (Miller, Malone, Dodge & Conduct Problems Prevention Research Group, 2010).

Aggression, Gender, and African American Youth

Aggression has been defined as intentional behavior aimed at causing physical or emotional pain (Berkowitz, 1993). Most researchers view aggression as a multidimensional construct comprised of various forms, such as overt and relational, and functions, such as instrumental and reactive. Overt aggression includes physical and verbal aggression with the intent to hurt others with hitting, pushing, poking as well as verbal actions such as yelling and threatening (Berkowitz, 1993; Little, Jones, Henrich, & Hawley, 2003). This differs from relational aggression which involves behaviors intended to damage someone's friendships or feelings or inclusion in a group like gossiping, spreading rumors or preventing friendships (Berkowitz, 1993; Crick, 1996; Little et al., 2003). These two forms of aggression are usually moderately positively correlated (Crick, 1996; Little et al., 2003). Gender differences often focus on boys reportedly manifesting more overt aggression and girls more relational aggression (Crick, 1996; Swearer, 2008). In addition, girls tend to report being more distressed than boys by relational aggressive behaviors (Crick, Grotpeter, & Bigbee, 2003; Murray-Close, Crick, & Galotti, 2006).

The function of aggression has also been examined. Instrumental aggression is generally defined as deliberate acts carried out for the benefit of the perpetrator in some way (Berkowitz, 1993; Little et al., 2003). It is associated with delinquency, criminality, and internalizing problems, and, in some cases, with positive outcomes such as popularity and leadership skills (Berkowitz, 1993; Little et al., 2003). Reactive aggression, on the other hand, is generally defined as aggression that occurs as an angry defensive response to provocation and includes responses that are primarily interpersonal or hostile in nature (Little et al., 2003). It is associated with peer rejection, low self-control and the tendency to attribute hostile intent in problem-solving situations (Little et al., 2003).

By combining what is known about the types of aggressive behavior, its forms (overt and relational) and functions (reactive and instrumental), one can conceptualize four potential structural patterns among them. Figure 1 presents a theoretical decomposition of four dimensions of aggression. It utilizes a multiform, multifunction decomposition in order to model four potential patterns of aggressive behavior. Different types of aggression may be used by early adolescent boys or girls to promote their popularity or prominent status in school social networks (Xie, Farmer & Cairns., 2003). A further examination of how these types combine and the patterns which emerge is needed.

There is research that shows that boys and girls report different motivations for engaging in aggressive behaviors. Boys are seen as engaging in overt violent behaviors and instrumental aggression for personal gain of power, influence, or money (Herrman & Silverstein, 2012;

Zahn et al., 2008). Girls tend to engage in relational aggression and may be violent when dealing with relationships – peers and romantic partners, instigation by outsiders, or family arguments (Herrman & Silverstein, 2012; Zahn et al., 2008). They may also "react violently in response to verbal exchanges, episodes of threatened self-esteem, in self-defense to prevent further attack or in anger, and when sexual mixed messages cultivate conflict" (Herrman & Silverstein, 2012, pg 65). In examining gender differences, studies contrast both forms and functions of aggression - overt and instrumental for boys with relational and reactive for girls.

Although research suggests gender differences in forms and functions of aggressive behavior, there has been limited research into these types among African American early adolescents (Xie et al., 2003; Belgrave, Nguyen, Johnson & Hood, 2011). The research which does exist is primarily cross-sectional and tends to discuss only the forms of aggressive behavior. In reviewing the literature on studies of aggression, Xie et al., (2003) cites several studies that found levels of aggressive behaviors tend to be higher among African American youth compared to other ethnic groups. In one study, relational aggression was found to be a common occurrence among urban African American early adolescents resulting in adverse health outcomes (Williams, Fredland, Han, Campbell, & Kub, 2009). In another urban African American sample of early adolescents (5th and 8th grades), no difference in relational aggression between boys and girls was found (Sullivan, Helms, Kliewer, & Goodman, 2010). Similarly among a sample of urban African American middle school students, it was found that there were no statistically significant gender differences in overt aggression and also that boys were more relationally aggressive than girls (Belgrave et al., 2011). There also may be gender differences specific to African American youth as it relates to the use of aggression for increased popularity. A positive association has been found between overt aggression and perceived popularity for African American boys, but for girls the positive association was found between relational aggression and perceived popularity (Waasdorp, Baker, Paskewich, & Leff, 2013; Xie et al., 2003).

Influences on Development of Aggression in Early Adolescence

Early adolescence typically begins with the transition from elementary school to middle school. This is a critical period in the developmental trajectory of a child's life. It is during this period where children begin to form an image of self which may persist into young adulthood (Elder, 1998). At this point, adolescents begin to move toward more abstract thinking and are faced with the task of establishing their identity. Their developing cognitive skills allow them to reflect on who they are and why they are unique. Early adolescent social development occurs in a variety of contexts - within the family, with peers, and in the community (Daddis, 2011).

Family can be a critical asset for the development of early adolescent youth in low income, urban, African American communities. There are particular strengths which these families embody which help to mitigate the effects of negative economic and social conditions. African-American parents reported frequent use of ethnic socialization and emphasized attaining positive socialization goals, pursuing educational success, and fitting into society (Hill & Madhere, 1996; Lamborn & Felbab, 2003). Perception of parents' attitudes toward

fighting has been found to be the strongest predictor of aggression in ethnically diverse (Orpinas, Murray & Kelder, 1999) and African American early adolescents (Copeland-Linder, et al., 2007; Jones, et al., 2009). Parental support is likely to play a positive role in the lives of urban youth particularly in relation to their cognitive development and behavior within the school environment (Benhorin & McMahon, 2008). Parental practices have been shown to have a strong protective effect on numerous adolescent problem behaviors. Some of the protective effects of parenting practices were found to be limited to girls (Griffin, Botvin, Scheier, Diaz & Miller, 2000). In low socioeconomic neighborhoods with high rates of community violence, the social support necessary for positive parenting behaviors may be diminished (Ceballo & McLoyd, 2002).

Friends in early adolescence are important in the development of beliefs, attitudes and behaviors (Berndt, 1982). Research has found that there is a tendency among aggressive youth to affiliate with aggressive peers (Espelage, Holt & Henkel, 2003; Poulin & Boivin, 2000). This has been explained both due to selection (aggressive youth choose aggressive peers) and mutual influence (the peer interaction leads to increased aggression for both parties) (Poulin & Boivin, 2000). In addition to the correlation between peer fighting and individual behavior, youth perceptions of their friends' behaviors are also highly correlated with and/or predictive of their own behaviors (Griffin, Scheier, Botvin, Diaz & Miller, 1999; Smith, Flay, Bell & Weissberg, 2001). When exposed to peer pressure, girls tend to react violently especially in response to power struggles with boys or when dealing with conflicts (Howard, Kaljee & Jackson, 2002). Boys tend to strive for independence by fighting to assert themselves while girls tend to fight to seek out approval or prove their worth as a woman (Howard et al., 2002).

For youth who live in economically disadvantaged communities, the street milieu increases the chance of involvement in deviant peer relationships, personal experiences with violent victimization, easy access to firearms, witnessing community violence, and expectations that future victimization could lead to death; and, impedes the ability of families to manage youth aggressive behaviors (DeCoster, Heimer & Wittrock, 2006). Witnessing community violence has been associated with decreased social, emotional, and cognitive development. In early adolescent African American youth, this can lead to greater risk taking and aggressive behaviors (Jipguep & Sanders-Phillips, 2003); the development of retaliatory attitudes (Copeland-Linder et al., 2007; Hill & Madhere, 1996); and, beliefs that support aggressive responses (Bradshaw & Garbarino, 2004). In examining girls' violent behavior in these communities, Chesney-Lind and Jones (2010) have described the need for them to focus on retaliation in order to survive. Additionally, or perhaps because of these behavioral outcomes, early adolescent African American youth who are aggressive are also more likely to do more poorly academicly (Busby, Lambert, and Ialongo, 2013); particularly for African American girls (Kiefer & Ryan, 2008).

Theoretical Approach

The Theory of Planned Behavior (TPB; Ajzen, 1991; Ajzen & Fishbein, 1980) is a mediational model which asserts that the most important determinant of behavior is the intention to perform the behavior. Intentions are predicted by attitudes toward the behavior,

subjective norms, and perceived behavioral control. In addition, perceived behavioral control is predicted to be an independent predictor of behavior. Perceived behavioral control refers to one's perception of the ease or difficulty of performing the behavior of interest. It usually varies across situations and actions. Thus, a person may believe that, in general, his/her outcomes are determined by his/her own behavior, yet at the same time s/he may also believe that her chances of achieving a specific outcome are slim (low perceived behavioral control). For the TPB, perceived behavioral control is expected to operate in a similar manner as the concept of self-efficacy in Social Cognitive Theory (Bandura, 2001). As such, it has been shown that one's behavior is strongly influenced by one's confidence in his/her ability to perform it (i.e., by perceived behavioral control). Self-efficacy beliefs can influence choice of activities, preparation for an activity, effort expended during performance, as well as thought patterns and emotional reactions (Bandura, 2001). TPB places the construct of self-efficacy belief or perceived behavioral control within a more general framework of the relations among beliefs, attitudes, intentions, and behavior (Madden, Ellen & Ajzen, 1992). There have been gender differences seen in relation to perceived behavioral control and aggressive behaviors with boys exhibiting less control than girls (Kendall & Wilcox, 1979).

TPB complements the existing research by providing a larger theoretical structure for understanding the contributing factors of aggressive behaviors among adolescents with an accounting for adolescent's perception of behavioral control in aggressive situations. This is more valuable than knowing the effects of any single variable and would enable researchers to predict and prevent future aggressive and violent behaviors. In addition, early adolescent behaviors usually take place in a social context – the two most critical social contexts being the family (Crosby et al., 2001) and peers (Irwin, Burg & Uhler, 2002). Guided by the TPB, this study uses a gendered perspective to examine urban early adolescents' attitudes, norms, and perceived behavioral control regarding aggression in order to guide future behavior change interventions designed to decrease these behaviors.

Purpose of Current Study

To fill the gap in the literature, this study examines both forms and functions of aggressive behaviors in a sample of predominantly urban African American early adolescents. In addition, this prospective study aims to contribute to a deeper understanding of aggressive behaviors among urban African–American girls, given that (a) most recent longitudinal research on the early development of aggressive behaviors has focused on boys, and (b) aggression in early adolescence is associated with increased risk for subsequent developmental maladjustment for African–American girls such as arrest (Chesney-Lind, 2004), teen motherhood (Miller-Johnson et al., 1999), and inner-directed violence, including suicidal thoughts and behaviors (O'Donnell, Stueve & Wilson-Simmons, 2005). This paper addresses the following research questions: What are the types of aggressive behaviors exhibited in a sample of urban African American early adolescents? Do the types of aggressive behaviors differ between boys and girls? Do the predictors of these types of aggressive behaviors differ between boys and girls? The specific hypotheses are that boys and girls will not differ in levels of reactive aggression; boys will be more likely to manifest overt and instrumentally aggressive behaviors whereas girls will be more likely to manifest

relationally aggressive behaviors; and, that the predictors of aggressive behaviors will be moderated by gender.

METHODS

This study is a secondary data analysis from the Steppin' Up intervention trial (Jones, et al, 2009; Murray, Haynie, Howard, Cheng & Simons-Morton, 2013), a longitudinal aggression prevention study of middle school youth enrolled in three urban schools on probation for the "persistently dangerous" classification under the No Child Left Behind Act (US Department of Education, 2003) defined as consistently high levels of violent behaviors for two or three years (dependent on the state; Jones, et al, 2009). These schools were located in the same school district within neighborhoods with low socioeconomic status characterized by high levels of community violence. The Steppin' Up study was a randomized, controlled experiment testing the impact of a school-based violence prevention curriculum and increased parent involvement on early adolescent aggressive behaviors. Students were recruited from the total population of sixth grade students enrolled in the schools. The parental consent return rate was 62% which is not unusual for this hard-to-reach population (Anderman et al, 1995; Esbensen & Deschenes, 1998; Pokorny, Jason, and Schoeny, 2001). Written child assent was obtained from children whose parents provided consent. The Institutional Review Boards of the Johns Hopkins University: School of Medicine and the National Institute of Child Health and Human Development (NICHD), and the city school district review board approved this study.

Survey questionnaires were administered three weeks prior to the intervention and three weeks post-intervention for all consented students (approximately four months apart). The survey was implemented using an audio computer-assisted self-interview format. This format allowed participants to listen to digitally recorded question items over a headset, and if desired, simultaneously read the questions on the computer screen. This minimized errors due to low literacy and has been found to increase reporting of private and sanctioned behaviors over face-to-face interviews, since the person responds in privacy to the computer (Turner et al., 1998). There was very little missing data (3%). Intervention groups were combined for this analysis as there was no demonstrated treatment effect. The analysis controlled for intervention group status to allow an examination of the specific research questions. Internal consistency coefficients are provided for all variables using the current study sample.

Participants

The sample was comprised of primarily African American (96.6%) sixth graders (Mean age = 11.97; SD = 1.10) enrolled in the Steppin' Up study (n=539; 47% of eligible students). Analyses were restricted to those who completed both baseline and follow-up survey. Of those who agreed to participate, 77 were not included in the analysis because they did not complete the follow-up survey; and, 4 were dropped as they did not identify their gender (n=448). Most of the students lost to follow-up transferred to another school, were moved to another grade, or were listed as otherwise discharged. Students lost to follow-up did not differ significantly from those who remained in the study by gender (p = 0.545), school (p =

0.356), or recruitment cohort (p = 0.642). However, they did tend to be older (p = 0.0001) and were more likely to be in the treatment group (p = 0.013).

Among the resulting participants, there were an almost equal number of boys (49.6%) and girls (50.4%) with no statistically significant differences based on treatment status or enrollment cohort. Most participants (71.9%) came from two-adult households. Descriptive participant characteristics are listed in Table 1.

Dependent Variable (Measured at Follow-Up)

Self-Perception of Aggression – This 17-item measure (Little et al., 2003) identifies four principle dimensions of aggressive behavior – overt and relational aggression and instrumental and reactive aggression. The original scale was found to have high internal validity in a sample of middle and high school aged adolescents in Europe. Cronbach's alpha in this sample for the total scale is 0.87. Students responded on a Likert scale, which ranged from Never (0) to Almost Always (5), how often they believe they do certain aggressive acts. The resulting scale was a continuous variable which was not normally distributed. Three potential transformations were reviewed – square root, log, and log base10. All three transformations were found to have low chi-squares; however, both log transformations provided normally distributed residuals. The final scale was log-transformed using base10 as its residuals were more normally distributed than log alone.

As this scale had not been previously utilized with an urban African American early adolescent sample, a confirmatory factor analysis (CFA) was conducted. The CFA revealed three distinct factors not four as originally identified by Little, et al (2003) and expected from the conceptual framework (Figure 1). Further analysis of the sub-scales shows strong Cronbach's alpha for only three of the four factors as well. These three distinct factors were:

1. **Relational** ($\alpha = 0.84$) – comprised of mostly instrumental behaviors focused on spreading gossip/rumors and hurting others feelings.

2. **Instrumental** ($\alpha = 0.85$) – comprised of mostly instrumental behaviors but not distinctly overt or relational.

3. **Reactive** ($\alpha = 0.71$) – comprised of all reactive items but not distinctly overt or relational.

All of the items in the measure are shown in Table 2 by factor. Instead of a fourth factor being comprised of overt behaviors; the overt items were integrated in the factors labeled Instrumental and Reactive. The three resulting factors were used to represent the patterns of aggressive behavior in this sample. The loadings (validity coefficients) in this model were uniformly strong and significant (p < .01; average variance explained was 59%). Forcing a fourth factor would only marginally affect the variance explained. In addition, examination of the indices and residuals, as well as the parameters and their standard errors, indicated that no further estimates would improve the fit of the model. As such, these three factors were utilized as the types of aggression in the regression models. The distribution of the total scale and the three resulting subscales is shown in Table 3.

Independent Variables (Measured at Baseline)

Demographics—The demographic variables included gender, enrollment cohort, school, treatment status and family structure.

Acceptance of Deviant Peer Behaviors (α = 0.839)—An eight item scale (Simons-Morton et al., 1999) assessed adolescents' attitudes towards deviant peer behaviors. Participants responded to the following, "It's OK for kids my age to... spread rumors/gossip to hurt others; ignore/stop talking to friends to hurt them; tell their friends to stop liking/being friends with someone; keep others from being in their group; get into physical fights; smoke cigarettes; drink alcohol; and, bully/pick on other kids."

Friend Behavior Influence—This ten-item index (Simons-Morton et al., 1999) measures perception of peer behavior. Participants were asked to report how many of their 5 closest friends engaged in 5 problem behaviors: smoke cigarettes, drink alcohol, disrespect teachers, get into physical fights, and tell others to stop liking/be friends with someone (α = 0.710) and 5 prosocial behaviors: volunteer work, pay attention in school, work hard in school, stay out of trouble, and participate in activities with adults in charge (α = 0.777). For each item, participants could respond 0-5.

Perception of Parental Attitudes About Fighting (α = 0.752)—The student's perception of parental attitudes toward fighting was measured with 12-items adapted from Orpinas, Murray, and Kelder (1999). Students were asked "What do your parents tell you about fighting?" and included five items that support peaceful alternatives to conflict (e.g., Ignore someone if s/he calls me a name; Tell a teacher or another adult if someone asks me to fight) and seven items that support fighting (e.g., Hit someone back if s/he hits me; Stay and fight instead of walking away so I won't be called a coward or a "chicken"). Responses were on a 5-point Likert scale from Strongly Disagree to Strongly Agree.

Perceived Behavioral Control Items—Two scales (*Decision Making* and *Self-Control*) were administered as a part of the survey. Students were asked how much they agreed or disagreed (5-point scale) with specific items listed below.

Decision Making (α = 0.646): Adapted from Add Health (Harris et al., 2009), this 6-item scale was used to assess use of decision making strategies. These items were "I come up with different ways to solve a problem; I think before I act; I come up with clear steps to reach a goal; I think about possible consequences of different choices for what to do; I evaluate the results of my choices; I use my past experience to help me make good choices."

Self-Control (α = 0.582): 7 items were adapted from Kendall and Wilcox (1979) to assess self-control. The items were "When I get angry or upset, I take time to get myself under control; I say or do things just because others are doing it*; I wait my turn easily; I calm myself down when I get excited or wound up; I interrupt when other people are talking*; I have trouble waiting in line patiently*; I think before I speak." Three items (*) were reverse coded.

Data Analysis

Data were analyzed using Stata 12 for Windows (StataCorp, 2011). First, univariate analysis was conducted to determine the distribution of the dependent and independent variables. Next, correlations were examined to determine associations among the independent variables; then, to determine association between independent and dependent variables.

For the multivariate analysis, linear regression was conducted for each pattern of aggressive behavior identified using only those independent variables found to be associated at the bivariate level ($p < 0.1$) and controlling for family status, treatment status, enrollment cohort, and school. To examine gender differences in the predictors of aggression, moderator analyses were conducted using stepwise backwards elimination of interaction terms to determine which interaction variables to keep in the final models.

RESULTS

Types of Aggression and Gender

One-way between subjects ANOVAs were conducted to compare the effect of gender on self-perception of aggression. Comparisons using Bonferroni's correction show that the mean score for boys was significantly different than the mean score for girls for the total self-perception of aggression scale, relational, and instrumental aggression (Table 3). Boys expressed both more relational ($p = 0.004$) and instrumental ($p = 0.015$) aggressive behaviors than girls. There were no significant differences between boys and girls for reactive aggression ($p = 0.233$).

Predictors of Aggressive Behaviors by Gender

The results of the separate linear regression models for relational, instrumental, and reactive aggression are shown in Table 4. Since no *a priori* hypotheses had been made to determine which predictors may be moderated by gender, a stepwise backwards elimination was utilized to determine which interaction terms should be kept in each model.

For relational aggression, the included variables produced an adjusted R^2 of 0.14 (F (10, 389) = 7.88, $p = 0.000$). Attitudes (peer deviance acceptance, $p \quad .001$) and norms (problem friend behavior, $p \quad .001$; and, perceptions of parental attitudes about fighting, $p \quad .001$) were significant predictors of relational aggression. Neither of the constructs of perceived behavioral control were significant predictors of relational aggression. Peer deviance acceptance ($p \quad .01$) was moderated by gender.

The variables produced an adjusted R^2 of 0.12 (F (10,398) = 6.60, $p = 0.000$) for the prediction of instrumental aggression. Attitudes (peer deviance acceptance, $p \quad .01$), norms (problem friend behavior, $p \quad .01$; and, perceptions of parental attitudes about fighting, $p \quad .01$), and self-control ($p \quad .01$) were statistically significant. For instrumental aggression, peer deviance acceptance ($p \quad .01$) was also moderated by gender.

For the prediction of relational aggression, the included variables produced an adjusted R^2 of 0.09 (F (11,398) = 4.88, $p = 0.000$). The norms of problem friend behavior ($p \quad .001$) and

perceptions of parental attitudes about fighting (p   .01) were statistically significant. Self-control (p   .05) was moderated by gender for the prediction of relational aggression.

DISCUSSION

Gender and Types of Aggression

The primary objectives of this study were to determine the types of aggressive behaviors exhibited in a sample of early adolescents and if those behaviors and their predictors differed by gender. In this sample, three patterns of aggression emerged – Relational, Instrumental, and Reactive – with physically overt forms of behaviors having some overlap between the latter two patterns. This is in contrast to past studies, where using the same measures, four patterns emerged (Little et al., 2003). Our original hypothesis was that boys would exhibit more overt types of behavior. However, overt behaviors did not emerge as a cohesive construct therefore this difference cannot be examined. A different understanding of the types of aggression manifest by boys and girls emerged. Researchers have posited that there may be a false dichotomy in our understanding of aggressive behaviors – overt for boys and relational for girls (Swearer, 2008; Williams, et al., 2009) based on gender stereotyping, and limitations of past research. This study's results support the lack of a dichotomy and indicate that overt aggression can both serve the purposes of instrumental aggression and be used in reactive aggression by both genders equally.

The lack of correlation between instrumental and reactive aggression indicates that these two functional aspects of aggression are distinct. Reactive aggression appears to be a response to provocation regardless of form – overt or relational – which is supported by normative behavior (problem friend behavior). Instrumental aggression appears to capture planful acts associated with self-serving strategies of social control. More effort should be focused on examining this distinction in future studies of urban early adolescents.

Gender differences were found for two of the three patterns of aggressive behavior examined. The hypothesis that boys would be more likely to manifest instrumental aggressive behaviors was supported and is consistent with the idea that boys tend to engage in aggressive behaviors to gain power/authority or to better themselves in some way (Herrman & Silverstein, 2012). As the final instrumental scale was comprised of both instrumental and overt items, this explains why prior research tended to combine form and function when describing the aggressive behaviors of African American boys. The hypothesis of no difference between boys and girls for reactive aggressive behaviors was also supported.

Contrary to our hypothesis, girls were found to report less relational aggression than boys. Meta-analytic findings have demonstrated that frequencies of aggressive behaviors do not always differ along the same gender lines as this depends on several study factors (Card, Stucky, Sawalani, & Little, 2008). Two features of this study may have contributed to this finding. First, our sample was generally older than the elementary-aged samples of Crick (1996) and Leff et al., (2009); gender differences may be related to developmental changes in adolescence. Second, the sample was primarily African American where relational aggression may be more common among urban early adolescents (Williams et al., 2009). It

is possible that relational aggression manifests differently in urban African Americans than in other ethnic groups. However, further understanding of context related not only to race but to socioeconomic status, urban/suburban/rural settings and neighborhood environment is needed.

The purpose of this study was to improve the relevance and effectiveness of violence prevention efforts for predominantly African American adolescents in urban middle schools by examining the impact gender has on patterns of aggressive behaviors. Violence prevention interventions designed for early adolescent youth have found gender differences in their outcomes (Farrell & Meyer, 1997; Farrell, Meyer, Sullivan & Kung, 2003). As the majority of these interventions do not differentiate between types of aggression targeted, the findings from this study regarding the patterns of aggression exhibited by urban early adolescents could be used to improve on these existing interventions.

Predictors of Aggressive Behaviors

The predictors of aggressive behaviors were found to vary by type of aggression. The relationship between two predictors and the types of aggressive behaviors were found to be moderated by gender.

Attitudes—Attitudes which are accepting of deviant peers led to an increase in relational aggression and of instrumental aggression. Contrary to this, attitudes accepting deviant peers were not a significant predictor of reactive aggression. Attitudes about aggressive behaviors have been found to be a significant predictor of aggressive behaviors in youth in prior studies (Beyers, Loeber, Per-Olof and Stouthamer-Loeber, 2001; Roberto, Meyer, Boster and Roberto, 2003). However, these studies did not report gender differences. Other research is limited by using samples limited to a single gender which precludes comparisons (Cassidy & Stevenson, 2005; Leff et al., 2009). The significance of the interaction term of peer deviance acceptance and gender for both relational and instrumental aggression shows that this attitude is moderated by gender. A change in peer deviance leads to a 0.08 decrease in relational aggression and a 0.07 decrease in instrumental aggression in girls.

Norms—For all three types of aggression, norms derived from problem peer behaviors and perceptions of parental attitudes about fighting were found to be significant predictors. For each unit increase in normative problem peer behavior, aggression increased among this sample of early adolescents regardless of type. This is consistent with prior research into the effect of peers on aggressive behaviors (Beyers et al., 2001; Heinze, Toro and Urberg, 2004; Ferguson, Miguel, and Hartley, 2009). Perception of parental attitudes about fighting on the contrary had a protective effect on the manifestation of aggressive behaviors. Parental attitudes and perceptions of parental attitudes have been found to exert a protective influence regarding aggression in other studies as well (Copeland-Linder, et al, 2007; Farrell, Henry, Schoeny, Bettencourt and Tolan, 2010; Orpinas, et al, 1999). Future interventions which address deviant peer associations and work with parents to improve parental monitoring and communication regarding conflicts should be considered. A study by Farrell, Henry, Mays, and Schoeny (2011) also found a gender difference in the effect of perceived parent

attitudes. However, in the current sample neither of the norms was found to be significantly moderated by gender.

Perceived Behavioral Control—Instrumental aggression is effected significantly by an early adolescent's level of self-control. A change in self-control is associated with lower instrumental aggression. Future research should examine the construct of self-control as it relates to instrumental aggression, in determining how to reduce aggressive behaviors. For reactive aggression, the relationship is moderated by gender. Girls who have more self-control exhibit decreased levels of reactive aggression. As the literature is limited in its discussion of the effects of perceived behavioral control on aggressive behaviors, these findings have implications for both future research as well as factors to consider in developing interventions designed to reduce aggression in similar populations.

Collectively, these findings suggest that effective intervention and prevention of aggressive behaviors among early adolescent youth need to be considered within the social context of the behaviors and with a careful consideration of multiple types of aggression. As stated previously aggression has been linked to a wide range of difficulties for both victims and perpetrators. As such, effective prevention and intervention strategies which account for predictors most relevant to African American urban early adolescents is warranted.

Consistent with the literature on aggressive behavior in similar populations, individual attitudes and beliefs about normative behavior were found to be related to aggressive behaviors. Classroom and school interventions designed to address problem behaviors, including aggression, tend to focus on normative behavior change (Wilson, Gottfredson, and Najaka, 2001). Violence prevention interventions which are more universal in nature tend to focus on individual attitudes in addition to normative behaviors (Farrell & Meyer, 1997; Farrell et al., 2003). Most current interventions do not consider the influence of perceived behavioral control in their design and implementation.

Study Limitations

Youth self-reported surveys were utilized and social desirability could have influenced these self-reports. An audio computer-assisted self-interview was utilized to minimize this bias; however, peer, parent, or teacher ratings could have corroborated the veracity of this self-report. Future research which includes multiple responders or forms of reporting would enhance these findings. It is possible that those youth excluded from analysis may have differed from those included on the outcomes leading to nonparticipation bias. However, studies have found little evidence of substantial bias due to nonparticipation (Galea & Tracy, 2007).

Our sample included predominantly low income African American early adolescents in an urban community. Other studies, primarily cross-sectional, have found that living in impoverished urban areas exposes adolescents to increased community violence contributing to aggressive behaviors (Lambert, Boyd, Cammack, & Ialongo, 2012; Lambert, Nylund-Gibson, Copeland-Linder, & Ialongo, 2010; Williams, et al., 2009). Although it is unclear how our findings generalize to other populations of early adolescents, limiting the sample in this way extends the current research in this area.

Although it could be argued that there may be issues with a post-intervention measure of aggression being predicted by pre-intervention measures of potential predictors, this study has clear strengths in its prospective design. To account for potential intervention effects, treatment status was controlled for in the final analysis. However, previous studies which utilized this dataset did not find treatment effects due to the intervention (Jones, et al, 2009). A related limitation is that initial levels of aggression, which could be seen as an antecedent variable, were not controlled for due to the potential for over-controlling in the final model.

This study was an examination of aggressive behaviors among urban predominantly African–American early adolescents enrolled in urban middle schools in low socioeconomic status neighborhoods characterized by high levels of community violence. Research into the types of aggressive behaviors has been limited in this population and has been primarily cross sectional. This contributes to the knowledge base of the types of behaviors manifest by boys and girls by examining them prospectively. Future research should expand on the knowledge of these predictors in the development of pathways and processes.

Implications for Practitioners

Beliefs in parental disapproval of aggressive behaviors, combined with parental monitoring and a positive parent-child relationship have been found to increase a child's self-control thereby reducing the potential for aggression (Orpinas et al., 1999). In light of the current findings and in order to more effectively address the needs of urban African American early adolescents, a consideration of self-control and its influence on youth aggressive behaviors should be a part of future prevention interventions. In addition, consideration of parental relationships and perceptions of parental attitudes towards aggressive behaviors should occur. This may involve the inclusion of parents in some aspects of the intervention.

CONCLUSION

A clearer understanding of modifiable risk and protective factors for aggressive behaviors and of the types of aggressive behaviors themselves is critical for the development of effective programs for youth violence prevention. This study furthers our understanding of the types of aggressive behaviors and their predictors among predominantly African American urban early adolescents using a prospective approach. As aggressive behaviors may lead to adverse psychosocial and physical health symptoms, it is important to address both the behaviors and the predictors of these behaviors. This study's findings suggest that, in addition to attitudes, beliefs and norms, self-control should be considered in the development of future prevention interventions. These results provide several avenues for future prevention research and implications for intervention development targeted to this at risk group.

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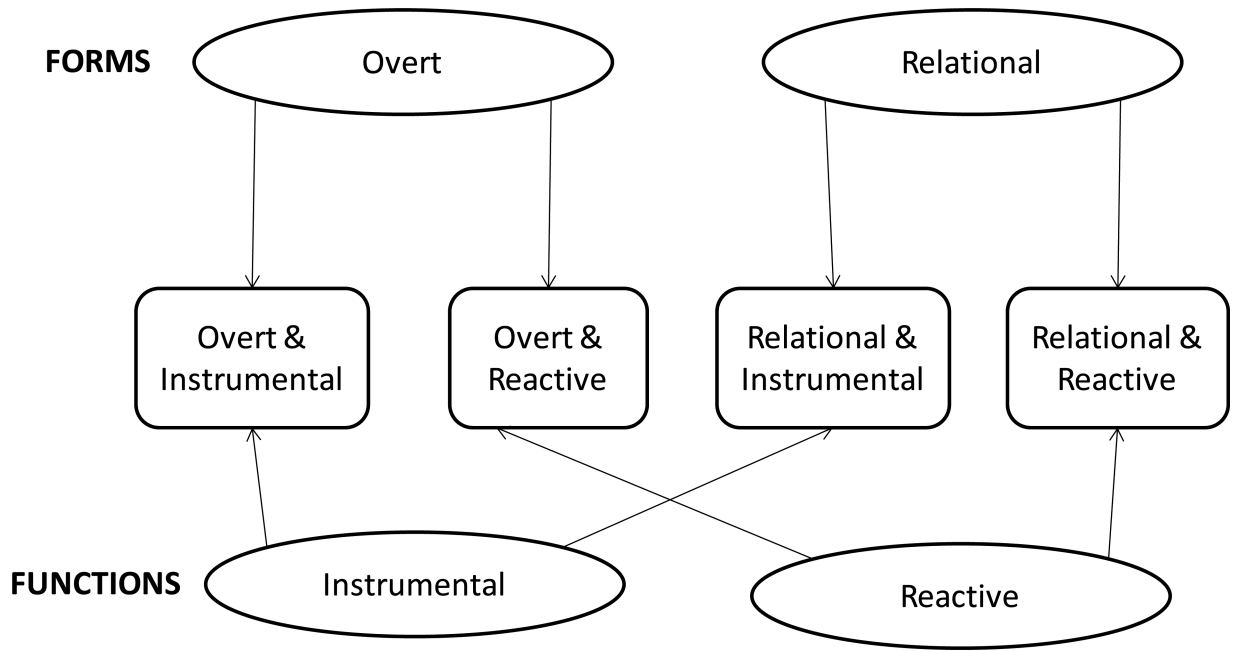
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Figure 1.
Relations among the Forms and Functions of Aggression (Adapted from Little et al., 2003)

Table 1

Participant Characteristics n (%)

Characteristic	Total	Male	Female
Gender	448 (100)	222 (49.6)	226 (50.4)
Age (Mean, S.D.)	11.97 (1.10)	12.06 (0.79)	11.89 (1.33)
Race			
Black/ African American	432 (96.6)	210 (48.6)	218 (50.5)
White and Other	16 (3.4)	9 (60.0)	6 (40.0)
Treatment Status			
Intervention	230 (51.2)	118 (51.3)	108 (47.0)
Control	218 (48.8)	101 (46.1)	116 (53.0)
Enrollment Cohort			
2004-2005	214 (47.8)	114 (52.7)	97 (44.9)
2005-2006	234 (52.2)	105 (44.5)	127 (53.8)
Family Structure			
Two Adults	323 (71.9)	169 (52.0)	159 (48.9)
One Adult	125 (28.1)	50 (39.4)	65 (51.2)

Table 2

Items used to represent the forms and functions of aggression adapted from Little, 2003

Relational (α = 0.840) – comprised of mostly instrumental behaviors focused on relations with others.

If others make me mad or upset, I hurt them.

To get what I want, I say mean things to others.

To get what I want, I hurt others.

When I am mad at others, I gossip/spread rumors about them.

To get what I want, I ignore/stop talking to others.

To get what I want, I gossip/spread rumors about others.

Instrumental (α = 0.852) – comprised of mostly instrumental behaviors but not distinctly overt or relational.

I threaten others to get what I want.

I hit, kick, or punch others to get what I want.

To get what I want, I put others down.

If others upset or hurt me, I tell my friends to stop liking them.

I tell my friends to stop liking someone to get what I want.

I keep others from being in my group of friends to get what I want.

Reactive (α = 0.706) – comprised of all reactive items but not distinctly overt or relational.

When I'm hurt by someone, I fight back.

When I'm threatened by someone, I threaten back.

If others have angered me, I hit, kick, or push them.

If others have hurt me, I keep them from being in my group of friends.

When I am upset with others, I ignore/stop talking to them.

Table 3

Unadjusted Means for Aggression Outcomes by Gender

		Mean (SD)			
	Range	Total	Boys	Girls	p-value[1]
Total Scale (n = 447)	0, 0.66	.25(.15)	.27(.16)	.24(.14)	**0.013**
Relational Subscale (n=435)	0, 0.68	.15(.18)	.18(.19)	.13(.16)	**0.004**
Instrumental Subscale (n=446)	0, 0.70	.14(.18)	.16(.19)	.12(.16)	**0.015**
Reactive Subscale (n=447)	0, 0.70	.41(.19)	.42(.18)	.40(.19)	0.233

[1]A Bonferroni's t-test was employed for gender comparisons.

Table 4

Predictors of Aggression[1]

Predictor Variables[2]	Coefficient[3] (S.E.)
Relational Aggression $R^2 = 0.15$	
Attitudes – Peer Deviance Acceptance	0.16 (0.04) ***
Norms – Problem Friend Behavior	0.04 (0.01) ***
Norms – Perceptions of Parental Attitudes About Fighting	−0.02 (0.01) ***
PBC – Decision Making	−0.02 (0.02)
PBC – Self-Control	−0.08 (0.03)
Peer Deviance × Gender	−0.09 (0.03) **
Instrumental Aggression $R^2 = 0.16$	
Attitudes – Peer Deviance Acceptance	0.13 (0.04) **
Norms – Problem Friend Behavior	0.03 (0.01) **
Norms – Perceptions of Parental Attitudes About Fighting	−0.02 (0.01) **
PBC – Decision Making	−0.01 (0.02)
PBC – Self-Control	−0.05 (0.02) **
Peer Deviance × Gender	−0.07 (0.03) **
Reactive Aggression $R^2 = 0.09$	
Attitudes – Peer Deviance Acceptance	0.03 (0.02)
Norms – Problem Friend Behavior	0.04 (0.01) ***
Norms – Prosocial Friend Behavior	0.02 (0.01)
Norms – Perceptions of Parental Attitudes About Fighting	−0.06 (0.02) **
PBC – Self-Control	0.06 (0.05)
Self-Control × Gender	−0.05 (0.03) *
Parental Attitudes × Gender	0.02 (0.01)

[1] Controlled for enrollment cohort, school, family structure, and treatment status

[2] Predictor variables included in each model were chosen based on bivariate associations of p   0.1.

[3] A negative coefficient indicates a decrease in aggression with a one unit increase in the variable.

* p<0.05

** p<0.01

*** p<0.001