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## Mechanisms Linking Violence Exposure and School Engagement Among African American Adolescents: Examining the Roles of Psychological Problem Behaviors and Gender

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### Abstract

This study examines whether the relationship between violence exposure and school engagement is mediated by psychological problem behaviors and whether such relationships are gendered. Five hundred and sixty-three high school African American adolescents (ages 13 to 19 years) completed questionnaires which assessed two types of violence exposure (community violence and marital conflict), psychological problem behaviors (e.g., PTSD symptoms, anxiety, withdrawal, and aggressive behaviors), and school engagement (i.e., student-teacher connectedness and grade point average [GPA] obtained from school records). For male adolescents, psychological problem behaviors collectively mediated the relationship between community violence exposure and student-teacher connectedness. For female adolescents, both community violence and marital conflict exposure were negatively related to both GPA and student-teacher connectedness via aggressive behavior. Findings suggest that the differential impact of type of violence exposure and its sequela based on gender should be considered when addressing low school engagement among African American youth.

### Keywords

African American adolescents; structural equation modeling; ecological perspective; PTSD; anxiety; withdrawal; aggressive behavior; gender; violence exposure; school engagement; psychological problem behavior; marital conflict; community violence

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This article is concerned with whether the relationship between type of violence exposure (i.e., community and marital conflict) and school engagement (i.e., GPA and student-teacher connection) is mediated by psychological problem behaviors (i.e., depression, anxiety, aggression, and posttraumatic stress disorder [PTSD] symptoms) and whether such relationships are gendered among African American adolescents.

Community violence exposure often tends to be higher among the poor, racial minorities and those who live in densely populated urban areas (Garbarino, Hammond, Mercy, & Young, 2004). Surveillance data indicate that, compared to their Latino and Caucasian peers, African American adolescents are exposed to higher rates of community violence

(World Health Organization [WHO], 2002) and that rates of exposure are twice as high for African American males compared to their female counterparts (Aisenberg, Garcia, Ayon, Trickett, & Mennen, 2008).

Community violence refers to being a victim of, witness to, or hearing about shootings, stabbings, muggings, physical threats, and murders taking place outside the home between individuals who are unrelated and who may or may not know each other (WHO, 2002). Consequently, as a result of higher rates of community violence exposure, African American youth, compared to their Caucasian peers, are at elevated risk for experiencing higher rates of psychological problem behaviors (i.e., depression, withdrawal, aggression behaviors and PTSD symptoms; Schwab-Stone et al., 1999). Depression and anxiety are commonly referred to as *internalizing behaviors*. Aggression is one feature of *externalizing behaviors* (Achenbach, 1991), and PTSD is considered to be part of a separate classification (Margolin & Gordis, 2000). In this study, we hereafter refer to this cluster of factors as *psychological problem behaviors*, given that they can challenge the cognitive ability of students to perform academic tasks which may compromise school engagement (Trickett, McBride-Chang, & Putnam, 1994) and are common sequelae associated with community violence exposure (Margolin & Gordis, 2000).

However, high community violence exposure is only one category of social problems confronting African American youth. Nationwide, African American youth report poor school engagement (e.g., low GPAs, dropping out of school). National data indicate that African American youth, as compared to their Caucasian counterparts, are almost 2 times more likely to report lower school engagement, with gaps being greater for African American young men than young women (Perkins, Kleiner, Roey, & Brown, 2004; U.S. Department of Education, 2006). Low school engagement is more pronounced among students from poor socioeconomic backgrounds than those who have parents with professional careers (Fullarton, 2004).

A mounting body of research suggests that problems such as community violence and low school engagement are interrelated (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004; Schwab-Stone et al., 1999; Schwartz & Gorman, 2003). However, few studies have adequately investigated potential mechanisms linking these two concerns, which is a primary contribution of this study. Informed by an ecological perspective (Bronfenbrenner, 1997), this study examines whether structural factors beyond the domains of the school environment (i.e., community violence, marital conflict) are related to mesosystem constructs such as school engagement (i.e., student-teacher connections and GPAs). Additionally, we examined whether microsystem factors (i.e., PTSD symptoms, anxiety, withdrawal, and aggressive behaviors) mediated the above relationship. Finally, we investigated whether macrosystem constructs, such as gender, influenced the mesosystem constructs. We begin with a brief overview of the extant literature in these areas and a discussion of some of the major methodological limitations of this research.

## Community Violence Exposure, Psychological Problem Behaviors, and School Engagement

A few empirical studies have begun to examine whether psychological problem behaviors mediate the relationship between community violence exposure and low school engagement (Farver, Natera, & Frosch, 1999; Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004; Schwartz & Gorman, 2003). Though the findings are informative, there are important gaps in the existing literature. For instance, we need to better understand how gender may influence the relationships among community violence exposure, psychological problem behaviors, and school engagement. This is especially important because community

violence exposure rates and school engagement levels differ for adolescent males and females (Kuo, Mohler, Raudenbush, & Earls, 2000). Additionally, adolescents are exposed to multiple forms of violence. Consequently, we need to expand the conceptual definition of violence to include violence occurring both in the home and in the community, which often co-occur (Margolin & Gordis, 2000).

Farver, Natera, and Frosh (1999), in a cross-sectional study, recruited a multiethnic sample of 64 preschoolers and their mothers (30% African American) attending a Head Start program servicing families from a high-crime and low-income community. Results from path analyses suggested a link between families' exposure to community violence and a reduction in children's positive peer interaction and cognitive performance, mediated by mothers' report of symptoms. However, these findings are limited to elementary school-age children; gender differences were not examined due to a limited sample size; and no data were available on school engagement markers such as GPAs or student-teacher connectedness (Libby, 2004).

Schwartz and Gorman (2003), in a cross-sectional study of 237 ethnically diverse elementary school children (48% Hispanic, 23% Caucasian, 13% Asian, and 2% African American), examined whether psychological symptoms mediated the relationship between community victimization and academic functioning (i.e., standardized test scores). Results indicated that depressive symptoms and disruptive behaviors mediated the relationship between community violence and academic functioning. However, given sample limitations, gender differences were not explored. In a related study, Rosenthal and Wilson (2003) utilized a sample of 468 multiethnic adolescents (34% African American) to examine the relationship between exposure to community violence, psychological problems, and college performance. Exposure to community violence was measured by a retrospective report on the level of community violence during the preceding 3 years (when the students were attending high school). Psychological problems during college were assessed in regard to general problem symptoms (i.e., an additive scale measuring hyperarousal, anxiety, anger, irritability, depressed mood, and cognition). College performance during the past three quarters of college was evaluated by GPA and school persistence (i.e., registering for college across three consecutive semesters).

Bivariate correlations indicated that (a) community violence and academic performance were not related, (b) exposure to community violence and psychological problems were related ( $r = .27, p < .01$ ), (c) psychological problems and college persistence were not correlated, and (d) psychological problems and GPA were unrelated. No gender differences were observed when males and females were analyzed separately (Rosenthal & Wilson, 2003). It is worth noting that although the study described findings in the framework of mediation, the authors neither performed regression or path analyses to test for mediation nor did they present indirect effects of explanatory variables on outcomes via mediators.

Finally, Henrich, Schwab-Stone, Fanti, Jones, and Ruchkin (2004) used a longitudinal design with a sample of 759 ethnically-diverse middle school students (52% African Americans) to examine whether psychological problems mediated the relationship between increased exposure to community violence and lower school performance (i.e., standardized test scores). Findings indicated that participants who witnessed violence reported feeling less safe at school and were at greater risk for lower school performance over the 2-year period of the study. In addition, depressive symptoms mediated the relationship between witnessing violence, school performance, and feelings of school safety at Wave 2. However, neither depressive nor other psychological symptoms mediated the relationship between witnessing community violence and school safety or standardized test scores at Wave 2. Effects were the same for males and females.

Interestingly, results indicated that victimization was not related to any of the school performance measures (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004). This particular finding is counterintuitive, and the authors speculated that methodological limitations may account for the unique finding (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004). For instance, they reported that sample attrition across the two waves was 24%; thus, it may have been that participants who dropped out of the study were significantly more likely to have been victimized and to have had lower levels of school performance. Therefore, attrition may have been selective across several key variables, which may have affected study results (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004). In addition, there was limited construct validity regarding the definition used for violence exposure. For example, the location in which the violence occurred was poorly specified. Consequently, researchers believed that students may have been reporting violence which occurred within their homes and school, in addition to in the community (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004). Given that the severity of community violence exposure is often higher than violence occurring within the home or school, this is a significant methodological limitation and should be taken into account when interpreting these findings within the context of the few studies conducted on this topic (Bowen & Bowen, 1999).

The methodological concerns noted in this section are reflective of some of the limitations within the field of community violence: small heterogeneous samples which may mask important within group differences, limited focus on adolescents, measurement error, poor construct validity, and limited statistical testing.

## Methodological Considerations

Our understanding of the impact of community violence on school engagement markers has been advanced by the studies referenced in the previous section, but further research is needed in this area. First, youth who are exposed to community violence are also at risk for other forms of violence such as marital conflict. Researchers have speculated that the high stress associated with living in violent communities may compromise a family's ability to cope with stress, which results in higher rates of marital conflict (Lynch & Cicchetti, 1998; Margolin & Gordis, 2000). However, our understanding of the impact of violence exposure on school engagement has often been limited by the compartmentalization of research into separate literatures on community violence and marital conflict (Margolin & Gordis, 2000). Although the research may be segregated, in reality, adolescents' experiences are not.

Second, age and gender are important considerations when examining the interrelationships among these factors, and few studies have assessed these variables across the same study sample. Adolescents warrant special focus, given that this is a developmental period when rates of community violence exposure increase (Kuo, Mohler, Raudenbush, & Earls, 2000; Weist, Acosta, & Youngstrom, 2001) and school failure is more pronounced during the transition to high school (Barone, Aguirre-Deandreis, & Trickett, 1991). Likewise, it is apparent that the cognitive capacities and levels of autonomy are significantly different when considering adolescents versus elementary school children. Prior research on community violence, psychological problem behaviors, and low school engagement, however, has focused on elementary school children (for an exception, see Rosenthal & Wilson, 2003).

Third, gender is likely to be an important consideration when examining such relationships because traditional social roles and scripts are different for males and females (Wichstrom, 1999). Researchers and theorists have suggested that females and males negotiate different developmental pathways and risks as they move into adulthood (Cosse, 1992). Additionally,

some evidence suggests that during adolescence, there is heightened pressure for males and females to behave in stereotypical ways (Crouter, Manke, & McHale, 1995). Furthermore, gender differences have been documented in prior research with regard to community violence exposure (Aisenberg et al., 2008), psychological problem behaviors (Margolin & Gordis, 2000), and school achievement (U.S. Department of Education, 2006). Therefore, gender differences are likely to be significant when examining the interrelationships among community violence, psychological problem behaviors, and school engagement.

Finally, ethnicity is likely to be an important consideration. There is considerable social inequality across ethnic communities in the United States (WHO, 2002). Consequently, research that moves beyond simply contrasting Caucasians and African Americans is needed. Such research should include a focus on exploring potential differences within groups, particularly with regards to gender (Garcia Coll & Magnusson, 2000).

## The Current Study

This study examined whether a set of psychological problem behaviors mediates the relationship between violence exposure and school engagement among African American adolescents. Specifically, the study examined: (a) whether violence exposure (i.e., marital conflict and community violence) was independently related to school engagement markers (i.e., student-teacher connectedness and grades obtained from school records), (b) whether psychological problem behaviors (i.e., PTSD symptoms, anxiety, withdrawal, and aggression) mediated these relationships, and (c) whether the relationships differed for males and females. (see Figure 1 for a conceptual diagram of these relationships).

## Method

### Sample and Procedures

In April 2006, 20 trained research assistants (master's and doctoral-level students) recruited prospective participants from a single high school in a large Midwestern city. The overwhelming majority of students attending this school (80%) were African American. Research assistants administered parental permission forms to approximately 673 students who identified themselves as African American (aged 13 to 19 years) in 25 homeroom classes. Students were eligible for study participation if they self-identified as African American, were between the ages of 13 and 19, and were attending regular high school classes (i.e., non-special education classes). Data collection occurred over a 2-week period.

To participate, adolescents had to obtain signed permission forms from their parents or guardians. Students who brought signed parental forms were required to provide assent prior to completing the self-administered survey. The questionnaire was developed such that it could be understood at a fifth grade reading level. Participants were provided \$10 for completing the survey, which took no more than 40 minutes to complete. It was administered in a small school auditorium.

The final sample consisted of 563 urban youth (219 males and 344 females) who either identified solely as African American ( $n = 540$ ) or African American with mixed heritage ( $n = 23$ ). The study achieved an 83% participation rate. The majority of the males and females (55% and 54%, respectively) lived in single female-headed households, and 61% of males and 59% of females reported receiving free school lunch. No students reported any adverse reactions as a result of answering study questions. Institutional Review Board approval was obtained from the university and the local school council and regional office.

## Measures

**Gender**—Males and females were given similar questionnaires which were framed in gender-specific language. Consequently, psychometric properties for all scales were calculated separately.

**Marital conflict**—Lifetime exposure to marital conflict was assessed by the Revised Conflict Tactics Scale (CTS) (Strauss, 1979). All items were measured on a 7-point scale from 0 (*never*) to 6 (*six or more times*). Two items asked participants about the number of times they witnessed their mom argue with a partner or heard her yelling or screaming with her partner. Although we were restricted from assessing more severe forms of marital conflict violence by school administrators, the alpha coefficients were .92 for both genders. Because a majority of respondents reported no domestic violence ( $n = 102$ ; 18.5%) or the maximum amount of domestic violence (12;  $n = 193$ ; 35%), domestic violence in this study was categorized into three dummy variables denoting (a) none (domestic violence score = 0), (b) moderate (domestic violence score ranged from 1 to 11), and (c) high (domestic violence score = 12). This categorization of marital conflict scale scores is consistent with the treatment of scales in other investigations (Fullilove, Fullilove, Browser, & Gross, 1990; Voisin, 2003).

**Community violence**—Lifetime exposure to community violence was assessed by the Exposure to Violence Probe (Stein, Walker, Hazen, & Forde, 1997). This measure is comprised of eight items which assess the level of exposure to witnessing or being a victim of community violence. All items were measured on a 7-point scale from 0 (*never*) to 6 (*6 or more times*). A sample question is, “Have you ever been a victim of a robbery or hold-up?” A combined score was calculated which included both witnessing and victimization. The alpha coefficients were .72 for both males and females.

**Psychological problem behaviors**—Psychological problem behaviors within the last 6 months were assessed using four sub-scales to measure current PTSD symptoms, internalizing behaviors (i.e., anxiety) internalizing behaviors (i.e., withdrawal), and externalizing behaviors (i.e., aggression). PTSD symptoms were assessed using the University of California at Los Angeles’ PTSD Reaction Index (UCLARI) Adolescent Version (Rodriguez, Steinberg, & Pynoos, 1999; Saltzman, Pynoos, Steinberg, & Layne, 2001). The self-report index measures the frequency of PTSD symptoms on a 5-point scale ranging from 0 (*none of the time*) to 4 (*most of the time*). For example, one of the questions is “I watch out for danger or things that I am afraid of.” This measure was scored on a continuous scale. The alpha coefficients were .82 for both males and females.

Internalizing behaviors (i.e., anxiety) and externalizing behaviors (i.e., aggression) were measured using the Youth Self Report (YSR) survey. The 113-item measure is the self-administered version of the widely used Child Behavior Checklist (Achenbach, 1991). Respondents indicated how current a particular behavior has been for them by responding on a 3-point scale ranging from 0 (*not true*) to 2 (*very true*). Internalizing behaviors are measured in two ways: 13 items summed for anxiety and depression and 7 items summed for withdrawal and depression. Seventeen items are summed for externalizing aggressive behaviors. Each dimension is scored on a continuous scale. The following items “I cry a lot,” “I would rather be alone than with others,” and “I get in many fights” are examples of anxiety, withdrawal, and aggression questions, respectively. The alpha coefficients for anxiety were .78 for males and .76 for females. The alpha coefficients for withdrawal were .62 for males and .69 for females. The alpha coefficients for externalizing behaviors were .80 for both males and females.

**School engagement**—School engagement markers were assessed using current GPAs obtained from school records and a standardized measure assessing student-teacher connectedness. Combined GPAs were obtained in the students' core courses such as math, English, social science, and science. Student-teacher connectedness was assessed by the Student Assessment of Teachers Scale (Klem & Connell, 2004; McNeely & Falci, 2004). Adolescents responded to seven items measured on a 5-point Likert-type scale which ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). An example question is "Teachers at my school care about me." Higher scores on the scale indicated higher teacher connectedness. The alpha coefficients were .86 and .87 for males and females, respectively.

### Analytic Strategy

Sociodemographic characteristics were tabulated via one-way frequency tables. Measures of central tendency for quantitative variables and bivariate correlations were computed for these same variables. Following computation of the descriptive statistics, a structural equation modeling approach was used to examine relationships among observed explanatory variables, mediating variables, and outcome variables.

Given that we expected relationships among explanatory variables, mediators, and outcomes to vary based on gender, we ran separate statistical models for males and females. Explanatory variables consisted of the two marital conflict dummy variables denoting moderate and high marital conflict, respectively, and the community violence scale score. PTSD, withdrawal, anxiety, and aggression served as intermediary variables. Student-teacher connectedness and GPA served as the outcome variables. Due to the exploratory nature of the research, an interest in examining the relationships among specific observed variables, and low correlations among the explanatory variables (i.e., mediators and outcomes), latent variables were not included in these analyses. Instead, we fitted saturated models to identify both strong and weak associations between the observed violence exposure variables and the distal engagement outcomes. Structural equation models were estimated via full information maximum likelihood using Mplus 4 (Muthén & Muthén, 2006). Due to the presence of indirect effects in the models, 95% bias-corrected confidence intervals of effects were generated with bootstrapping based on 5,000 samples (MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002). For each statistically significant indirect effect, the unstandardized regression coefficient and 95% confidence intervals are reported along with the standardized indirect effect. Unstandardized regression weights are referenced as B coefficients, whereas standardized regression weights are labeled  $\beta$  coefficients.

### Results

Although males were significantly more likely to report exposure to community violence, females were significantly more likely to report PTSD symptoms, anxiety, withdrawal, and aggressive behaviors ( $p < .001$ ; see Table 1 for mean data on variables measuring violence exposure, psychological problem behaviors, and GPAs). Females also had statistically significant higher core GPAs ( $p < .001$ ). There was no statistically significant difference between exposure to domestic violence for males and females.

### Estimated Correlations

Community violence exposure was negatively associated with student-teacher connectedness for males (see Table 2 for a correlation matrix of the survey variables used in the structural equation models). For females, community violence exposure was negatively associated with core subject GPA. Community violence exposure and high marital conflict were positively associated with aggressive behavior for males. Females exhibited a similar

association between community violence exposure and aggressive behavior and high marital conflict and aggressive behavior. Males and females exhibited similar levels of association between community violence exposure and withdrawal; PTSD-community violence correlations for males and females were similar in magnitude. Aggressive behavior, withdrawal, and PTSD were all negatively associated with student-teacher connectedness for males. For females, exposure to high domestic violence, aggressive behavior, and anxiety were negatively associated with student-teacher connectedness. Unlike males, females also exhibited a negative association between aggressive behavior and GPA. Interestingly, for females, anxiety scores were positively associated with GPAs. This finding suggests that anxiety is a significant correlate of scholastic performance for females.

### **Direct Relationships Between Violence Exposure and School Engagement**

Interestingly, contrary to the bivariate correlation results reported above, no significant direct relationships between community violence and domestic violence with student-teacher connectedness and GPA emerged (see Table 3). This finding, in conjunction with the previously reported significant correlations, suggests that the significant bivariate relationships between violence exposure and school performance could be driven exclusively by indirect effects of violence exposure on school engagement, mediated by psychological problems indicators.

### **The Mediating Roles of Psychological Problem Behaviors**

For males, analysis of the total indirect effects showed a significant negative relationship between community violence and student-teacher connectedness,  $\beta = -.008$ ,  $\beta = -.070$ , 95% CI  $[-.017, -.001]$ . None of the constituent individual indirect effects, however, attained statistical significance. This finding implies that PTSD, withdrawal, anxiety, and aggressive behavior are collective components in the negative relationship between community violence exposure and student-teacher connectedness. No significant indirect effects linking exposure to domestic or community violence and GPA were observed for males.

For females, exposure to moderate amounts of domestic violence was negatively related to student-teacher connectedness and mediated collectively by PTSD, withdrawal, anxiety, and aggressive behavior,  $\beta = -.080$ ,  $\beta = -.041$ , 95% CI  $[-.171, -.016]$ . This finding was driven by the aggressive behavior score, which had a statistically significant indirect effect estimate,  $\beta = -.053$ ,  $\beta = -.027$ , 95% CI  $[-.138, -.006]$ . This finding suggests that moderate levels of domestic violence are positively associated with increased levels of aggressive behavior, which in turn are associated with lower levels of student-teacher connectedness. None of the other indirect effects linking moderate marital conflict to student-teacher connectedness were statistically significant.

For females, a similar pattern of results emerged for the high marital conflict variable. The sum of the indirect effects was statistically significant,  $\beta = -.190$ ,  $\beta = -.091$ , 95% CI  $[-.335, -.084]$ . Also significant were the indirect effects involving anxiety,  $\beta = -.079$ ,  $\beta = -.038$ , 95% CI  $[-.189, -.013]$ , and aggressive behavior,  $\beta = -.148$ ,  $\beta = -.071$ , 95% CI  $[-.284, -.045]$ . These results suggest that a history of experiencing high levels of domestic violence is positively associated with elevated anxiety and aggressive behavior, both of which are negatively correlated with student-teacher connectedness.

Though the sum of indirect effects linking community violence exposure to student-teacher connectedness was not significant, the individual indirect effect involving aggressive behavior was statistically significant,  $\beta = .004$ ,  $\beta = -.032$ , 95% CI  $[-.010, -.001]$ . This suggests that a history of community violence exposure is correlated with increased aggression in females, which in turn is associated with their student-teacher connectedness.



Aggressive behavior also played an important mediating role in fostering the negative association between community violence levels and GPA: Indirect effects linking moderate domestic violence,  $\beta = -.059$ ,  $\beta = -.029$ , 95% CI  $[-.148, -.010]$ , high domestic violence,  $\beta = -.166$ ,  $\beta = -.078$ , 95% CI  $[-.315, -.054]$ , and community violence exposure,  $\beta = -.005$ ,  $\beta = -.035$ , 95% CI  $[-.011, -.001]$ , to GPA via aggressive behavior attained statistical significance for females. These findings suggest that a history of community violence exposure is associated with increased levels of aggressive behavior, which is in turn linked with a lower GPA.

## Discussion

Building on prior research, this study examined whether violence exposure (i.e., marital conflict and community violence) was related to school engagement (i.e., student-teacher connectedness and GPA) and whether this relationship was mediated by psychological problem behaviors (i.e., PTSD symptoms, anxiety, withdrawal, aggression) among a sample of African American high school adolescents.

Major findings indicated that although males were significantly more likely to report exposure to community violence, and females were significantly more likely to report PTSD symptoms, anxiety, withdrawal, and aggressive behaviors. There are several possible interpretations for these findings. First, the findings may reflect reporting bias. Based on sociological masculinity theory, males may be conditioned to conceal emotional challenges for fear of being deemed weak (Kimmel, Hearn, & Connell, 2005). Second, males more than females may be exposed to community violence at high rates due, in part, to using violence as a social response to resolving disputes (Pollack, 1998). Additionally, such gender expectations are likely to become more pronounced during adolescence (Crouter, Manke, & McHale, 1995). Higher rates of psychological distress symptoms among females may also reflect gendered ways of coping with community violence exposure. For instance, a recent qualitative investigation found that females are more likely than males to cope with violence within their communities by isolating themselves at home (Voisin et al., 2009). Consequently, such coping responses may advance depression and other psychological symptoms among females. Few studies have examined coping styles with regards to community violence exposure among youth, and this hypothesis warrants further investigation.

Bivariate analyses indicated a mild negative correlation between community violence exposure and student-teacher connectedness for males. There is a similar relationship between community violence exposure and GPA for females. Also, for females, there is a negative relationship between high marital conflict and student-teacher connectedness.

In structural equation models, there were no significant direct effects linking violence exposure to measures of school engagement for either sex. However, findings indicated significant indirect associations between violence exposure and engagement markers when psychological mediators were introduced. In sum, significant bivariate effects that become non-significant when mediators are introduced coupled with the significant indirect effects imply that psychological problems variables mediate the relationships between violence exposure and school engagement indicators.

For males, psychological problems played an important mediating role in the significant relationship between community violence exposure and student-teacher connectedness. This is a unique and important finding given that this dimension of school engagement has not been evaluated in prior studies (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004; Rosenthal & Wilson, 2003; Schwartz & Gorman, 2003). These findings might support one

premise that youth exposed to community violence are at increased risk for developing insecure or disorganized attachments to prosocial figures, for example, teachers (Aber & Allen, 1987). Another assumption is that males exposed to community violence may be absent more from school which may place them at greater risk for low student-teacher connectedness (Eckenrode et al., 1993; Kurtz, Gaudin, Wodarski, & Howing, 1993; Schwab-Stone et al., 1995).

No significant total indirect relationships were observed between community violence exposure and GPA for males. However, important relationships between community violence and both GPA and school engagement were documented for females and were driven by aggressive behaviors. The desensitization hypothesis proposed by Richters and Martinez (1993) in conjunction with data which documents that males tend to have lower GPAs than females (Shettle et al., 2007) may be one explanation for these findings. For instance, as a consequence of being exposed to higher rates of community violence, males may become desensitized to such exposure and may develop more coping strategies. However, the sequelae of violence exposure for females may be more traumatic due to lower levels of prior exposure and coping skills. This speculation also warrants further investigation. Furthermore, given traditional social roles and scripts, aggression may be less tolerated for females (Wichstrom, 1999), which may result in diminished levels of student-teacher connectedness when such behaviors are exhibited. Clearly, future research bridging violence exposure, coping styles, and school engagement using mixed methods (involving student, teacher, and parent data) represents a fertile line of inquiry.

Interestingly, no significant indirect relationships were documented between moderate or high marital conflict and GPA, or student-teacher connectedness for males, but significant relationships were observed for females, again, driven by aggressive behavior. In addition to reporting bias based on gender socialization and expectations, this finding may also suggest that the social experiences within the home may differ for adolescent males and females. For instance, females more so than males may spend more time at home, and as a result, acquire greater social roles within this domain (Cosse, 1992). Consequently, it is plausible that conflict within the home may have more disruptions in school performance for females than males.

This study examined whether psychological problem behaviors mediated the relationship between violence exposure and school engagement among urban African American youth. Developmental considerations and the particular vulnerabilities of African American youth regarding low school engagement make this study unique and its findings important. In addition, an expanded conceptualization of violence to include incidents occurring within the home (though with a limited measure) and a particular emphasis on differential gender outcomes add significant insights to the extant literature. A final contribution of this study is that in using structural equation-based methods, it directly elucidates potential mechanisms by which psychological problem behaviors mediate the relationship between violence exposure and school engagement. Some of these explanations have been lacking in prior studies.

Findings should be interpreted, however, within the context of important study limitations. Non-probability sampling limits the generalizability of findings to larger groups of African Americans. This study assessed violence in the home in regard to marital conflict. However, as indicated earlier, broader conceptualizations of violence with larger samples sizes are needed to include childhood sexual and physical abuse in addition to more severe forms of marital conflict. For instance, the majority of respondents reported the minimum or maximum possible levels of witnessed marital conflict, and our moderate marital conflict group is comprised of individuals who witnessed a range of marital conflict. Future

investigations should utilize instrumentation that captures a wider range of previously observed marital conflict. We did not evaluate use of violence on the part of participants which represents an important dimension in such a study. Although we used temporal stems regarding lifetime marital conflict and community violence experiences and examined their relationships to psychological problems within the past six months and more recent school engagement, these results must also be interpreted within the confines of all cross-sectional data (which precludes making casual inferences) and limits of self report data. However, we do believe that these findings may provide the basis for longitudinal designs which can clarify the temporal relationship among these variables and determine whether such associations persist across time. Finally, future research with larger samples of multiethnic youth, across both elementary and high school ages, is needed to determine how these relationships may vary by ethnicity and developmental stages. Additionally, there has been some important debate on whether race or ethnicity is perhaps a proxy for structural disadvantage (e.g., living in poverty), which is a greater determinant of health and health-related outcomes (Isaacs, & Schroeder, 2004). Given the homogeneity of this sample, we were not able to address these questions. However, we do believe that collectively our findings provide the empirical basis for examining these questions with larger, more diverse samples of youth.

### **Implications for Practice and Policy**

Although additional research is needed to transform these findings into intervention programs, this current research has important implications for mental health and educational prevention approaches with African American youth. Consistent with Henrich, Schwab-Stone, Fanti, Jones, and Ruchkin (2004), we argue that, in order to use federal, state, and local funding to promote school achievement, it is important for policymakers and persons involved in educating youth to better understand how contextual factors such as marital conflict, community violence exposure, and psychological behavioral problems relate to poor school engagement. Our findings call for gendered approaches to supporting school engagement among African American youth. Consistent with Rathbone (1998), our findings suggest that the issue of poor school engagement among African American youth is not purely academic; the issues are environmental and structural and psychological. An ecological perspective (Bronfenbrenner, 1997), which informed our study questions, also suggests several opportunities for interventions.

More specifically, at the meso level, professionals such as school social workers, guidance counselors, teachers, nurses and peer mentors who interact with adolescents in schools and other related settings should be trained to assess exposure to community violence and psychological symptoms exhibited by these youth, as there are high rates of co-occurrence. This is a critical primary step because community exposure and its sequelae are often undetected, untreated or misdiagnosed by service providers (Guterman & Cameron, 1999; Voisin, 2007). Additionally, preventive educational and psychological counseling services could be provided to diminish the correlates of low school performance associated with violence exposure. Special social supports in the form of discussion groups or counseling may be given to females who have witnessed marital conflict in order to help them understand ways to cope with such violence, as they may be at higher risk for psychological problems and lower school engagement. Conversely, males who are at risk for low school engagement may be placed in smaller classes which may provide more opportunities to connect and interact with teachers.

Additional clinical interventions should include locating mental health services in other principal systems such as schools, social clubs, and churches (Voisin, 2007). One such example is the Cognitive-Behavioral Intervention for Trauma in Schools which is designed to reduce youth' symptoms of distress related to violence exposure and has demonstrated

efficacy (Stein, et al., 2003). This 10-session school based intervention utilizes non-instructional times like home room or study hall to teach cognitive-behavioral skills in small group format to address symptoms of PTSD, anxiety, and depression related to community violence exposure. The effectiveness of other school-based trauma intervention groups has been documented elsewhere (see Saltzman, Pynoos, Layne, Steinberg & Aisenberg, 2001). Such interventions can be delivered by specially trained school social workers and guidance counselors and may target adolescents assessed with high levels of violence exposure, psychological problem behaviors, or exhibiting low school engagement.

Under the federal *No Child Left Behind Act of 2001*, much of the accountability for school engagement rests upon school staff (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004). However, as the ecological models shows, support is needed from beyond the front doors of the school. On a larger systemic level, extraordinary interventions aimed at changing the social ecology of high-risk communities must be undertaken. Rather than simply label youth living in such communities as “at-risk” we need to change circumstances by investing in institutions and activities which promote positive youth development. As is widely known, many economically troubled communities are often plagued not only by high levels of community violence and crime but also under-resourced schools with inadequate facilities and high student-teacher ratios. Such deficits in neighborhood and institutional resources compromise collective efficacy, social cohesion, and informal social control to reduce violence at the individual and community levels (Sampson et al., 2002). The constellation of these factors contributes to high and unacceptable levels of violence exposure and low school engagement in these communities (Wilson, 1987).

One example of a community-level intervention which seeks to ameliorate many of these intersecting social problems such as community violence exposure, psychological problems and low school engagement among urban youth is the Harlem Children’s Zone. This one-of-a-kind program covers a 100-block area in central Harlem. It targets more than 7,400 youth (ages birth to 21 years) through education and other focused social service programming (e.g., parenting classes and support groups, charter schools, mentoring programs, tutoring, recreational and after-school programs, job training, mental health counseling, etc.), which support positive youth development and school engagement within a concentrated geographical area (Speilman et al., 2006) and has spawned a number of similar programs throughout the county. While some may argue that the costs of such initiatives are too high, they pale in comparison to the more than \$158 billion the United States pays yearly in direct and indirect costs related to youth violence (WHO, 2004).

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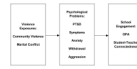
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**Figure 1.**  
Conceptual Diagram of Relationships Among Violence Exposure, Psychological Problem Behaviors, and School Engagement



**Table 1**  
Means for Violence Exposure, Psychological Problem Behaviors, and GPA by Gender

Variables	Total Sample		Females		Males	
	M	SD	M	SD	M	SD
Community Violence Exposure	11.64	8.27	9.53	7.35	14.98 <sup>***</sup>	8.56
Marital Conflict	6.62	4.81	6.66	4.82	6.56	4.82
PTSD Symptoms	10.46	7.29	11.35 <sup>***</sup>	7.47	9.10	6.81
Withdrawal/Depression	2.99	2.71	3.33 <sup>***</sup>	2.79	2.46	2.47
Anxiety/Depression	3.94	3.54	4.81 <sup>***</sup>	3.57	2.57	3.02
Aggressive Behavior	7.16	4.58	7.81 <sup>***</sup>	4.56	6.13	4.43
Core GPA	2.02	.95	2.24 <sup>***</sup>	.91	1.69	.92
Student-Teacher Connectedness	33.90	6.03	33.64	5.18	33.83	5.16

Note.  $N = 217$  males;  $N = 344$  females. The difference between means by gender was estimated using independent sample  $t$ -tests. PTSD = Posttraumatic Stress Disorder; GPA = Grade Point Average.

\*\*\*  
 $p < .001$

**Table 2**

Correlations Among Observed Variables

Variables	1	2	4	5	6	7	8	9
1. Community Violence	1.00	-.10	.21***	.21***	.14*	.28***	-.10*	-.11
2. Moderate Marital Conflict	-.03	1.00	-.15**	-.09	-.09	-.10	-.01	.02
3. High Marital Conflict	.10	-.63***	.33***	.20***	.13*	.19***	.02	-.12*
4. YSR Aggression	.38***	.02	1.00	.34***	.23***	.38***	-.14*	-.23***
5. YSR Depression	.19*	.11	.46***	1.00	.58***	.57***	.13*	-.16**
6. YSR Withdrawal	.23**	-.01	.35***	.60***	1.00	.44***	.04	-.03
7. PTSD	.25**	.06	.39***	.54***	.44***	1.00	-.04	-.06
8. Core Subjects GPA	-.06	-.10	-.08	-.01	-.04	-.14	1.00	-.06
9. Student-Teacher Connectedness	-.12*	.03	-.17*	-.13*	-.20**	-.14*	.09	1.00

Note. *N* = 219 males; *N* = 344 females. Correlations were estimated using full information maximum likelihood in *Mplus 4* with significance levels determined via the bias-corrected bootstrap with 5,000 replicate samples. Males' correlations appear below the main diagonal; females' correlations appear above the main diagonal. YSR= Youth Self Report; PTSD= Posttraumatic Stress Disorder; GPA=Grade Point Average.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

**Table 3**

Direct Effects From Structural Equation Model for Males (N = 219)

Dependent Variable	Independent Variable	B	95% CI	$\beta$
PTSD	Moderate Marital Conflict	.04	-2.33, 2.26	0.01
	High Marital Conflict	-1.48	-3.98, 0.77	-0.11
	Community Violence Exposure	<b>0.19</b>	<b>0.09, 0.30</b>	<b>0.26</b>
YSR Withdrawal	Moderate Marital Conflict	0.33	-0.57, 1.12	0.07
	High Marital Conflict	0.50	-0.47, 0.06	0.10
	Community Violence Exposure	<b>0.06</b>	<b>0.02, 0.10</b>	<b>0.22</b>
YSR Anxiety/Depression	Moderate Marital Conflict	0.84	-0.14, 1.76	0.14
	High Marital Conflict	0.28	-0.72, 1.30	0.04
	Community Violence Exposure	<b>0.07</b>	<b>0.01, 0.13</b>	<b>0.19</b>
YSR Aggressive Behavior	Moderate Marital Conflict	<b>1.41</b>	<b>0.11, 2.76</b>	<b>0.16</b>
	High Marital Conflict	<b>1.85</b>	<b>0.43, 3.20</b>	<b>0.20</b>
	Community Violence Exposure	<b>0.19</b>	<b>0.12, 0.27</b>	<b>0.37</b>
Student-Teacher Connectedness	PTSD	-0.01	-0.04, 0.02	-0.06
	YSR Withdrawal	-0.06	-0.13, 0.02	-0.14
	YSR Anxiety/Depression	0.01	-0.05, 0.07	0.03
	YSR Aggressive Behavior	-0.02	-0.06, 0.02	-0.08
	Moderate Marital Conflict	-0.10	-0.45, 0.28	-0.05
	High Marital Conflict	-0.26	-0.64, 0.13	-0.12
	Community Violence Exposure	-0.01	-0.02, 0.01	-0.04
GPA	PTSD	-0.02	-0.05, 0.01	-0.15
	YSR Withdrawal	-0.01	-0.08, 0.06	-0.02
	YSR Anxiety/Depression	0.05	-0.02, 0.12	0.14
	YSR Aggressive Behavior	-0.02	-0.06, 0.02	-0.09
	Moderate Marital Conflict	-0.06	-0.40, 0.30	-0.03
	High Marital Conflict	0.27	-0.11, 0.66	0.13
	Community Violence Exposure	-0.01	-0.02, 0.02	-0.02

Note. CI = confidence interval. Confidence intervals are based on the bias-corrected bootstrap with 5,000 bootstrap samples. Boldfaced entries indicate confidence intervals that do not include zero and are statistically significant at  $p < .05$ . GPA=Grade Point Average. YSR=Youth Self Report.

**Table 4**

Direct Effects From Structural Equation Model for Females (N = 344)

Dependent Variable	Independent Variable	B	95% CI	$\beta$
PTSD				
	Moderate Marital Conflict	1.08	-0.63, 2.84	0.08
	High Marital Conflict	<b>3.17</b>	<b>1.17, 5.08</b>	<b>0.22</b>
	Community Violence Exposure	<b>0.25</b>	<b>0.12, 0.38</b>	<b>0.26</b>
YSR Withdrawal				
	Moderate Marital Conflict	0.02	-0.85, 0.84	0.01
	High Marital Conflict	0.67	-0.25, 1.52	0.11
	Community Violence Exposure	<b>0.05</b>	<b>0.01, 0.10</b>	<b>0.13</b>
YSR Anxiety/Depression				
	Moderate Marital Conflict	0.79	-0.26, 1.72	0.11
	High Marital Conflict	<b>1.91</b>	<b>0.76, 3.00</b>	<b>0.25</b>
	Community Violence Exposure	<b>0.10</b>	<b>0.04, 0.16</b>	<b>0.20</b>
YSR Aggressive Behavior				
	Moderate Marital Conflict	<b>1.41</b>	<b>0.23, 2.56</b>	<b>0.15</b>
	High Marital Conflict	<b>3.95</b>	<b>2.67, 5.23</b>	<b>0.41</b>
	Community Violence Exposure	<b>0.11</b>	<b>0.05, 0.19</b>	<b>0.18</b>
Student-Teacher Connectedness				
	PTSD	0.01	-0.02, 0.03	0.03
	YSR Withdrawal	0.04	-0.01, 0.08	0.10
	YSR Anxiety/Depression	- <b>0.04</b>	- <b>0.08, -0.01</b>	- <b>0.15</b>
	YSR Aggressive Behavior	- <b>0.04</b>	- <b>0.07, -0.01</b>	- <b>0.17</b>
	Moderate Marital Conflict	-0.17	-0.46, 0.11	-0.08
	High Marital Conflict	-0.22	-0.54, 0.08	-0.11
	Community Violence Exposure	-0.01	-0.03, 0.01	-0.06
GPA				
	PTSD	-0.01	-0.03, 0.01	-0.09
	YSR Withdrawal	-0.01	-0.06, 0.04	-0.03
	YSR Anxiety/Depression	<b>0.08</b>	<b>0.03, 0.12</b>	<b>0.28</b>
	YSR Aggressive Behavior	- <b>0.04</b>	- <b>0.07, -0.01</b>	- <b>0.19</b>
	Moderate Marital Conflict	-0.01	-0.32, 0.30	-0.01
	High Marital Conflict	0.11	-0.23, 0.43	0.05
	Community Violence Exposure	-0.01	-0.03, 0.02	-0.10

Note. CI = confidence interval. Confidence intervals are based on the bias-corrected bootstrap from 5,000 bootstrap samples. Boldfaced entries indicate confidence intervals that do not include zero and are statistically significant at  $p < .05$ . PTSD= Posttraumatic Stress Disorder. YSR=Youth Self Report.