

EXPOSURE TO VIOLENCE AND SOCIOEMOTIONAL ADJUSTMENT IN LOW-  
INCOME YOUTH: AN EXAMINATION OF PROTECTIVE FACTORS

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A dissertation submitted to the faculty of the University of North Carolina at Chapel Hill in  
partial fulfillment of the requirements for the degree of Doctor of Philosophy in the  
Department of Psychology (Developmental Psychology)

Chapel Hill  
2009

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## **ABSTRACT**

**CECILY R. HARDAWAY: Exposure to Violence and Socioemotional Adjustment in Low-Income Youth: An Examination of Protective Factors**  
(Under the direction of Vonnie C. McLoyd, Ph.D.)

This study investigated the potential moderating effect of participation in extracurricular activities, school climate, positive parent-child relations, and family routines on the relation between exposure to violence (i.e., witnessing violence and violent victimization) and adolescent socioemotional adjustment (i.e., internalizing and externalizing problems) in low-income youth. Exposure to violence was related to both internalizing and externalizing problems among girls but only externalizing problems among boys. There was a stronger relation between exposure to violence and externalizing problems for older adolescents compared to younger adolescents. Participation in activities moderated the association between exposure to violence and externalizing problems, such that the relation between exposure to violence and externalizing problems was weakest at high levels of participation in activities. School climate moderated the relation between exposure to violence and externalizing problems among boys. Specifically, the association between exposure to violence and externalizing problems was weakest for boys with high positive perceptions of school climate. Contrary to prediction, family routines and positive parent-child relations did not moderate associations between exposure to violence and socioemotional adjustment. Further, none of the hypothesized protective factors moderated the association between exposure to violence and internalizing problems.

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## **CHAPTER 1**

### **INTRODUCTION**

Low-income, minority adolescents face an elevated risk of experiencing community violence as witnesses and victims (O'Donnell, Schwab-Stone, & Muyeed, 2002; Pearce, Jones, Schwab-Stone, & Ruchkin, 2003; Voisin, 2007). These traumatic experiences have been connected to both short- and long-term psychological and behavioral consequences, including depression, posttraumatic stress disorder, and delinquency (Overstreet & Mazza, 2003). Adolescents who witness or are victimized by community violence are also more likely to perpetuate violence against others (Halliday-Boykins & Graham, 2001). Although numerous studies have documented associations between exposure to violence and youth socioemotional adjustment problems, less attention has been paid to family and extrafamilial resources that may mitigate the psychological and behavioral consequences of exposure to violence.

The study was designed to address this gap in the literature. The main goal of this study was to identify factors that moderate the relation between exposure to community violence and youth outcomes. More specifically, this study had four specific aims: (1) to assess whether exposure to community violence (i.e., witnessing violence and violent victimization) is related to internalizing and externalizing behaviors in low-income adolescents; (2) to examine whether participation in extracurricular activities, school climate, positive parent-child relations, and family routines moderate the relation between exposure to community violence and adolescents' socioemotional adjustment; (3) to explore whether



these interactions varied by gender; and (4) to describe significant patterns of interactions between exposure to community violence and each potential moderating variable, using a risk and resilience framework.

In sections that follow, studies that have examined the relation between exposure to violence and child and adolescent socioemotional adjustment are reviewed and demographic characteristics that increase children's risk for exposure to violence are discussed. Next, the rationale for and utility of using a risk and resilience framework is explained. The section that follows provides background on each moderator to be tested and highlights evidence that suggests that each factor may modify the relation between exposure to violence and adolescent socioemotional adjustment. Next the data source, sample, and measures are described. This section is followed by a description of the analysis plan and presentation of results. The last section discusses the study findings, limitations of the study, and future directions for research.

#### Indicators of Socioemotional Adjustment Associated with Exposure to Violence

Children and adolescents in the United States experience violence as witnesses and victims at alarmingly high rates (Voisin, 2007). National statistics document the fact that adolescents and young adults are victimized by violence more than any other age group (Ozer, Richards, & Kliwer, 2004), and numerous studies indicate that substantial numbers of adolescents have witnessed serious acts of violence (Boyd, Cooley, Lambert, & Ialongo, 2003; Ceballo, Dahl, Aretakis, & Ramirez, 2001; Ceballo, Ramirez, Hearn, & Maltese, 2003; Lambert, Ialongo, Boyd, & Cooley, 2005; Pearce et al., 2003). All available evidence suggests that community violence poses a serious threat to the health and wellbeing of youth. Exposure to violence is associated with depression, anxiety, posttraumatic stress disorder,

substance use, conduct problems, violent behavior, and delinquency (Aceves & Cookston, 2007; Buka, Stichick, Birdthistle, & Earls, 2001; Gorman-Smith, Henry, & Tolan, 2004; Halliday-Boykins & Graham, 2001; Mazza & Overstreet, 2000; Overstreet & Mazza, 2003; Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003; Voisin, 2007).

An association between exposure to community violence and child and adolescent socioemotional adjustment remains even when other forms of violence (e.g., child maltreatment and domestic violence) or other stressors related to poverty are taken into account (Mazza & Overstreet, 2000; McCabe, Lucchini, Hough, Yeh, & Hazen, 2005; Overstreet & Mazza, 2003). The strength of the association between exposure to violence and psychological symptoms was documented in a meta-analysis by Wilson and Rosenthal (2003) that focused on 27 articles published from 1993 to 2001. The authors found that the weighted mean correlation (effect size) of the relationship between exposure to violence and psychological symptoms (e.g., psychological distress, anxiety, depression, PTSD, and internalizing symptoms) was .25, which is equal to about 6% of the variation in psychological symptoms in the samples included. Although a comparable meta-analysis examining exposure to violence in relation to externalizing problems has not been conducted, the findings from numerous studies have substantiated significant links (Brookmeyer, Henrich, & Schwab-Stone, 2005; Farver, Xu, Eppe, Fernandez, & Schwartz, 2005; McCabe et al., 2005; Ng-Mak, Salzinger, Feldman, & Stueve, 2004; Schwartz & Proctor, 2000).

Recent work has pointed to some of the possible mechanisms underlying the association between exposure to violence and youth outcomes. Exposure to violence may be indirectly related to externalizing problems, particularly aggression and violence commission, through emotion regulation, aggressive social cognitive biases, and normative

believes about violence (Guerra, Huesmann, & Spindler, 2003; Margolin & Gordis, 2004; Schwartz & Proctor, 2000). From a social learning theory perspective, children exposed to violence may come to perceive violence as a normal or appropriate way of handling conflict. There is also evidence that youth in dangerous neighborhoods may not trust adults to protect them and may use violence as a way of protecting themselves and significant others (Temple, 2000). Variants of stress and coping theories have primarily been used to explain the relation between exposure to violence and psychological symptoms. Studies have suggested that exposure to violence may diminish children's feelings of safety and security and may increase negative coping (e.g., ignoring the problem or screaming and yelling) which is related to poor psychological outcomes (Dempsey, 2002; Kliwer et al., 2006; Kliwer, Sandler, Wolchik, Nestmann, & Hurrelmann, 1994).

#### Demographic Risk Factors for Exposure to Community Violence

##### *Low-Income and Ethnic Minority Status*

Certain subgroups of children and adolescents have been identified as being particularly at-risk for exposure to violence. African American children and children living in poor communities face the highest risk (O'Donnell et al., 2002; Pearce et al., 2003; Voisin, 2007). A nationally representative survey found that adolescents from low-income families witnessed the most violence overall and that African American and Latino adolescents from upper, middle, and low-income families reported witnessing more violence than European American adolescents at all income levels. For Whites, reports of witnessing violence decreased as income increased, however, the same was not true for Black adolescents (Crouch, Hanson, Saunders, Kilpatrick, & Resnick, 2000). This finding likely is due to the fact middle-income Blacks, much more than middle-income Whites, tend to live in or in

close proximity to neighborhoods that have high rates of poverty and other associated problems (Adelman, 2004; Pattillo-McCoy, 1999).

### *Age*

Definitive conclusions about age related patterns in exposure to violence are difficult to determine given inconsistent findings and variations in the age ranges examined (Buka et al., 2001; Stein et al., 2003). Although some studies have documented high levels of violence exposure among young children (Bailey, Hannigan, Delaney-Black, Covington, & Sokol, 2006; Ceballo et al., 2003; Krenichyn, Saegert, & Evans, 2001; Linares et al., 2001; Ratner et al., 2006; Schwartz & Gorman, 2003; Schwartz & Proctor, 2000), it appears that violence exposure increases with age (Dempsey, 2002; Henrich, Brookmeyer, & Shahar, 2005; Howard, Feigelman, Li, Cross, & Rachuba, 2002; Overstreet, Dempsey, Graham, & Moely, 1999; Weist, Acosta, & Youngstrom, 2001). Other studies, however, have found that exposure to community violence decreases with age or have found no age differences or correlations between age and exposure to violence (Farver et al., 2005; Guerra, Huesmann, & Spindler, 2003; Lynch & Cicchetti, 2002; Perez-Smith, Albus, & Weist, 2001; Stein et al., 2003). A meta-analysis of studies focusing on adolescents did, however, provide some evidence that the relation between exposure to violence and internalizing psychological symptoms does not differ depending on the age of the sample (Wilson & Rosenthal, 2003). Whether the same is true when the age range in question encompasses childhood through mid to late adolescence or for the relation between exposure to violence and externalizing symptoms is not known.

### *Gender*

One consistent finding is that boys are more likely to be exposed to violence than girls (Ceballo et al., 2001; Li, Nussbaum, & Richards, 2007; O'Donnell et al., 2002; Pearce et al., 2003; Perez-Smith et al., 2001; Stein et al., 2003; Weist et al., 2001). A qualitative study of 28 children ages 8 to 17 found that girls were more likely to stay home in the face of community violence and that boys were more likely to try to find ways to deal with the dangers in the community (i.e., befriending drug dealers), instead of staying home. Parents were more likely to develop ground rules for their boys to follow while they were out in the neighborhood, instead of strictly prohibiting them to be out-and-about in the neighborhood in the same way they prohibited their girls (Horowitz, McKay, & Marshall, 2005). Parental monitoring is related to less exposure to violence for children, and parents tend to monitor girls more stringently than boys (Lambert et al., 2005). There is also some evidence that boys have a greater affinity for their neighborhoods. A study of 167 inner-city adolescents ages 14 to 17 found that boys reported higher levels of affiliation or attachment to their neighborhoods and that neighborhood affiliation was related to exposure to violence at the trend level. Thus, strong attachments to impoverished, dangerous neighborhoods could potentially place adolescents at risk for exposure to violence (Perez-Smith et al., 2001). Males may also spend more time than girls in risky settings where violence is likely to erupt or they may be more likely to engage in risk-taking behaviors that have the potential to expose them to violence (Albus, Weist, & Perez-Smith, 2004).

Beyond differences in levels of exposure to violence, other gender differences related to exposure to violence have not been well researched. Very few studies have focused on potential differences in how males and females may respond to community violence. A notable exception, Foster and colleagues' (2004) study of adolescents ages 11-16 found a

stronger association between witnessing community violence and symptoms of depression and anxiety for girls than boys. No gender differences were found in the association between violent victimization and psychological symptoms. Moreover, for girls, witnessing violence and violent victimization had comparable associations with psychological symptoms. For boys, however, violent victimization was more strongly related to psychological symptoms than witnessing violence (Foster, Kuperminc, & Price, 2004).

Numerous other factors place children at increased risk for exposure to violence, including prior behavioral problems, involvement in delinquency, and association with deviant peers (Guerra et al., 2003; Halliday-Boykins & Graham, 2001; Lambert et al., 2005; O'Donnell et al., 2002; Salzinger, Ng-Mak, Feldman, Kam, & Rosario, 2006). Relevant research points to a bidirectional relationship between exposure to violence and behavior problems. Externalizing problems, and in some cases internalizing problems, appear to be both antecedents and consequences of exposure to violence (Lynch, 2003; O'Donnell et al., 2002; Stein et al., 2003). Some researchers have pointed out that for some youth exposure to violence is a result of involvement in violence or a violent lifestyle (Halliday-Boykins & Graham, 2001; Nofziger & Kurtz, 2005).

To date, most research on exposure to violence has been conducted on community-based samples of youth, although some studies have focused on school-based samples (e.g. Perez-Smith et al., 2001), juvenile delinquents (e.g., Halliday-Boykins & Graham, 2001), or clinically referred youth (e.g., Weist et al., 2001). The vast majority of these studies use self-report questionnaires and have examined exposure to violence as reported by children and adolescents (Guterman, Cameron, & Staller, 2000). A small number of studies, however, primarily focusing on very young children, have included parent reports of exposure to

violence, sometimes in conjunction with child reports (e.g., Ceballo et al., 2001; Hill & Jones, 1997; Linares et al., 2001). These studies have assessed witnessing violence and violent victimization combined (e.g., Ozer & Weinstein, 2004; Salzinger, Ng-Mak, Feldman, Kam, & Rosario, 2006), focused on specifically on witnessing (e.g., Guerra et al., 2003; Sullivan, Kung, & Farrell, 2004) or victimization (e.g., Aceves & Cookston, 2007; Schwartz & Gorman, 2003), or examined both witnessing and victimization separately in the same study (e.g., Ceballo et al., 2001; Lynch & Cicchetti, 2002; O'Donnell et al., 2002). The timeframe in which violence exposure that has occurred is assessed varies from study to study. Most studies assess lifetime exposure to violence or violence experienced in the past 6 months or year (Brandt, Ward, Dawes, & Flisher, 2005).

#### Risk and Resilience

The tendency of most studies to find low to medium effect sizes for the relation between exposure to violence and psychological/behavioral outcomes points to the need to examine factors that account for individual differences (Wilson & Rosenthal, 2003). Specifically, we need to understand better protective factors that underlie variation in psychological and behavioral problems for youth exposed to violence. Protective factors are “resources available to a child that either shield him or her from the stressor itself, that facilitate sustained adaptation despite exposure to the stressor, or that promote recovery from the stressor” (p. 73) (Margolin, 2005).

The present study examines extracurricular activities, school climate, positive parent-child relations, and family routines as factors that may mitigate risks associated with community violence exposure. Prior research has shown that some of these potential moderators buffer youth from the negative consequences of other risk factors; however there

is little evidence as to whether these factors mitigate the consequences of exposure to community violence in particular. Examining factors that moderate the link between exposure to violence and adolescents' socioemotional adjustment will help to identify adolescents most at risk for psychosocial problems and to determine protective factors that can inform interventions. Identifying moderating variables is important for both preventing negative psychosocial outcomes and stemming the cycle of violence.

The present study draws on the risk and resilience framework proffered by Luthar and colleagues to better understand the nature of interactions between exposure to violence and potential moderators (Luthar, Cicchetti, & Becker, 2000). Luthar and colleagues discuss several different patterns of interactions, including the *protective-stabilizing* and *overwhelming risk* patterns depicted in Figure 1 (Luthar et al., 2000). The *protective-stabilizing* interaction describes a pattern in which symptoms do not increase with increasing levels of risk due to the presence of a particular protective factor. That is, a buffering effect is present at both high and low levels of risk that weakens the relation between a risk factor and symptoms. In contrast, in an *protective-reactive* interaction, the moderating variable buffers against symptoms at low levels of risk but less so or not at all at high levels of risk. Thus, symptoms increase as risk increases, even when a particular factor presumed to be protective is present. Li, Nussbaum, and Richard (2007) renamed the *protective-reactive* pattern of interaction, described by Luthar and colleagues (2000), *overwhelming-risk* in order to make clear that protective factors can be overwhelmed under circumstances of high risk. Luthar et al. (2000) described several other possible patterns of interaction that are not hypothesized in this study. While promotive/protective factors (main effects) have been widely observed in the literature on exposure to violence and the literature on adolescents more broadly, this



study specifically predicted interactions between exposure to violence and the hypothesized moderators. Further, given that this study focused specifically on protection, patterns of interaction that increased vulnerability or showed that risk enhanced well being were not hypothesized.

### Hypothesized Moderators of Exposure to Violence

#### *Extracurricular Activities*

To date, no studies have examined whether participation in extracurricular activities moderates the relation between exposure to violence and adolescents' socioemotional adjustment. However, some studies offer evidence that structured activities provide a protective context for youth at risk for violence exposure. For example, one study found that children who participated in structured activities were less exposed to violence and that exposure to violence partially mediated the relation between time spent in risky and protective contexts and psychological outcomes (Hammack, Richards, Luo, Edlynn, & Roy, 2004). Other studies suggest that community involvement may help adolescents process and cope with violence. Using a sample of African American adolescents, Yakin and McMahon (2003) found that community support (i.e., church attendance, participation in community-related activities, and felt support from the community) was positively associated with adaptive appraisals of community violence (i.e., less concern about violence, a greater sense of control over violence, and feeling that violence was more predictable). Youth who had more adaptive appraisals of violence were less likely to report anxiety and depression than youth who did not.

Although no studies have directly assessed involvement in extracurricular activities as a buffer against socioemotional problems associated with exposure to violence, several

studies have linked involvement in extracurricular activities to positive educational, psychological, and behavioral outcomes (Barber, Eccles, & Stone, 2001; Fredricks & Eccles, 2006; Mahoney, 2000; Mahoney, Cairns, & Farmer, 2003; Mahoney & Cairns, 1997; Marsh & Kleitman, 2002). Also, a few studies have found that low-income and “at-risk” adolescents may benefit more from extracurricular activities, in terms of academic achievement, than other adolescents (Mahoney, 2000; Mahoney et al., 2003; Mahoney & Cairns, 1997; Marsh, 1992; Marsh & Kleitman, 2002).

Several processes may underlie the link between involvement in extracurricular activities and positive adolescent development. For example, engagement in extracurricular activities may promote interpersonal competence and raise educational expectations (Mahoney et al., 2003). Adolescents who participate in extracurricular activities may also develop a sense of initiative, associate with more academically oriented peers, and build valuable social and cultural capital (Charles, Roscigno, & Torres, 2007; Feldman & Matjasko, 2005; Jarrett, Sullivan, & Watkins, 2005; R. W. Larson, 2000; Roscigno & Ainsworth-Darnell, 1999). Extracurricular activities can also be viewed as contexts that provide adolescents opportunities to develop social bonds (Hirschi, 1971; Wong, 2005). Involvement in family and school activities may strengthen social bonds and reduce the likelihood of delinquency (Wong, 2005).

Taken together, the existing literature provides some evidence that extracurricular activities may act as a buffer against socioemotional adjustment problems in the context of exposure to violence. Extracurricular activities may provide protective contexts for youth (Hammack, Richards, Luo, Edlynn, & Roy, 2004) that help youth cope with their experiences (Yakin & McMahon, 2003) and build supportive, mentoring relationships with coaches,

instructors, or other activity leaders. Mahoney, Schweder, and Stattin (2002) found that support from activity leaders acted as a moderator of depressed mood for adolescents who had detached relationships with their parents. Adolescents exposed to violence may especially benefit from being able to share their experiences with caring adults. Further, some of the aforementioned processes that underlie associations between involvement in extracurricular activities (e.g., peer relationships, social and cultural capital and social bonds) and positive adolescent development may also help explain why extracurricular activities may act as moderator. Although work on extracurricular activities has focused more heavily on main effects of participation than it has on participation in extracurricular activities as a moderator, studies have demonstrated that participation in activities helps buffer adolescents against adjustment problems in the context of other stressors (Darling, 2005; Mahoney, 2000; Mahoney, Schweder, & Stattin, 2002). The results from these studies combined helps build the case for investigating whether participation in extracurricular activities acts as a *protective-stabilizing* moderator for adolescents exposed to violence.

### *School Climate*

Adolescents spend a substantial amount of their time in school. Thus, school climate likely has the potential to influence students' emotions and behaviors. Some aspects of school climate that have been considered in empirical research include teacher-student relationships, relationships among students, school rules, and school safety. Thus far studies have shown a positive association between school climate and adolescent socioemotional adjustment (Brand, Felner, Shim, Seitsinger, & Dumas, 2003; Kuperminc et al., 1997; Roeser & Eccles, 1998; Roeser, Eccles, & Sameroff, 1998). For example, Way, Reddy, and Rhodes (2007) used three waves of longitudinal data to examine four dimensions of school climate

(i.e., teacher support, peer support, student autonomy, and clarity and consistency in school rules and regulations). Their study revealed overall declines in perceptions of school climate and socioemotional adjustment over time. They also found that, over time, a worsening of school climate was related to diminished socioemotional adjustment for adolescents. The authors conducted additional analysis that confirmed that the direction of effects was consistent with a unidirectional relationship from school climate to socioemotional adjustment and not vice versa. Others have found that a positive school climate is related to increases in self-esteem, a sense of belonging, and fewer depressive symptoms longitudinally, above and beyond support from friends and family (LaRusso, Romer, & Selman, 2008; Way & Robinson, 2003). Further, feelings of school safety have been found to be related to higher attendance, better academic achievement, and fewer behavior problems (Bowen & Bowen, 1999; Ratner et al., 2006).

A small number of studies have examined school characteristics as potential moderators of the link between exposure to violence and violent behavior. Using data from the National Longitudinal Study of Adolescent Health (Add Health), one study found that school connectedness was negatively associated with committing violence, but that school connectedness did not moderate the link between exposure to violence and violence commission (Henrich et al., 2005). Another study that used the Add Health data set found that when school connectedness was high, parent connectedness moderated the link between exposure to violence and violent behavior. This same study also found that students who reported having a better school climate and being more connected to school committed less violence. In both studies, school climate appeared to have a main effect on violence commission; however, the findings from the second study suggest that school climate in

conjunction with parent connectedness, not school climate alone, acts as a buffer against violence commission (Brookmeyer, Fanti, & Henrich, 2006).

School support (i.e., attachment to school, teacher support, and academic motivation) appears to act as a protective factor for youth who have witnessed and experienced violence, buffering them from various negative outcomes, including substance abuse and school misconduct (O'Donnell et al., 2002). Teacher helpfulness has also been shown to moderate the relation between exposure to violence and adaptive functioning, such that students who report higher levels of teacher helpfulness demonstrate increases in adaptive functioning with increases in exposure to violence. Students who report feeling safer at school have better adaptive functioning as they experience more violence outside of school; the opposite is true for those who report feeling less safe at school (Ozer & Weinstein, 2004). Both studies finding main effects of school climate on socioemotional adjustment and studies that have examined school climate as a moderator provide a basis for investigating whether school climate moderates relations between exposure to violence and adolescent socioemotional adjustment. Factors such as teacher support, school safety, and positive peer relationships may act independently or synergistically to help protect adolescents exposed to violence from socioemotional adjustment problems by providing adolescents with a safe haven and avenues for communication and help.

#### *Parent-Adolescent Relations*

A large body of research suggests that high quality parent-adolescent relationships help protect adolescents against socioemotional adjustment problems, including delinquency, substance abuse, and depression (Aseltine, Gore, & Colten, 1998; Conger, Ge, Elder, & Lorenz, 1994; Steinberg, 2001). This link has been substantiated by studies using a variety of

cross-sectional and longitudinal designs and focusing on various aspects of the parent-adolescent relationship, including warmth, support, closeness, conflict, and communication (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). Positive parent-adolescent relationships can help create an “emotional climate” that promotes better mental health, behavior, and academic achievement (Steinberg, 2001). Positive relationships with parents have been shown to be positively related to socioemotional adjustment indirectly through adolescents’ self-esteem (Barber, Hall, & Armistead, 2003) and their ability to self-regulate (Brody, McBride Murry, Kim, & Brown, 2002). Family routines, parental monitoring, and parental supportiveness have also been found to mediate the link between the quality of the parent-child relationship and adolescent socioemotional adjustment (Hair, Moore, Garrett, Ling, & Cleveland, 2008).

In addition to work focusing on direct and indirect associations between the parent-child relationship and adolescent psychosocial adjustment, the parent-child relationship has also been studied as a potential protective factor for adolescents exposed to risk. Indeed, family-level variables have been explored more thoroughly than individual- or extrafamilial-variables as factors that can potentially moderate the relation between exposure to violence and child adjustment. High quality parent-adolescent relationships appear to be protective for some adolescents experiencing cumulative risks or living in dangerous, high poverty neighborhoods (Dearing, 2004; Forehand, Wierson, Thomas, & Armistead, 1991; Loukas & Prelow, 2004). Several investigations have also focused specifically on parent-adolescent relations as potential moderators of the link between exposure to violence and various adolescent outcomes. Some of these studies have found that family functioning weakens the relation of exposure to violence to aggression and violent behavior, internalizing problems,

and low social competence (Aceves & Cookston, 2007; Bailey et al., 2006; Brookmeyer et al., 2005; Gorman-Smith et al., 2004; Krenichyn et al., 2001; Proctor, 2006).

Although we know that the parent-adolescent relationship can act as a *protective-stabilizing* moderator under some circumstances, we know less about why this is the case. Some evidence suggests that parents' early socialization can help shape children's reactions to adverse events or that parents can help children cope once adverse events have occurred (Aceves & Cookston, 2007). Kliwer, Sandler, and Wolchik (1994) posit that the family context influences the way children assess and respond to threats in the environment and that threat appraisals act as mediators between stress and child adjustment. They suggest that the family context can help build children's capacity to cope with stress and to appraise it in ways that are most adaptive.

One way parents shape the family environment is by fostering positive relationships with their children. Children coping with stress in the context of positive parent-child relations may appraise threats as less dangerous and fare better than children in families with less positive family relations. Children who have positive relations with a parent may also feel like they have the support necessary to cope with a particular stressor (Kliwer, Sandler, Wolchik, Nestmann, & Hurrelmann, 1994). Corroborating research has shown that children who have more adaptive appraisals of violence (i.e., they are less concerned about violence, feel like they have more control over violence, and that violence is more predictable) tend to have lower levels of anxiety and depression (Yakin & McMahon, 2003).

Although some studies have found that positive family characteristics interact with exposure to violence in a *protective-stabilizing* manner, other studies have found that positive family characteristics that may be protective at low levels of exposure to violence do not

protect against psychological or behavioral problems at high levels of exposure to violence, consistent with an *overwhelming-risk* pattern of interaction. The *protective-stabilizing* pattern of moderation appears to be predominant, but a number of studies have found *overwhelming-risk* patterns (Li et al., 2007; Luthar et al., 2000; Proctor, 2006). Studies with findings in this vein indicate for example, that (a) family support buffers children from substance use initiation at low levels of witnessing violence but not at high levels of witnessing violence (Sullivan, Kung, & Farrell, 2004), (b) high levels of family support only act as a buffer against internalizing problems when exposure to violence is low (Li et al., 2007), (c) internalizing symptoms increase as exposure to violence increases for children with high maternal acceptance (Kliewer et al., 2004), (d) high social support and spending time with family is not protective against anxiety and depression for girls who witnessed or experienced high levels of violence (Hammack et al., 2004), and (f) low levels of parent-child conflict does not protect adolescents from antisocial behavior when levels of exposure to community violence are high (Miller, Wasserman, Neugebauer, Gorman-Smith, & Kamboukos, 1999).

Several explanations for these findings are possible. First, consistent with an *overwhelming-risk* perspective, the benefits of positive parent-child relationships may be overwhelmed in the context of extremely high risk (Li et al., 2007; Luthar et al., 2000). Under these circumstances, children may need an accumulation of protective factors, rather than a single protective factor, to outweigh the risks associated with high levels exposure to violence (Mazza & Overstreet, 2000). Second, children exposed to high levels of violence likely face an accumulation of stressors that affect the entire family and impinge on parents' ability to provide support for their children (Aisenberg & Herrenkohl, 2008; Cicchetti &



Lynch, 1993; Garbarino, 2001; Lynch, 2003). For example, Aisenberg and Herronkohl (2008) point out that the extent to which positive family functioning buffers children from the consequences of exposure to violence may depend on “the degree of strain and level of disadvantage in the broader community” (p.305). A study examining multiple risk (i.e., hassles, exposure to violence, and poverty) and protective factors (i.e., confidence, family support, and positive neighborhood) among African American youth ages 10 to 15 years found that only family-level protective factor interactions showed the *overwhelming-risk* pattern. The authors concluded that family protective factors can become overwhelmed in the context of neighborhood stressors (Li et al., 2007). Indeed, neighborhoods where children are regularly exposed to violence likely lack social control and cohesion which provide supportive contexts for both child development and parenting (Sampson, Morenoff, & Gannon-Rowley, 2002). Third, community violence may affect family relations or functioning in ways that limit the extent to which families can be protective (Mazza & Overstreet, 2000). Fourth, children who have more positive relations with parents may have less cumulative exposure to stressors and therefore may be less experienced or able to cope when stressful events occur. Children who have typically been shielded from stress may be more likely to react in maladaptive ways than children who have more experience dealing with stress (Kliewer et al., 1994). Fifth, studies have focused on different facets of the parent-child relationship and it may be that different aspects of family functioning have unique associations with child adjustment and may show unique patterns of interactions with exposure to violence.

In the current study, parent-adolescent relations are hypothesized as a *protective-stabilizing* moderator. The expectation is that high quality parent-adolescent relations will be

associated with positive outcomes for youth and that adolescents exposed to violence in the context of positive parent-adolescent relations will show fewer internalizing and externalizing problems because they feel supported by parents and have more adaptive appraisals of violence which enable them to cope more successfully than their peers who lack this positive family resource.

### *Family Routines*

Parents also shape the family context by creating and maintaining family routines. Children coping with stress in the context of positive parent-child relations and consistent and predictable family circumstances may appraise threats as less dangerous and fare better than children in families that are more disorganized or that have less positive family relations (Kliewer et al., 1994).

One aspect of family functioning that has yet to be explored as a potential moderator of the relation between exposure to violence and child socioemotional adjustment is the maintenance of family routines. Family routines are day-to-day patterns of operating and interacting that families develop around mealtimes, bedtimes, and chores. These types of routines can promote connectedness between family members and can provide children with a sense of order, predictability, and safety in the context of stressors (Boyce, Jensen, James, & Peacock, 1983; Howe, 2002; Steinglass, Bennett, Wolin, & Reiss, 1987). Although no studies have directly examined family routines as a potential buffer against the negative effects of exposure to violence, studies have shown that the existence or consistency of family routines can modify the strength of the relation between various risk factors and child socioemotional problems and that family routines have both direct and indirect effects on

children's socioemotional functioning (Brody & Flor, 1997; Loukas & Prelow, 2004; Prelow, Loukas, & Jordan-Green, 2007).

For example, in families with parental alcoholism, children are less likely to become alcoholics in adulthood when families are able to maintain consistent routines during childhood (Bennett, Wolin, Reiss, & Teitelbaum, 1987; Hawkins, 1997; Wolin, Bennett, & Noonan, 1979). Also adolescents living in stepfamilies that have regular routines report higher levels of satisfaction with family life (Henry & Lovelace, 1995). Further, research on children living in divorced families indicates that regular bedtimes are positively related to academic, social, and health outcomes (Guidubaldi, Cleminshaw, Perry, Nastasi, & Lightel, 1986).

A few studies have examined the significance of family routines for low-income children and adolescents. There is some evidence that decreases in family routines, associated with changes in parental employment status or hours, may lead to increases in child behavior problems for children living in families involved in work-based antipoverty programs (Yoshikawa, Magnuson, Bos, & Hsueh, 2003). A study that sampled 112 low-income, mostly African American early adolescents found that family routines moderated the relation between daily hassles and internalizing and externalizing problems, such that daily hassles were positively related to adjustment problems for adolescents with low but not high levels of family routines (Kliewer & Kung, 1998). Another study of low-income Latino adolescents ages 10-14 found that cumulative risk (i.e., single-parent family status, maternal distress, perceived financial strain, and neighborhood problems) was only associated with externalizing problems among girls in families with low levels of family routines. Family routines were also negatively related to internalizing problems among girls, and this

relationship did not vary significantly by risk (Loukas & Prelow, 2004). Another similar study found that family routines partially mediated the relation between socioenvironmental risk and social competence in a group of low-income Latino adolescents (Prelow et al., 2007).

Adolescents who report having regular family routines have better mental health and are less likely to engage in delinquency (Hair et al., 2008). Moreover, adolescents living in single parent homes with more family routines spend more time in constructive activities (i.e., reading, creative activities, religious activities, and sports) that are likely to foster positive development. This relation is stronger for older adolescents than younger adolescents, even though family routines tend to decline as children get older (Larson, Dworkin, & Gillman, 2001). Larson and colleagues (2001) suggest that family routines may be an indicator of how ordered families are and thus how capable families are at structuring their children's environment in ways that facilitate positive development. Family routines may help adolescents make the best use of their time by spending it in protective contexts that are likely to foster positive development, putting them less at risk for getting into trouble and providing contexts with emotional and instrumental support.

Other noteworthy research has shown that family routines are important in promoting child self-regulation. A study of rural African American children ages 6 to 9 living in single parent families found support for a model that suggested that family routines are associated with academic achievement and fewer socioemotional adjustment problems through the development of self-regulation. In essence, family routines may help children develop the capacity to self regulate, thereby increasing their academic achievement and promoting positive psychosocial adjustment (Brody & Flor, 1997).

Considered together, the literature on family routines suggests that family routines may moderate relations between exposure to violence and socioemotional adjustment problems through several different pathways. Adolescents who are exposed to violence and living in families with more predictable routines may feel less threatened by violence and may therefore be less likely to act out in response to it (Kliewer, 1994). Moreover family routines may facilitate positive development for youth exposed to violence by helping them make constructive use of their time and decreasing their potential for problem behaviors (Larson, Dworkin, & Gillman, 2000). Lastly high levels of family routines may act as a buffer for adolescents exposed to violence by helping them develop the skills necessary for self-regulation, decreasing the chance for socioemotional adjustment problems (Brody & Flor, 1997).

### Hypotheses

Based on the existing literature, exposure to violence was expected to be directly related to increases in youth internalizing and externalizing problems. High levels of participation in extracurricular activities, regular family routines, positive parent-child relations, and positive perceptions of school climate were expected to attenuate the relation between exposure to violence and poor socioemotional adjustment. Each protective factor was expected to show a *protective-stabilizing* pattern of interaction, mitigating the risks associated with exposure to violence. Gender differences in patterns of moderation were also examined. These analyses were viewed as exploratory because a paucity of research has addressed this issue; therefore predictions were not made about how these potential moderators might operate differently for boys and girls. Further, no hypotheses were made

regarding different interaction patterns for internalizing and externalizing problems, given the lack of theoretical or empirical basis for making such distinctions.

## **CHAPTER 2**

### **METHODS**

#### *Data Source*

This study uses data collected as a part of an evaluation of the New Hope Project. The New Hope program, run in two central city areas of Milwaukee, Wisconsin by a community-based organization, provided earnings supplements, child care subsidies, and health insurance subsidies to low-income individuals willing to work full-time. To be eligible for New Hope individuals had to be over 18, have income less than or equal to 150 percent of the federal poverty line, and be willing to work 30 hours per week. Earning supplements provided by New Hope, along with Earned Income Credits, were designed to raise the incomes of the participating families above the federal poverty line. Recruitment for New Hope ran from August 1994 to December 1995. The program operated until 1998 with individuals able to receive benefits for up to 3 years.

An independent evaluation of the New Hope Project was conducted two, five, and eight years after the program began. As a part of this evaluation, applicants were randomly assigned to a control group or an experimental group. Individuals in the experimental group had access to all of the benefits of the program but those in the control group did not. Six hundred seventy eight people were assigned to the experimental group and 679 were assigned to the control group, for a total of 1,357 participants (Poglinco, Brash, & Granger, 1998).

### *Sample and Procedures*

The families examined in the current study came from the Child and Family Study, (CFS), a smaller subsample of 745 individuals who had at least one child between the ages of 1 and 10 at random assignment (program group  $n = 366$ ; control group  $n = 379$ ). Up to two children meeting the age criteria were selected to participate in the study. Opposite sex siblings were selected in families with more than two children. This sample was extracted from the full sample because not all individuals who qualified for New Hope had children.

Of the original sample of 745 families, 576 primary caregivers participated in the study two years after random assignment, 564 participated in the five-year follow-up, and 597 participated in the eight-year follow-up. The original sample included 913 focal children. However, 335 children aged 3-5 were not interviewed at the two-year follow-up but were contacted for interviews at the five- and eight-year follow ups. The children interviewed were aged 6-12 at the two-year follow-up ( $N = 518$ ), 6-16 at the five-year follow-up ( $N = 840$ ), and 9-19 at the eight-year follow-up ( $N = 866$ ). At the eight-year follow-up, approximately equal numbers of girls and boys participated.

The current study focuses specifically on 333 primary caregivers with 390 adolescents (192 girls, 198 boys; 59% African American, 27% Latino, 11% European American, and 3% American Indian) between the ages of 13 and 17 at the eight-year follow-up. The mean adolescent age at the eight-year follow-up was 14.92 years. Three-hundred-twenty-six of these adolescents also participated at the five-year follow-up. Questions about exposure to violence were only asked of children 12 years of age and older, and 12 year olds had very low rates of exposure to violence, so 12 year olds were not included in these analyses. Further, in order to ensure that most of the adolescents would still be in school, the



maximum age for inclusion was set at 17. Table 1 presents information on the demographic characteristics of sample parents.

Parents and children were interviewed individually at home by trained interviewers for each wave of the study. Other information came from records of public assistance or employment and enrollment forms respondents completed when they applied for the program. Teachers were mailed surveys that they completed and returned. Teachers provided survey information for 191 (five-year follow-up) and 224 (eight-year follow-up) focal children included in the current study.

### *Measures*

Table 2 provides a summary of each of the measures used in the present study. This table includes details about which respondent completed each measure and specifies the time point that each measure was completed. Appendix A contains a list of the items used to compute each variable. Data for this study come from two time points. The outcome and moderator variables come from the eight-year follow-up and the control variables come from the five-year follow-up.

### *Independent Variable*

#### *Exposure to violence*

Adolescents reported on their exposure to violence at the eight-year follow-up. Five items from the National Longitudinal Study of Adolescent Health were used to assess exposure to violence. Participants indicated on a 3-point scale (0 = never, 1 = once, 2 = more than once) how often they had experienced different forms of violence during the past 12 months. The sum of the five items was used as the final score ( $\alpha = .50$ ). High scores represented more frequent exposure to violence and low scores represented less frequent

exposure to violence. Of respondents, 19.0% reported seeing someone shoot or stab another person, 16.4% reported being jumped, 12.7% reported having a knife or gun pulled on them, 4.0% reported being cut or stabbed, and .6% reported being shot. About 35% of youth (40.2% of boys and 29.8% of girls) reported being exposed to one or more forms of violence. The majority of adolescents in this sample were not exposed to violence, thus this variable was positively skewed. Maximum likelihood estimation, used in this study, helps ensure the robustness of the parameter estimates in cases where the independent variable has a non-normal distribution (Bollen, 1989).

### *Dependent Variables*

The dependent variables used in this study are latent constructs. Confirmatory factor analyses supported the factor structure for each latent construct. The specifics of the confirmatory factor analyses are presented in a subsequent section.

### *Internalizing Problems*

The latent construct internalizing problems consists of three indicators: youth internalizing problems as reported by adolescents' parents and teachers, and manifest anxiety as reported by the adolescent. Teacher-reports of internalizing problems were assessed at both the five-year and the eight-year follow-ups. Five-year teacher-reported internalizing problems was used as a control variable. Eight-year reports were used as indicators for the latent construct internalizing problems.

*Parent and teacher reports of internalizing problems.* At the five-year and eight-year follow-ups, children's internalizing problems were measured using the Problem Behaviors Scale from the Social Skills Rating System (Gresham & Elliott, 1990). Parents and teachers responded to a series of statements on a 5-point response scale (0 = never, 3 = sometimes, 5

= all of the time) regarding how often the child or adolescents acted in a specific manner. Specifically, parents and teachers reported how often each child “has low self-esteem,” “appears lonely,” “shows anxiety in groups,” “is easily embarrassed,” “likes to be alone,” and “acts sad or depressed.” The mean of the five items was used as the final score for both teacher and parent reports. Higher scores represented higher levels of internalizing problems. For parents,  $\alpha = .67$  at the eight-year follow-ups. For teachers,  $\alpha = .79$  and  $\alpha = .83$  at the five-year and eight-year follow-ups, respectively.

*Manifest anxiety.* The Manifest Anxiety Scale was used to measure anxiety (Reynolds & Richmond, 1985). Children responded to 13 questions on a 5-point response scale (1 = never true; 5 = always true) at the eight-year follow-up. The mean for the scale was used; higher scores represented higher levels of anxiety. The alpha for the total scale was .85. As can be seen in Table 6, correlations among indicators of internalizing problems were low (correlations ranged from .07 to .27), suggesting that youth behavior may vary depending on context or that reporters may have different biases (Huston et al., 2001). Youth reports of anxiety were not significantly correlated with teacher reports of internalizing problems. All other correlation between indicators were significant.

#### *Externalizing Problems*

Three indicators were used to comprise the latent construct externalizing problems, including youth externalizing problems as reported by parents and teachers and delinquency as reported by the adolescent. Measures from the eight-year follow-up were used as indicators for the latent construct externalizing problems, and teacher-reported externalizing problems from the five-year follow-up was used as a control variable.

*Parent and teacher reports of externalizing problems.* At the five-year and eight-year follow-ups, children's externalizing problems were measured using the Problem Behaviors Scale from the Social Skills Rating System (Gresham & Elliott, 1990). At both time points, six items were used to assess externalizing problems. Parents and teachers indicated on a 5-point scale, ranging from "never" to "all the time," how often the focal child "fights with others," "threatens or bullies others," "argues with others," "talks back to adults when corrected," "gets angry easily," and "has temper tantrums." Parent and teacher subscales had adequate reliability. For parents,  $\alpha = .84$  at the eight-year follow-up. For teachers,  $\alpha = .77$  and  $.93$  at the five-year and eight-year follow-ups, respectively.

*Delinquency.* At the eight-year follow-ups, youth were asked 21 questions about their involvement in delinquency, adapted from LeBlanc and Tremblay (1988). Youth rated on a 4-point scale (0 = never, 1 = 1-2 times, 2 = 3-4 times, 3 = 5 or more times) how often they engaged in various forms of delinquent behavior in the past 12 months. The four subscales included fighting, stealing, vandalism, and drug use. The mean of the items was used as the score. High scores represented more frequent involvement in delinquency. Internal reliability for this scale was  $.84$ . Correlations among the indicators of externalizing problems were low to moderate, ranging from  $.29$  to  $.35$ . All correlations among indicators were significant.

### *Moderators*

All of the moderating variables assessed in this study described below, came from the eight-year follow-up.

#### *Participation in Activities*

Youth were asked 8 questions about participation in structured activities during the previous school year. Some items were adapted from the Self-Sufficiency Project (Morris &

Michalopoulos, 2000) and others were developed specifically for New Hope. Taking lessons (dance, music, or arts and crafts) and participating in sports, clubs or youth groups, before- or after-school programs, leadership activities (e.g., student council), and musical activities (e.g., band) were included. There were 5 response categories ranging from “never” to “about every day.” The mean of the 8 items was used as the score. Higher scores indicated more frequent participation in activities. The alpha for children’s participation in activities was .64.

#### *School Climate*

Youth answered five questions about school climate from the National Longitudinal Study of Adolescent Health (e.g., “you feel close to others at your school,” “you feel like you are a part of your school,” and “the teachers at your school treat the students fairly”). The youth responded on a five-point scale ranging from “not true at all” to “always true for you.” High scores represented more positive perceptions of school climate. The alpha for this scale was .82.

#### *Parent-Adolescent Relations*

Youth indicated how true 11 statements (e.g., “you often have good times at home with (her/him)” about their primary caregiver and their relationship with their primary caregiver were on a five-point response scale (1 = “not at all true,” 5 = “very true”) (McLoyd, Jayaratne, Ceballo, & Borquez, 1994). The average of the 11 items was used as the scale score. Higher scores indicated more positive parent-adolescent relations. The alpha for the scale was .92.

#### *Family Routine*

Six items were used to assess how often families engaged in routine activities. Parents indicated on a five-point response scale (1 = “almost never,” 5 = “always”) how often

“children go to bed around the same time every week night” and how often family members “ate dinner or supper together,” for example. The average of the 6 items was used as the scale score. The alpha was .80.

## **CHAPTER 3**

### **DATA ANALYSIS**

Structural equation modeling (SEM) was used to test expected relations between exposure to violence and two latent constructs (internalizing problems and externalizing problems) and to test two-way interactions between community violence and each of the potential moderators (age, participation in extracurricular activities, school climate, parent-child relations, and family routines) in the prediction of the adolescent psychosocial outcomes. Three-way interactions were also tested to determine if these two-way interactions varied by gender. Each of the four hypothesized moderators were examined in models that included the latent constructs internalizing and externalizing problems as outcomes. The models tested are depicted in Figure 2. Significant interactions were plotted and interpreted in accordance with a resilience framework (Luthar & Cicchetti, 2000).

There were several advantages to using SEM for these analyses. SEM takes measurement error into account in ways that are not possible with regression analysis and provides fit indices to assess the adequacy of each model (Raykov & Marcoulides, 2000). With SEM, multiple measures of socioemotional adjustment from multiple reporters can be analyzed simultaneously. SEM also provides a parsimonious way to assess multiple paths and to examine complex relationships between variables. Thus, relations between exposure to violence and both internalizing and externalizing problems were estimated in the same models. In addition, these analyses assessed whether interaction patterns between exposure to

violence and the hypothesized moderators were different for internalizing and externalizing problems. To date, most studies focusing on exposure to violence and children's socioemotional adjustment have relied on regression techniques and have investigated different outcome variables separately.

#### *Control Variables*

Child age, child gender (1 = male), parent education, and ethnicity were included in each of the models as control variables. These variables were included based on existing literature and their correlations with each other and with the dependent variables. Assignment to the experimental or control group (1 = New Hope participant) was also controlled in order to adjust for differences that may exist due to program involvement or nonparticipation. Direct paths from each predictor and control variable (observed variables) to the eight-year latent constructs were included to assess the influence of these variables. Year-five levels of teacher-reported socioemotional adjustment was controlled to determine if exposure to violence was related to socioemotional adjustment at the eight-year follow-up, after accounting for prior socioemotional adjustment.

#### *Confirmatory Factor Analysis Testing the Measurement Model*

Confirmatory factor analyses were conducted using Mplus version 5.1 to specify and evaluate the relationships between each latent variable and its indicators and to test the fit of the models. There are three observed variables for each of the two latent variables. For the latent variable internalizing problems, the observed variables include youth-reported anxiety and both parent- and teacher-reported internalizing problems. The latent variable externalizing problems has three indicators (youth-reported delinquency and both parent- and teacher-reported externalizing problems). In the confirmatory factor model, internalizing and



externalizing problems were correlated and residual variances were correlated for indicators with the same reporter (e.g., the residual variances of parent reports of internalizing and externalizing problems at the eight-year follow-up were correlated).

Fit indices for each model are shown in Table 9. The models were evaluated based on the factor loadings and degree of overall fit. Factor loadings significant at the  $p < .05$  level were considered acceptable. Overall goodness of fit was assessed based on the chi-square statistic, standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), and the Comparative Fit Index (CFI). Acceptable model fit was indicated by nonsignificant chi-square values, CFI values of greater than .90, RMSEA values of less than .08, and SRMR values of less than .10 (Vandenberg & Lance, 2000). As shown in Table 8 and 9 all factor loadings were significant and all of the fit indices suggested that the model had excellent fit.

#### *Specification and Evaluation of the Full Model*

Models were evaluated based on the size and significance of coefficients representing links between the independent variables (main effects, interaction effects, and control variables) and the two dependent variables. Further, full models, including structural and measurement model components, were evaluated using the same criteria indicated for the measurement model. Each model included a correlational path linking internalizing and externalizing problems. Further, residual variances were correlated for indicators of internalizing and externalizing problems from the same reporters. For example, residual variances for parent reports of internalizing and externalizing problems were correlated. Additional paths were added correlating the residual variances of parent and teacher reports of internalizing problems and parent and teacher reports of externalizing problems. These

two paths were added to account for the fact that parents and teachers completed the same measures of internalizing and externalizing problems.

## CHAPTER 4

### RESULTS

#### *Preliminary Analyses*

##### *Scale means*

The means and standard deviations for all study variables are presented in Table 3 for the full sample and for boys and girls separately. Consistent with past studies that have focused specifically on severe forms of violence, on average adolescents reported experiencing low levels of violence ( $M = .65$ ). With regard to the indicators of socioemotional adjustment, parent and teacher reports of internalizing problems ( $M = 2.36, 2.21$ , respectively) were similar and below the midpoint of the 5-point scale. Youth reports of anxiety were close to the midpoint of the scale ( $M = 2.47$ ). Teacher reports of externalizing problems were lower than parent reports of externalizing problems ( $M = 1.96, 2.38$ , respectively), but both were below the midpoint for 5-point response scale. Youth reported on delinquency using a 4-point response scale, and reports of delinquency were very low ( $M = .19$ ). Each of the moderators was assessed using a 5-point response scale. Youth reported high positive parent child relations ( $M = 4.47$ ). School climate ( $M = 3.67$ ) and family routines ( $M = 3.50$ ) were above the midpoint for each scale. Participation in activities was below the midpoint for the scale ( $M = 2.39$ ).

##### *Age and Ethnic Differences in Exposure to Violence and Socioemotional Adjustment*

Exposure to violence was not significantly correlated with age,  $r = .05$ ,  $p = .44$ . Results from a one-way ANOVA indicated that there were no significant age differences in exposure to violence or socioemotional adjustment as reported by parents, teachers, or youth. One-way ANOVAs also revealed that there were no significant race/ethnicity differences in exposure to violence or in any of the six indicators of adolescent socioemotional adjustment.

#### *Gender Differences in Exposure to Violence*

Descriptive statistics and correlations for study variables are presented in Tables 3, 6, and 7. Statistical tests were conducted to determine if any of the study variables differed by gender. An independent samples  $t$ -test indicated that boys reported significantly higher levels of exposure to violence than girls ( $M = .83, .47$ , respectively),  $t(253.70) = 2.61$ ,  $p < .01$ .

Forty-one percent of boys and 28% of girls reported being exposed to one or more forms of violence.

Tables 4 and 5 present frequencies of different forms of violence for boys and girls. There were significant gender differences in three forms of violence. About 20% of boys and 3% of girls reported that someone had pulled a knife or gun on them,  $\chi^2(1, N = 288) = 19.59$ ,  $p < .001$ . Approximately 7% of boys and 2% of girls reported being cut or stabbed,  $\chi^2(1, N = 288) = 4.05$ ,  $p < .05$ . Further, roughly 24% of boys and 9% of girls reported being jumped,  $\chi^2(1, N = 288) = 12.47$ ,  $p < .001$ .

#### *Gender Differences in Socioemotional Adjustment and the Hypothesized Moderators*

Independent samples  $t$ -tests were used to examine mean level gender differences in socioemotional adjustment and in each moderator. Boys reported significantly higher levels of delinquency than girls ( $M = .23, .15$ , respectively),  $t(269.66) = 2.70$ ,  $p < .01$ . Girls reported significantly more anxiety than boys ( $M = 2.59, 2.35$ , respectively),  $t(315) = 3.18$ ,  $p$

< .01. There were no other significant gender differences in indicators of socioemotional adjustment at the eight-year follow-up. There were also no significant mean differences by gender in any of the hypothesized moderators.

### *Bivariate Correlations*

#### *Exposure to Violence and the Control Variables*

Bivariate correlations were used to assess associations between study variables (Tables 6 and 7). Of the control variables examined, exposure to violence was only associated with gender ( $r = .15, p < .01$ ). Exposure to violence was not related to teacher reports of internalizing or externalizing problems at the five-year follow-up.

#### *Five-Year and Eight-Year Indicators of Socioemotional Adjustment*

Correlations between the 8-year teacher reports of socioemotional adjustment and teacher reports of socioemotional adjustment at the five-year follow-up were .25 ( $p < .01$ ) for teacher reports of internalizing problems and .60 ( $p < .01$ ) for teacher reports of externalizing problems.

#### *Exposure to Violence and Eight-Year Indicators of Socioemotional Adjustment*

Exposure to violence was positively correlated with some reports of socioemotional adjustment from the eight-year follow-up, including parent reports of internalizing problems ( $r = .16, p < .01$ ) and youth reports of anxiety ( $r = .17, p < .01$ ), but not teacher reports of internalizing problems ( $r = .01, ns$ ). This pattern of findings held for girls but not for boys. For boys exposure to violence was not significantly correlated with any of the indicators of internalizing problems (see Table 7).

Exposure to violence was significantly associated with eight-year parent reports of externalizing problems ( $r = .23, p < .01$ ), teacher reports of externalizing problems ( $r = .14, p$

< .05), and youth reports of delinquency ( $r = .65, p < .01$ ). This pattern of findings was true for girls; however, for boys, exposure to violence was associated with delinquency and parent reports of externalizing problems but not teacher reports of externalizing problems.

#### *Exposure to Violence and the Hypothesized Moderators*

Exposure to violence was negatively associated with school climate ( $r = -.16, p < .01$ ) but was not significantly associated with any of the other moderators. This pattern of findings was observed for girls but not boys. For boys, exposure to violence was not significantly correlated with school climate or any other hypothesized moderators. School climate was not significantly related to teacher-reported internalizing problems but was significantly negatively associated with parent reports of internalizing problems ( $r = -.16, p < .01$ ), youth reports of anxiety ( $r = -.29, p < .01$ ), teacher reports of externalizing problems ( $r = -.27, p < .01$ ), parent reports of externalizing problems ( $r = -.26, p < .01$ ), and delinquency ( $r = -.26, p < .01$ ). Family routines were significantly negatively correlated with parent ( $r = -.18, p < .05$ ) and teacher reports of externalizing problems ( $r = -.12, p < .05$ ), but were not significantly correlated with the other indicators of socioemotional problems. Positive parent-child relations were negatively correlated with parent reports of internalizing ( $r = -.12, p < .05$ ) and externalizing problems ( $r = -.12, p < .05$ ) as well as youth reports of anxiety ( $r = -.18, p < .01$ ) and delinquency ( $r = -.19, p < .01$ ). Participation in extracurricular activities was negatively associated with parent-reported internalizing ( $r = -.17, p < .01$ ) and externalizing problems ( $r = -.13, p < .05$ ) and youth-reported anxiety ( $r = -.17, p < .01$ ).

For girls, school climate was not significantly related to teacher reports of internalizing problems but was significantly negatively correlated with all other indicators of socioemotional adjustment. For boys, school climate not significantly associated with parent

or teacher reports on internalizing problems but was negatively associated with anxiety and delinquency as well as parent and teacher reports of externalizing problems. Family routines were not significantly correlated with any of the indicators of socioemotional adjustment for boys, but were significantly negatively correlated with teacher reports of externalizing problems girls. Positive parent-adolescent relations were negatively correlated with delinquency for boys and were negatively associated with anxiety and delinquency for girls. Participation in activities was significantly negatively correlated with parent-reported internalizing and externalizing problems for girls and anxiety for boys.

### *Structural Equation Modeling*

#### *Internalizing Problems*

*Control variables and internalizing problems.* Of the control variables examined, gender, experimental group status, and parents' highest grade completed were consistently related to the latent construct internalizing problems. Teacher reports of internalizing problems at the five-year follow-up were positively related to the latent construct internalizing problems in some of the models tested (coefficients ranged from .13 to .14). Gender was consistently related to internalizing problems, with boys showing fewer internalizing problems (coefficients for gender ranged from -.13 to -.16). Adolescents in the experimental group also had fewer internalizing problems (coefficients for experimental group status ranged from -.10 to -.16). Lastly, parents' years of completed education were negatively related to internalizing problems (coefficients ranged from -.02 to -.03).

*Main effects.* In all models, exposure to violence was directly related to increases in internalizing problems. School climate, participation in activities, and positive parent-adolescent relations were negatively related to internalizing problems ( $\beta = -.12, p < .001$ ;  $\beta =$

-.13,  $p < .01$ ;  $\beta = -.09$ ,  $p < .01$ , respectively). Family routines were not significantly related to internalizing problems,  $\beta = .03$ ,  $ns$ . Adolescent age was also not related to internalizing problems.

*Two- and three-way interactions.* Two-way interaction terms were created to determine whether the potential moderators modified relations between exposure to violence and socioemotional adjustment. An exposure to violence by gender interaction term was created. There was a significant exposure to violence by gender interaction predicting internalizing problems  $\beta = -.12$ ,  $p < .01$ , such that exposure to violence was only related to internalizing problems for girls (Table 10). The simple slope was significant for girls,  $\beta = .17$ ,  $t(382) = 3.84$ ,  $p < .001$ , but was not significant for boys  $\beta = .05$ ,  $t(382) = 1.75$ ,  $ns$  (see Figure 3). There was not a significant exposure to violence by age interaction predicting internalizing problems (Table 11). There were also no other significant exposure to violence by moderator (i.e., participation in activities, school climate, family routines, and positive parent-child relations) interactions predicting internalizing problems (see Tables 12 - 15). As with the two-way interactions, there were no significant three-way interactions that predicted internalizing problems.

### *Externalizing Problems*

*Control variables and externalizing problems.* Of the control variables examined, only ethnicity was related to the latent construct externalizing problems. Ethnicity was consistently positively related to externalizing problems (coefficients ranged from .03 to .05).

*Main effects.* In all models, exposure to violence was directly related to increases in externalizing problems. School climate, participation in activities, positive parent-adolescent relations, and family routines were all negatively related to externalizing problems ( $\beta = -.06$ ,



$p < .01$ ;  $\beta = -.05$ ,  $p < .05$ ;  $\beta = -.06$ ,  $p < .01$ ;  $\beta = -.06$ ,  $p < .05$ , respectively). Adolescent age was not related to externalizing problems.

*Two-way interactions.* There was not a significant exposure to violence by gender interaction predicting externalizing problems, thus exposure to violence was related to increases in externalizing problems but not internalizing problems among boys.

There was, however, a significant exposure to violence by age interaction predicting externalizing problems,  $\beta = .03$ ,  $p < .05$  (Table 11). The simple slope for youth 1 *SD* below the mean age was .13,  $t(382) = 4.28$ ,  $p < .001$ , the simple slope for youth at the mean age was 0.16,  $t = 5.28$ ,  $p < .001$ , and the simple slope for youth 1 *SD* above the mean age was .19,  $t = 5.53$ ,  $p < .001$  (see Figure 4). Although all of the simple slopes were significant, the relation between exposure to violence and externalizing problems was stronger for older adolescents.

Participation in extracurricular activities moderated the relation between exposure to violence and externalizing problems,  $\beta = -.05$ ,  $p < .01$  (see Table 12). The simple slope for youth 1 *SD* below the mean of participation in activities was .21,  $t(381) = 6.02$ ,  $p < .001$ , the simple slope for youth with mean levels of participation in activities was 0.17,  $t=5.99$ ,  $p < .001$ , and the simple slope for youth 1 *SD* above the mean of participation in activities was .14,  $t=4.94$ ,  $p < .001$  (Figure 5). Although all of the simple slopes were significant, the relation between exposure to violence and externalizing problems was weakest for those with high levels of participation in activities, indicating that participation in activities acted as a *protective-stabilizing* moderator. There were no other significant two-way interaction predicting externalizing problems.

*Three-way interactions.* Although there was not a significant exposure to violence by school climate interaction predicting externalizing problems, there was a significant three

way interaction among exposure to violence, school climate, and gender predicting externalizing problems,  $\beta = -.07, p < .01$  (Table 16). To probe the significant exposure to violence by school climate by gender interaction, the conditional effects of school climate at high (1 *SD* above the mean score) and low (1 *SD* below the mean score) levels of school climate were plotted for boys and girls (see Figure 6). For boys there was a positive relation between exposure to violence and externalizing problems at high ( $\beta = .13, t(378) = 4.04, p < .001$ ) and low ( $\beta = .0.19, t(378) = 5.84, p < .001$ ) school climate. Although both slopes were significant, the relation between exposure to violence and externalizing problems was weakest at high levels of school climate. For girls there was a positive relation between exposure to violence and externalizing problems at high ( $\beta = .21, t(378) = 4.01, p < .001$ ) and low ( $\beta = 0.14, t(378) = 4.16, p < .001$ ) school climate. As was true for girls, both slopes were significant for boys, but contrary to prediction the relation between exposure to violence and externalizing problems was strongest at high levels of school climate among girls. Thus school climate only acted as a *protective-stabilizing* moderator for boys. Additional three way interactions were tested for the remaining moderators (exposure to violence x moderator x gender and exposure to violence x age x gender; Tables 17-20), and there were no other significant three way interactions.

### *Overall Model Results*

The latent constructs internalizing and externalizing problems were not correlated in any of the models tested. Moreover, although, significant interactions were detected in some of the models tested, all of the models exhibited mediocre fit. Fit indices are shown in each table along with the estimates for the corresponding model (Tables 10 – 20). In all models tested, chi square values were significant, suggesting a lack of fit. However, the chi-square

values tend to be significant when sample size is moderate to high. Thus, the chi-square is usually considered in conjunction with other measures of fit. CFI values tended to be low (.78 to .83), indicating a lack of model fit. Acceptable CFI values are above .90. However, both RMSEA (.06 to .07) and SRMR (.06 to .07) values were within range of acceptability. The upper limit for acceptable RMSEA and SRMR values are .08 and .10, respectively (Vandenberg & Lance, 2000). Mixed results regarding model fit indicate that specific parameters should be considered with caution. Given that all parameters were in the expected direction and consistent with the hypotheses of the study and given that almost all of the interactions plotted exhibited the expected patterns, interpreting model parameters was deemed appropriate. The overall mediocre fit of the models is likely related to the fact that a variety of factors influence adolescents' socioemotional adjustment in the context of economic disadvantage. Exposure to violence is only one of many potential stressors. Cumulative risk models that account for multiple stressors simultaneously have been found to be much more predictive of socioemotional adjustment than models with individual stressors considered alone.

## **CHAPTER 5**

### **DISCUSSION**

For many families living in impoverished, dangerous neighborhoods, the threat and reality of community violence is a chronic stressor that looms over daily living, influencing parenting practices and denying children the opportunity to feel safe in their communities. In many cases, the effects of community violence are compounded by the wide range of other harmful family and environmental stressors associated with living in poverty. Low-income children experience more stressors than middle income children and the intensity of the stressors is greater. Experiencing multiple stressors partially mediates the association of poverty to conduct problems, symptoms of anxiety, and depression (Evans & English, 2002). Indeed, families facing multiple stressors may lack the necessary resources to cope with challenges that arise when violence affects their children (McLoyd & Wilson, 1991).

Evans (2004) makes a compelling argument that poverty is associated with a unique confluence of risks for children and that research should focus more attention on the physical environments that children live in, not just family processes, to help explain why poverty is so detrimental for children. Indeed, neighborhood poverty has a distinct negative association with socioemotional adjustment problems, over and above family-level poverty, and community violence may be one mechanism that explains this link (Leventhal & Brooks-Gunn, 2000, 2003; Xue, Leventhal, Brooks-Gunn, & Earls, 2005). All of these factors combined highlight the need for understanding and finding ways to mitigate the negative impacts of community violence on

children and adolescents. By identifying protective factors and processes that underlie protection, we may be able to reduce the burden of mental health and behavior problems on individuals, families, and communities, despite the broader challenges facing these families and communities. This study sought to identify protective factors within and outside of the family, especially those with implications for interventions, in order to find ways to help buffer adolescents from some of the costs of community violence.

The findings from this study are consistent with past work showing that the weight of community violence falls most heavily on males. As has been shown in past research, in this study, boys were exposed to higher levels of violence than girls. Boys reported having someone pull a knife or gun on them, being cut or stabbed, and being jumped more than girls. These findings suggest that boys may spend more time than girls in settings where violence is likely to occur or that boys may be more likely to select into contexts where violence is likely to occur. Another possibility is that boys may be more exposed to violence as a result of being more likely to participate in violence than girls.

Another important gender difference found was that, after adjusting for prior socioemotional adjustment, exposure to violence was related to increases in both internalizing and externalizing problems for girls but only increases in externalizing problems for boys. This finding is consistent with prior studies that have shown that exposure to violence is more strongly related to internalizing problems in girls compared to boys. However, it is inconsistent with a number of studies that have found exposure to violence to be related to both internalizing and externalizing problems for boys. In analyses not shown, each of the models tested separately by gender showed better overall model fit for girls compared to boys. Overall model fit for models tested with only the sample of girls would be considered good, whereas model fit

for models tested with only the sample of boys would be considered poor. One possible explanation is that the latent construct internalizing problems provided a better assessment of internalizing problems for girls, as indicated by stronger factor loadings for parent, teacher, and youth reports of socioemotional adjustment for girls. Weaker factor loading for the indicators of internalizing problems among boys may explain the poorer overall model fit for boys and the lack of a relationship between exposure to violence and internalizing problems among boys.

These differences may also be related to other issues regarding how internalizing problems were measured. For two of the indicators, parents and teachers reported on a variety of symptoms considered internalizing problems and youth reported on their anxiety. Most other studies have examined single indicators separately and many other studies have specifically examined depression. This study did not assess youth depression. Gender differences may also reflect variation in how exposure to violence is measured. For example, some other studies have assessed lifetime exposure to violence, whereas this study only measures violence in the past year. This study also focused specifically on severe types of violence, whereas other studies have included a wider variety of forms of violence, including some that may be considered less severe, for example being threatened or chased. Four out of five of the items used to measure exposure to violence in this study focused on direct victimization.

Boys, in particular, may react to severe direct victimization with anger and aggression (Aceves & Cookston, 2007), and externalizing responses to victimization may be considered more acceptable or normative than internalizing responses, especially in economically disadvantaged neighborhood contexts. In neighborhoods with high levels of violence, boys may protect themselves from the psychological harm associated with violence exposure by adopting attitudes about the normalcy or necessity of violence that may be adaptive in those contexts.

Ng-Mak and colleagues suggests that some adolescents who are exposed to high levels of violence may have dampened affective responses to violence while at the same time having high levels of aggressive behaviors. This particular pattern of outcomes, termed “pathologic adaptation” or “normalization of violence,” suggests that some youth who experience high levels of violence may become desensitized to violence over time (Ng-Mak, Salzinger, Feldman, & Stueve, 2004). An empirical investigation found limited support for pathologic adaptation in a small number of children. For these children, exposure to violence was linearly related to aggression but showed a quadratic relation with psychological distress, such that low levels of exposure were related to increases in psychological distress but high levels of exposure were related to low levels of psychological distress. (Ng-Mak et al., 2004). Future studies should investigate ways to reduce boys’ individual risk for exposure to violence and serious efforts at the community level must be undertaken to reduce violence in disadvantaged communities.

Overall, very few studies have focused specifically on gender differences in outcomes associated with exposure to violence, and even fewer studies have explored gender differences in protective factors that might buffer adolescents exposed to violence. The findings from the current study suggest that this may be an important area for future investigation. Although participation in activities showed a similar *protective-stabilizing* pattern for boys and girls, school climate only showed a *protective-stabilizing* pattern of interaction for boys. Girls reported similar mean levels of positive school climate, however there were small numbers of girls with high levels of exposure to violence, high externalizing problems, and high positive perceptions of school climate, likely making the estimation of these effects unstable (Luthar, Cicchetti, & Becker, 2000).

Both participation in activities and school climate only seemed to act as buffers to a limited extent. Although high levels of participation in activities and positive perceptions of school climate weakened the relation between exposure to violence and externalizing problems, significant associations still remained. In other words participation in activities or positive school climate did not completely ameliorate the association between exposure to violence and externalizing problems. This finding suggests that exposure to violence may have a serious, negative influence on youth behavior problems in ways that are not easily overcome by generally positive factors that have been found to reduce adjustment problems to insignificant levels in the context of other stressors. This finding also suggests that an accumulation of protective factors may be necessary to completely ameliorate the association between exposure to violence and externalizing problems.

A significant pattern of interaction was also observed between exposure to violence and adolescent age predicting externalizing problems. Adolescent age moderated the association between exposure to violence and externalizing problems such that there was a stronger relation between exposure to violence and externalizing problems for older adolescents compared to younger adolescents. Although no age differences in exposure to violence or externalizing problems were found in this study, it is possible that older adolescents who have experienced community violence may be more likely to engage in externalizing behaviors because they are less supervised than younger adolescents. Up to this point, few studies have focused on age as a moderator of the effects of community violence, therefore more work in this area is needed to further understand potential developmental differences.

Although family routines were negatively related to externalizing problems and positive parent-child relations were directly negatively associated with internalizing and externalizing



problems, neither family routines nor positive parent-child relations moderated associations between exposure to violence and internalizing and externalizing problems. This finding suggests that family routines and positive parent-child relations generally confer protection against socioemotional adjustment problems, but do not modify relations between exposure to violence and socioemotional adjustment problems. This finding is inconsistent with past studies that have shown that positive-parent child relations act as a protective-stabilizing moderator in the context of violence, however in this sample, overall levels of positive parent-child relations were high (range = 1.60 to 5.00,  $M = 4.17$ ) and there likely was not enough variation in parent-child relations to detect an interaction effect. Another possible explanation for this finding is that chronic community violence may directly affect parental mental health or parents themselves may be coping with their children's experiences. Community violence may affect family processes in ways that increase negative parenting practices and behaviors (Mazza & Overstreet, 2000). Moreover, family routines and positive parent-child relations may only act as a moderator in situations where parents are aware of their children's exposure and are able to increase communication and support.

Although school climate, positive parent-child relations, family routines, and participation in activities showed direct associations with exposure to violence in the expected direction, none of the four moderators examined showed significant interactions with exposure to violence predicting internalizing problems. Again, this finding may be related to the fact that only severe forms of violence were assessed in this study. Adolescents exposed to violence may benefit from professional psychological help. Li et al. (2007) also found fewer moderators of internalizing problems for African American youths exposed to a variety of risks. To explain this finding they pointed to other studies that suggest that internalizing problems may be more

difficult to modify. For example, a natural experiment found that when families were able to get out of poverty, externalizing problems lessened but internalizing problems did not (Costello, Compton, Keeler, & Angold, 2003). In this study, youth were asked about exposure to violence in the past year. These experiences may be so recent that they were less amenable to moderation.

Further, correlations among reports of internalizing problems were low and there appeared to be more discrepancy in reports than commonality. Discrepancies among reporters are not uncommon in research on adolescent internalizing problems. Past studies have also found low correlations among parent, teacher, and youth reports of internalizing problems, and there is typically more correspondence among reports of externalizing problems compared to internalizing problems (Kazdin, 1994). In addition to the low correlations among reports of internalizing problems, the alpha coefficient for teacher-reported internalizing problems (.79) was much higher than the alpha coefficient for parent-reported internalizing problems (.67). This disparity was likely due to the nature of the items. Teachers may have more opportunities to see how adolescents interact in groups and to observe whether adolescents are easily embarrassed or appear lonely around their peers. Future studies that rely on multiple informants should utilize measures that provide more reliable assessments of adolescent internalizing problems as reported by parents and teachers. Overall, these limitations suggest that this study may not have optimally captured internalizing problems and that some of the lack of findings regarding internalizing behaviors may stem from problems with the manner in which internalizing problems were measured.

In the current study, the two extrafamilial moderators examined (participation in activities and school climate, especially for boys) appeared to act in a *protective-stabilizing*

manner. However, the family level variables examined did not play a *protective-stabilizing* role. This suggests that more attention needs to be paid to how families adapt or cope with community violence. Work by Lynch and Cicchetti (2002) suggests that community violence may influence family processes. Their study found that children ages 7 to 13 years old who were victims and witnesses of community violence reported less relatedness to their mothers and were more likely to show an insecure pattern of relatedness. Child victimization and witnessing predicted lower emotional quality in the parent-child relationships, feelings of generalized separation anxiety on the part of the child, and child perceptions of negative maternal behavior. Future investigations in this area may give further insight into why positive family-level variables have failed to act as buffers for youth exposed to violence or have sometimes appeared to exacerbate youth adjustment problems in the context of exposure to violence (Proctor, 2006). Others have suggested that family-level factors can be overwhelmed by neighborhood conditions (Li et al., 2003). This overarching finding also suggests that more work needs to focus on modifiable, extrafamilial protective factors that can reduce the consequences of community violence.

### *Limitations*

The New Hope Study was not specifically designed to examine exposure to violence; therefore, there are limitations with the study's measurement of this key variable. The measure of exposure to violence used in this study only assessed five forms of violence exposure. The respondents were likely exposed to various other forms of violence not measured in this study that are also related to socioemotional adjustment. Moreover, details about the context of exposure to violence were not measured. For example, the setting and perpetrator/s of violence are not known and these details can influence whether and how adolescents are affected by

violence. Further, exposure to violence was only measured at one time point, making it impossible to assess cumulative exposure over time or how past exposure to violence may be related to current socioemotional adjustment.

Another noteworthy limitation involves the weighting of different types of violence. In this study, different forms of violence were weighted equally and summed together. If in reality some forms of violence are more related to socioemotional adjustment than other forms of violence, these differences were not able to be detected in these analyses. Another plausible approach would be to use weighting to allow different types of violence to be counted differently (Trickett, Duran, & Horn, 2003). However, existing research does not provide a solid basis for distinguishing which types of events may have a greater impact on children. Lastly, the fact that only self-reported exposure to violence was assessed in this study can be viewed as another limitation. However, the use of computer-assisted self-interviewing likely minimized underreporting. In addition, past studies have shown that child reports of exposure to violence are correlated with objective crime reports and moderately correlated with parent reports (Guerra et al., 2003; Schwartz & Gorman, 2003). Several authors have suggested using objective crime rate data in conjunction with self-reports of exposure to violence, however, crime rate data was not available in this data set (Brookmeyer et al., 2005; Lynch, 2003).

Despite these limitations this study has several strengths, including a large sample size and multiple informants. A number of past studies of exposure to violence have solely relied on reports from a single respondent, potentially inflating relations between exposure to violence and socioemotional adjustment. Another strength of this study is that longitudinal data on adolescent adjustment was included, making it possible to control for preexisting differences in socioemotional adjustment. In this study, exposure to violence was associated with increases in

internalizing problems among girls and externalizing problems among boys and girls over time. This is an improvement over studies that have focused exclusively on cross-sectional data. Lastly, this study moves beyond examining family-level variables as protective factors by also focusing on potential extrafamilial moderators. Past research on moderators of exposure to violence have focused heavily on family-level moderators and have rarely considered extrafamilial moderators.

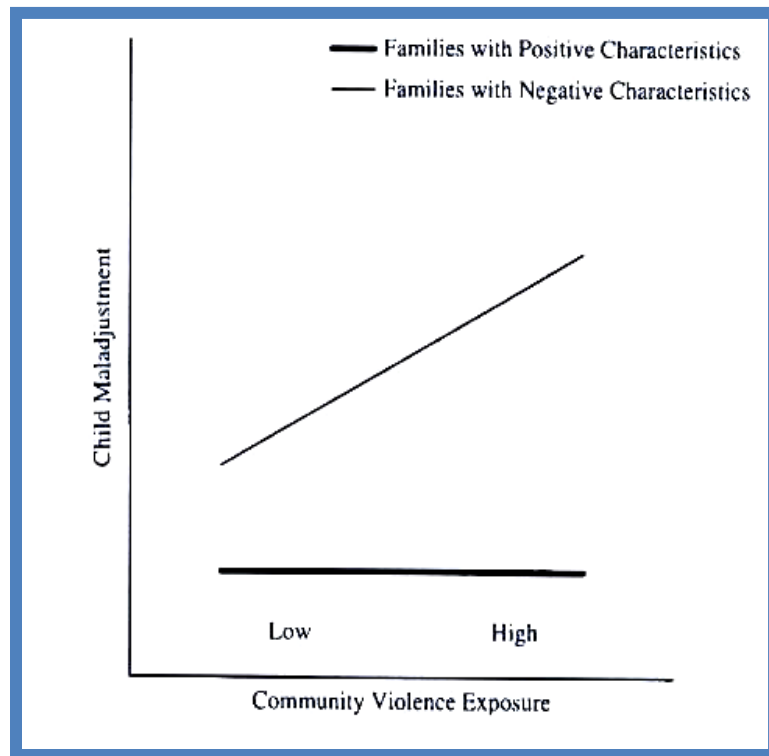
### *Future Directions*

Future studies should continue to examine a wide range of extrafamilial moderators that show potential to act in a *protective-stabilizing* manner for children exposed to violence. Greater attention should be paid to finding ways to mitigate potential effects of exposure to violence on internalizing problems. The results of this study did not provide any evidence of factors that might protect against internalizing symptoms in the context of exposure to violence. Future studies might examine how patterns of moderation may vary depending on who reports internalizing problems. In some instances child or adolescent reports of internalizing problems may offer the most valid reports and the most insight into potential moderators.

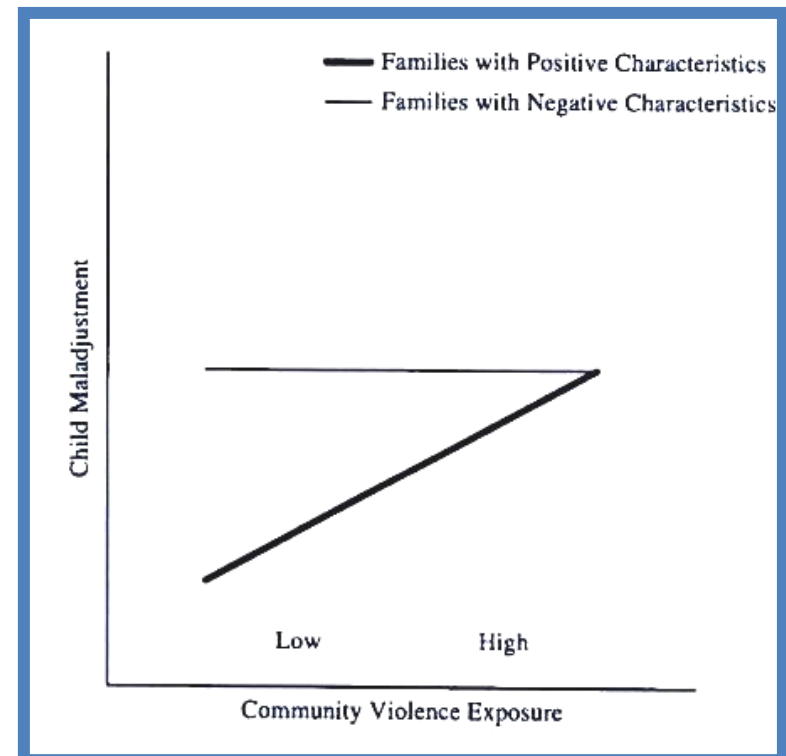
For protective factors that have already been identified and for those that will be identified in the future, the next step will be to begin to understand the processes that underlie protection. For example, why exactly does participation in extracurricular activities appear to mitigate some of the consequences of exposure to violence on externalizing problems? Studies designed to understand protective processes must take the additional steps of measuring factors that might act as mediators. Examining how hypothesized protective factors interact synergistically either through higher order interactions or through profile analysis is another promising area for future research.

Although this study focused specifically on socioemotional adjustment outcomes related to exposure to violence, much less is known about relations between exposure to violence and academic outcomes. The few studies that have examined links between exposure to violence and academic achievement have found an association between violence exposure and some aspects of academic performance or ability (Bowen & Bowen, 1999; Ratner et al., 2006). For example, exposure to violence has been found to be related to lower IQ, poor reading ability, lower grades, and more school absences (Delaney-Black et al., 2002; Hurt, Malmud, Brodsky, & Giannetta, 2001). Future studies should continue to examine direct links between exposure to violence and academic outcomes but also attempt to understand factors that might protect children and adolescents exposed to violence from poor school outcomes.

Figure 1. Examples of *protective-stabilizing* and *overwhelming-risk* moderator effects from Proctor (2006)



Protective-Stabilizing Moderator Effect



Overwhelming-Risk Moderator Effect

Table 1. Baseline sample demographic characteristics

Variable Name	
Parent age (mean)	29.97
<b>Child race/ethnicity (%)</b>	
African American	58.5
Latino	27.4
White, non-Latino	11.1
Native American/Alaskan Native	3.0
<b>Marital status (%)</b>	
Never married	53.2
Married, living apart	16.0
Married, living together	8.6
Separated, divorced, widowed	22.3
<b>Number of children in the household (%)</b>	
1	9.1
2	26.2
3	64.7
<b>Earnings</b>	
None	5.5
\$1-999	8.3
\$1,000-4,999	23.6
\$5,000-9,999	19.6
\$10,000-14,999	22.4
\$15,000 or more	20.6



Table 2. Summary of measures

Measure	Respondent(s)	5 Year Survey	8 Year Survey
Exposure to Violence	Youth		X
Internalizing Problems	Parents/Teachers	X (Teacher)	X
Externalizing Problems	Parents/Teachers	X (Teacher)	X
Manifest Anxiety	Youth		X
Delinquency	Youth		X
Participation in Activities	Youth		X
School Climate	Youth		X
Parent-Child Relations	Youth		X
Family Routines	Parents		X

Table 3. Descriptive statistics for study variables

Study Variables	<u>Mean (SD)</u>		Full Sample	<u>Range (Full Sample)</u>	
	Girls	Boys		Min.	Max.
Child age	14.95 (1.11)	14.88 (1.17)	14.92 (1.14)	13.00	17.00
Parents' highest grade (years)	11.16 (2.27)	10.95 (2.43)	11.04 (2.36)	.00	17
Income to family size ratio	2031 (2030)	2223 (2010)	2126 (2019)	.00	12267
Exposure to violence (year 8)	.47 (.94)	.83 (1.34)	.65 (1.17)	0.00	7.00
Parent-reported internalizing problems (year 8)	2.37 (.68)	2.35 (.63)	2.36 (.66)	1.00	4.40
Teacher-reported internalizing problems (year 8)	2.17 (.74)	2.24 (.68)	2.21 (.71)	1.00	4.20
Teacher-reported internalizing problems (year 5)	2.27 (.71)	2.37 (.64)	2.31 (.68)	1.00	4.60
Manifest anxiety (year 8)	2.59 (.69)	2.35 (.66)	2.47 (.68)	1.00	5.00
Parent-reported externalizing problems (year 8)	2.33 (.75)	2.41 (.73)	2.38 (.74)	1.00	5.00

Table 3. (cont.) Descriptive statistics for study variables

Study Variables	<u>Mean (SD)</u>			<u>Range (Full Sample)</u>	
	Girls	Boys	Full Sample	Min.	Max.
Teacher-reported externalizing problems (year 8)	1.89 (.85)	2.02 (.86)	1.96 (.85)	1.00	4.67
Teacher-reported externalizing problems (year 5)	2.03 (.87)	2.17 (.89)	2.09 (.88)	1.00	4.83
Delinquency (year 8)	0.15 (.20)	.23 (.30)	0.19 (.26)	0.00	1.81
Participation in activities (year 8)	2.34 (.80)	2.45 (.77)	2.39 (.79)	1.00	4.38
School climate (year 8)	3.68 (.94)	3.66 (.82)	3.67 (.88)	1.00	5.00
Parent-child relations (year 8)	4.44 (.55)	4.49 (.57)	4.47 (.56)	1.75	5.00
Family routines (year 8)	3.50 (.72)	3.53 (.71)	3.50 (.72)	1.67	5.00

Table 4. Community violence events ranked by order of frequency for boys and girls

Event	Girls		Boys	
	Rank order	Percentage	Rank order	Percentage
Saw shooting or stabbing	1	20.69	3	16.78
Jumped	2	8.97	1	24.48
Someone pulled a knife/gun	3	3.45	2	20.28
Cut or stabbed	4	2.07	4	7.00
Shot	5	1.38	5	.00

Table 5. Percentage of boys and girls reporting each community violence event

Event	Girls	
	Once	Two or More Times
Saw shooting or stabbing	13.1	7.6
Jumped	6.9	2.1
Someone pulled a knife/gun	2.8	.7
Cut or stabbed	2.1	0
Shot	1.4	0
Event	Boys	
	Once	Two or More Times
Saw shooting or stabbing	12.6	4.2
Jumped	22.4	2.1
Someone pulled a knife/gun	14	6.3
Cut or stabbed	5.6	1.4
Shot	0	0

Table 6. Inter-correlations of 8 and 5 year variables

Study Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age	-																	
2. Gender	-.03	-																
3. Ethnicity	-.08	.00	-															
4. Highest Grade Completed	-.01	-.05	-.08	-														
5. Experimental Group Status	.09	.08	-.06	.06	-													
6. Exposure to violence	.05	.15**	-.10	.07	-.01	-												
7. Internalizing parent report (8)	.01	-.02	.06	-.06	-.14**	.16**	-											
8. Internalizing teacher report (8)	-.02	.05	.15*	.17*	-.02	.01	.15*	-										
9. Internalizing teacher report (5)	.03	.07	.06	-.08	.07	.01	.17*	.25**	-									
10. Anxiety (8)	-.04	-.18	-.03	-.07	-.14*	.17**	.27**	.07	.02	-								

\* p &lt; .05. \*\* p &lt; .01

Table 6. (cont.) Inter-correlations of 8 year variables

Study Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
11. Externalizing parent report (8)	.09	.05	.11*	.03	-.04	.23**	.39**	.10	.05	.08	-							
12. Externalizing teacher report (8)	-.13	.08	.04	.10	-.03	.14*	.18**	.30**	.07	-.01	<b>.35**</b>	-						
13. Externalizing teacher report (5)	-.06	.08	.00	.03	.02	.04	.06	.08	.15*	-.18*	.33**	.60**	-					
14. Delinq.. (8)	.04	.15**	.04	.06	.01	.65**	.09	.04	.04	.14*	<b>.29**</b>	<b>.30**</b>	.17*	-				
15. Family routines	-.05	.02	.12*	.06	.08	-.01	-.05	.03	-.03	.03	-.12*	-.18*	-.07	-.07	-			
16. Pos. p-a rels.	-.19**	.02	.03	-.04	.00	-.10	-.12*	.04	-.15	-.18**	-.12*	-.03	-.01	-.19**	.15*	-		
17. School Climate	-.16**	-.01	-.04	-.06	.04	.16**	-.16**	-.07	-.05	-.29**	-.26**	-.27**	-.22**	-.26**	.06	.25**	-	
18. Extra. Activities	-.10	.07	.22**	.08	.05	.02	-.17**	-.13	-.02	-.17**	-.13*	-.02	.07	-.10	-.03	.13*	.14*	-

\* p &lt; .05. \*\* p &lt; .01

Table 7

*Inter-correlations of 8 year variables*

Study Variable	1	2	3	4	5	6	7	8	9	10	11
1. Exposure to violence	-	.20*	.13	.30**	.24**	.23*	.53**	.03	-.02	-.22*	.08
2. Internalizing (parent report)	.16	-	<b>.05</b>	<b>.32**</b>	.33**	.12	.12	.03	-.13	-.23**	-.22**
3. Internalizing (teacher report)	-.08	<b>.26**</b>	-	<b>.09</b>	.08	.20*	.08	-.06	.02	-.01	-.11
4. Manifest anxiety	.14	<b>.20*</b>	<b>.07</b>	-	.14	-.00	.27**	.02	-.25**	-.37**	-.02
5. Externalizing (parent report)	.23**	.45**	.11	.04	-	<b>.41**</b>	<b>.25**</b>	-.13	-.13	-.28**	-.18*
6. Externalizing (teacher report)	.06	.23*	.40**	-.00	<b>.28**</b>	-	<b>.33**</b>	-.32**	.01	-.27**	-.03
7. Delinquency	.69**	.08	-.02	.11	<b>.33**</b>	<b>.27**</b>	-	-.13	-.20*	-.30**	-.12
8. Family routines	-.04	-.12	.13	.06	-.12	-.05	-.04	-	.05	.05	.02
9. Pos. parent-child relations	-.16	-.11	.06	-.10	-.12	-.09	-.21**	.25**	-	.25**	.16
10. School climate	-.14	-.07	-.13	-.20*	-.23**	-.25**	-.25**	.08	.26**	-	.04
11. Activities	.05	-.10	-.17	-.32**	-.07	-.02	-.11	-.08	.10	.26**	-

Correlations for girls are above the diagonal and correlations for boys are below the diagonal

\*  $p < .05$ . \*\*  $p < .01$



Figure 2. Hypothesized model with potential moderators of the relation between exposure to violence and socioemotional adjustment

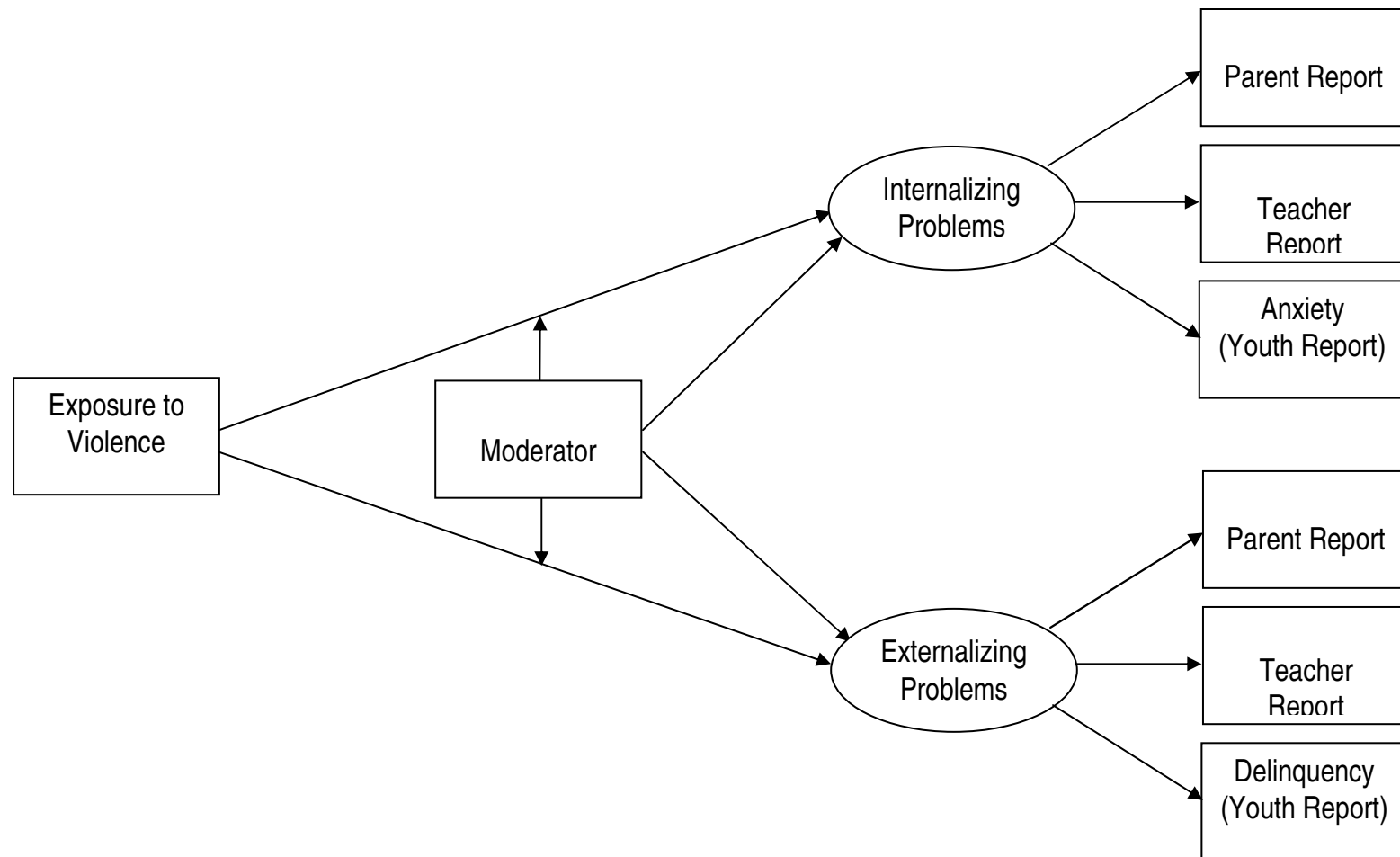


Table 8. Factor loadings for the measurement model

Measure	Unstandardized loading*	Standard error	Standardized loading*	Standard error
<b>Internalizing problems</b>				
Parent report	.45	.12	.69	.18
Teacher report	.15	.08	.21	.11
Youth report	.26	.08	.39	.12
<b>Externalizing problems</b>				
Parent report	.44	.06	.59	.08
Teacher report	.49	.08	.58	.08
Youth report	.14	.02	.52	.08

\*All estimates were significant at  $p < .05$

Table 9. Fit indices for the measurement model

Fit Indices	$\chi^2$	df	$p$	CFI	RMSEA	SRMR
	3.67	5	.60	1.00	.00	.02

Figure 3. Exposure to Violence x Gender Interaction Predicting Internalizing Problems

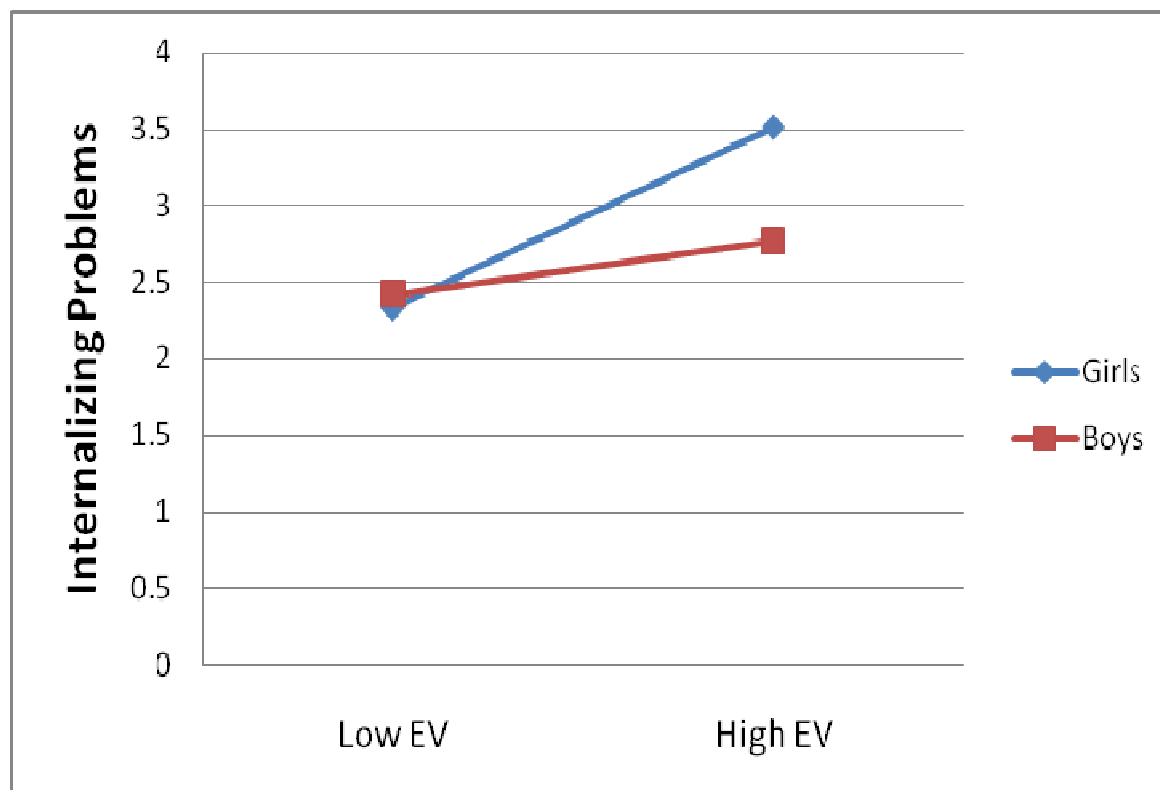


Table 10. Structural equation model with exposure to violence x gender interaction predicting internalizing and externalizing problems

<b>Model Variables</b>	<u>Internalizing Problems</u>		<u>Externalizing Problems</u>	
	Estimate	S. E.	Estimate	S. E.
Exposure to violence	.17***	.04	.15***	.04
Gender	-.15**	.05	.02	.03
Two-way interaction	-.12*	.05	.03	.03
Experimental group status	-.14**	.05	.01	.03
Ethnicity	.01	.02	.03*	.01
Highest grade completed	-.02*	.01	.00	.01
Child age	-.01	.02	.01	.01
Internalizing problems (5 year, teacher report)	.12	.06		
Externalizing problems (5 year, teacher report)			.11**	.04
	$\chi^2$	df	<i>p</i>	CFI
<b>Fit Indices</b>	127.53	41	.00	.81
				RMSEA
				.07
				SRMR
				.07

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Figure 4. Exposure to Violence x Age Predicting Externalizing Problems

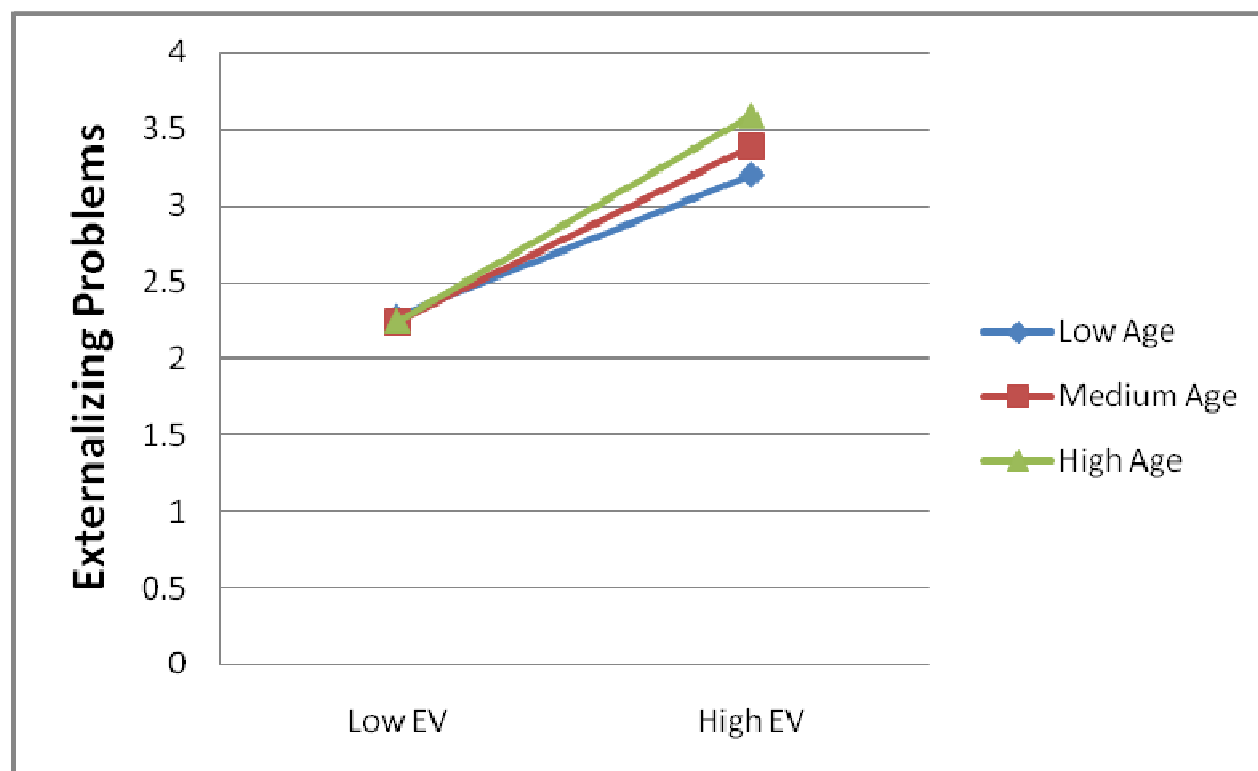


Table 11. Structural equation model with exposure to violence x age interaction predicting internalizing and externalizing problems

	<u>Internalizing Problems</u>		<u>Externalizing Problems</u>			
<b>Model Variables</b>	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.09**	.03	.16***	.03		
Child Age	-.01	.02	.01	.01		
Two-way interaction	-.00	.02	.03*	.01		
Gender	-.15**	.05	.02*	.03		
Experimental group status	-.14**	.05	.02	.03		
Ethnicity	.01	.02	.03*	.01		
Highest grade completed	-.03*	.01	.00	.01		
Internalizing problems (5 year, teacher report)	.12	.07				
Externalizing problems (5 year, teacher report)			.10**	.03		
	$\chi^2$	df	$p$	CFI	RMSEA	SRMR
<b>Fit Indices</b>	128.36	41	.00	.81	.07	.06

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

Figure 5. Exposure to violence x extracurricular activities predicting externalizing problems

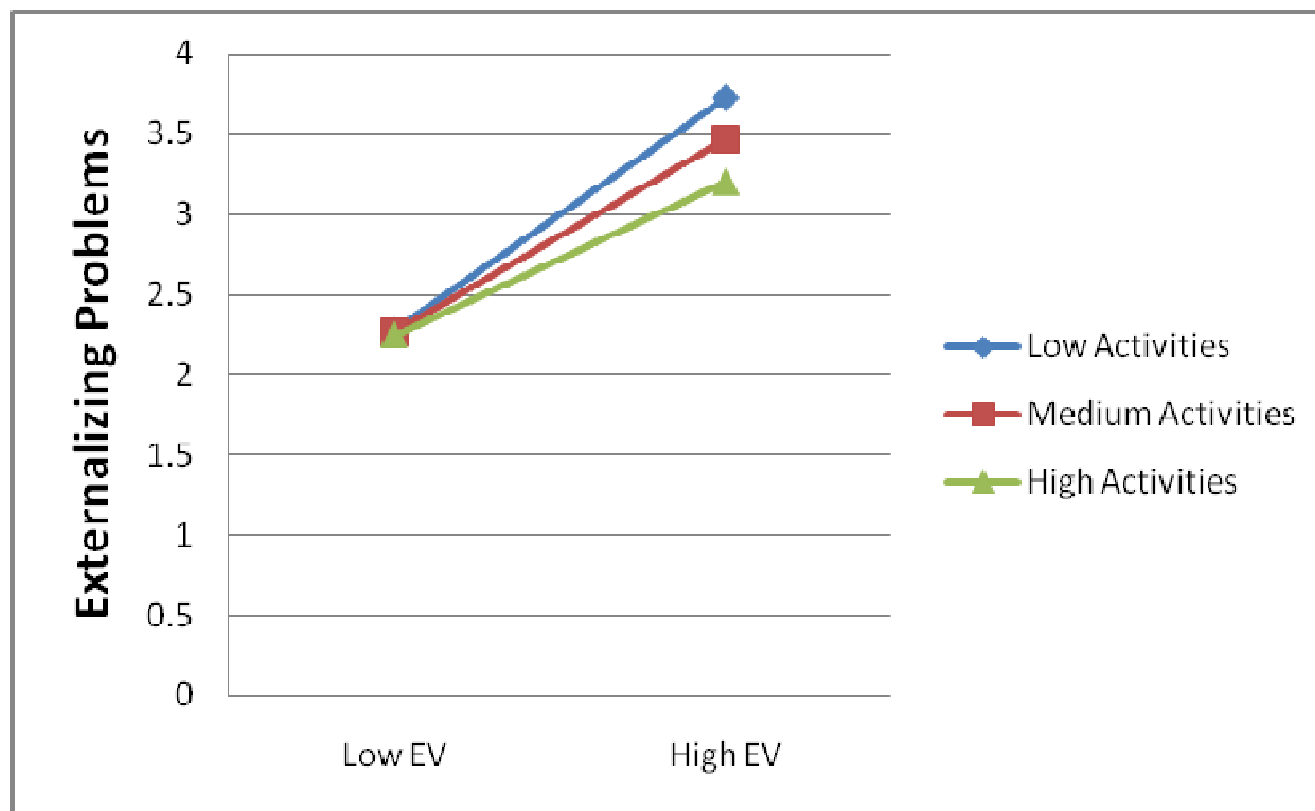




Table 12. Structural equation model with exposure to violence x extracurricular activities interaction predicting internalizing and externalizing problems

Model Variables	Internalizing Problems		Externalizing Problems			
	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.09***	.03	.17***	.03		
Extracurricular Activities	-.12**	.04	-.05*	.02		
Two-way interaction	-.00	.03	-.05**	.02		
Gender	-.13*	.05	.02	.03		
Experimental group status	-.13*	.05	.02	.03		
Ethnicity	-.00	.02	.03*	.01		
Highest grade completed	-.02	.01	.00	.01		
Child age	-.02	.02	.00	.01		
Internalizing problems (5 year, teacher report)	.13*	.06				
Externalizing problems (5 year, teacher report)			.12***	.03		
Fit Indices	$\chi^2$	df	p	CFI	RMSEA	SRMR
	126.38	45	.00	.83	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 13. Structural equation model with exposure to violence x school climate interaction predicting internalizing and externalizing problems

Model Variables	Internalizing Problems		Externalizing Problems			
	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.06*	.02	.17***	.03		
School climate	-.12***	.03	-.06**	.02		
Two-way interaction	.00	.02	-.01	.01		
Gender	-.14**	.04	.02	.03		
Experimental group status	-.10*	.04	.02	.03		
Ethnicity	-.00	.02	.03*	.01		
Highest grade completed	-.02	.01	.00	.01		
Child age	-.03	.02	.00	.01		
Internalizing problems (5 year, teacher report)	.06	.05				
Externalizing problems (5 year, teacher report)			.12***	.03		
	$\chi^2$	df	<i>p</i>	CFI	RMSEA	SRMR
Fit Indices	135.36	45	.00	.81	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 14. Structural equation model with exposure to violence x family routines interaction predicting internalizing and externalizing problems

	<u>Internalizing Problems</u>		<u>Externalizing Problems</u>			
<b>Model Variables</b>	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.11***	.03	.20***	.03		
Family routines	.03	.04	-.06*	.03		
Two-way interaction	-.05	.04	.03	.02		
Gender	-.14*	.06	.02	.03		
Experimental group status	-.16**	.06	.02	.03		
Ethnicity	.01	.02	.05**	.02		
Highest grade completed	-.03*	.01	.00	.01		
Child age	-.01	.02	.01	.01		
Internalizing problems (5 year, teacher report)	.14*	.07				
Externalizing problems (5 year, teacher report)			.14***	.03		
	$\chi^2$	Df	$p$	CFI	RMSEA	SRMR
<b>Fit Indices</b>	135.85	45	.00	.80	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 15. Structural equation model with exposure to violence x positive parent-child relations interaction predicting internalizing and externalizing problems

Model Variables	Internalizing Problems		Externalizing Problems			
	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.09**	.03	.18***	.03		
Positive parent-child relations	-.09**	.03	-.06**	.02		
Two-way interaction	-.03	.03	-.02	.02		
Gender	-.15**	.05	.02	.03		
Experimental group status	-.13*	.05	.01	.03		
Ethnicity	.01	.02	.03*	.01		
Highest grade completed	-.02*	.01	.00	.01		
Child age	-.03	.02	-.00	.01		
Internalizing problems (5 year, teacher report)	.06	.06				
Externalizing problems (5 year, teacher report)			.10**	.03		
	$\chi^2$	df	<i>p</i>	CFI	RMSEA	SRMR
Fit Indices	132.20	45	.00	.81	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Figure 6. Exposure to violence x school climate x gender predicting externalizing problems

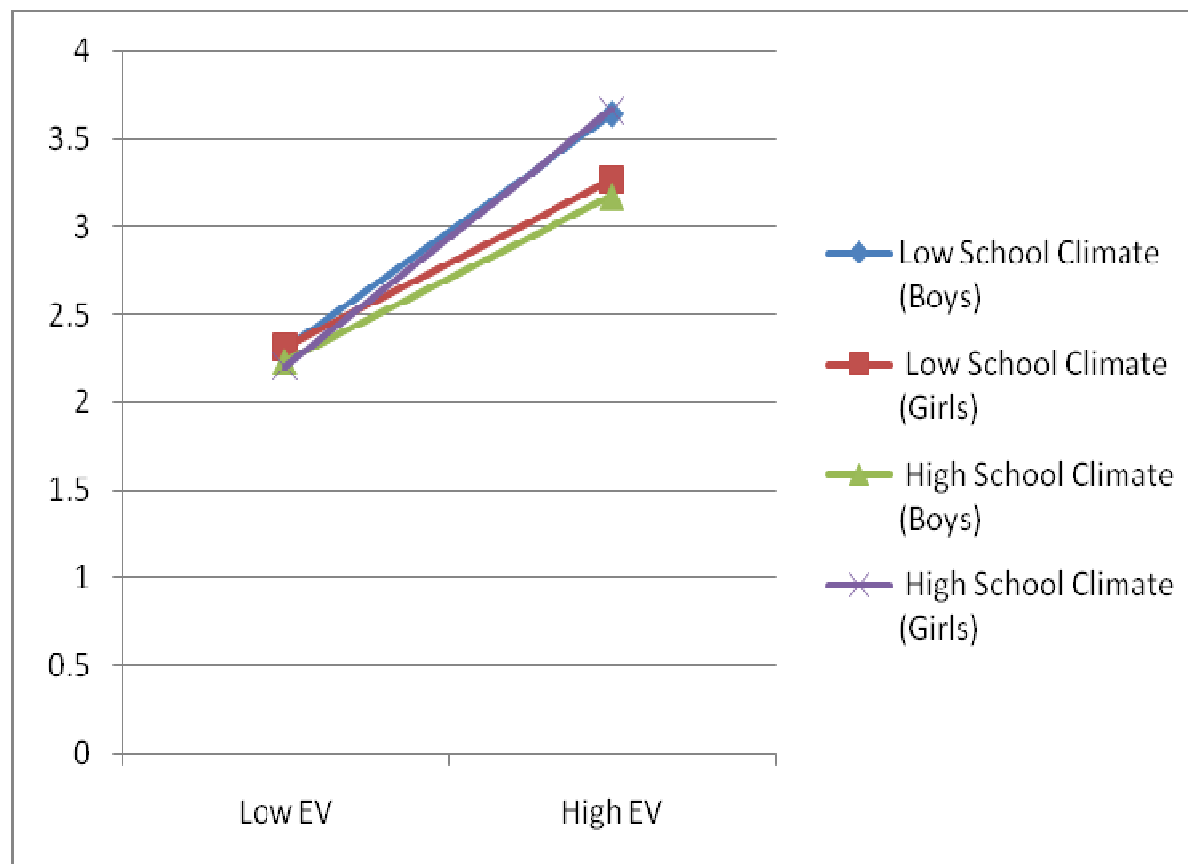


Table 16. Structural equation model with exposure to violence x school climate x gender interaction predicting internalizing and externalizing problems

	<u>Internalizing Problems</u>		<u>Externalizing Problems</u>			
<b>Model Variables</b>	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.14**	.05	.17***	.04		
School climate	- .14***	.04	- .03	.02		
Gender	-.16***	.05	.01	.03		
Exposure to violence x school climate	.05	.03	.04	.02		
Exposure to violence x gender	-.12*	.05	-.01	.03		
School climate x gender	.08	.05	- .02	.03		
Three-way interaction	-.08	.04	- .07	.03		
Experimental group status	-.12*	.04	.02	.03		
Ethnicity	-.01	.02	.03*	.01		
Highest grade completed	-.02*	.01	.00	.01		
Child age	-.03	.02	-.01	.01		
Internalizing problems (5 year, teacher report)	.08	.05				
Externalizing problems (5 year, teacher report)			.10**	.03		
	$\chi^2$	df	<i>p</i>	CFI	RMSEA	SRMR
<b>Fit Indices</b>	154.59	57	.00	.81	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$  †  $p < .10$

Table 17. Structural equation model with exposure to violence x extracurricular activities x gender interaction predicting internalizing and externalizing problems

	Internalizing Problems		Externalizing Problems			
Model Variables	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.15***	.04	.15***	.04		
Extracurricular activities	-.06	.05	-.07*	.03		
Gender	-.13**	.04	.01	.03		
Exposure to violence x extracurricular activities	.05	.05	-.08*	.03		
Exposure to violence x gender	-.11*	.04	.01	.03		
Extracurricular activities x gender	-.09	.06	.04	.03		
Three-way interaction	- .07	.05	.04	.03		
Experimental group status	-.11*	.05	.02	.03		
Ethnicity	- .01	.02	.03*	.01		
Highest grade completed	-.02	.01	.00	.01		
Child age	-.02	.02	.00	.01		
Internalizing problems (5 year, teacher report)	.09	.05				
Externalizing problems (5 year, teacher report)			.10***	.03		
	$\chi^2$	df	p	CFI	RMSEA	SRMR
Fit Indices	150.25	57	.00	.81	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 18. Structural equation model with exposure to violence x family routines x gender interaction predicting internalizing and externalizing problems

	<u>Internalizing Problems</u>		<u>Externalizing Problems</u>			
<b>Model Variables</b>	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.17***	.04	.18***	.04		
Family routines	.05	.05	-.06	.04		
Gender	-.15**	.05	.02	.03		
Exposure to violence x family routines	.04	.08	.08	.05		
Exposure to violence x gender	-.12**	.05	.02	.03		
Family routines x gender	-.02	.07	.03	.05		
Three-way interaction	-.09	.08	-.06	.06		
Experimental group status	-.15*	.05	.01	.03		
Ethnicity	.01	.02	.04**	.02		
Highest grade completed	-.03*	.01	.01	.01		
Child age	-.01	.02	.01	.01		
Internalizing problems (5 year, teacher report)	.13*	.06				
Externalizing problems (5 year, teacher report)			.14***	.04		
	$\chi^2$	df	<i>p</i>	CFI	RMSEA	SRMR
<b>Fit Indices</b>	164.44	57	.00	.78	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$  †  $p < .10$



Table 19. Structural equation model with exposure to violence x positive parent-child relations x gender interaction predicting internalizing and externalizing problems

	Internalizing Problems		Externalizing Problems			
Model Variables	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.15***	.04	.14***	.04		
Positive parent-child relations	-.13*	.04	-.08**	.03		
Gender	-.16**	.05	.02	.03		
Exposure to violence x pos. parent-child relations	.01	.06	-.06	.03		
Exposure to violence x gender	-.10*	.04	-.04	.03		
Positive parent-child relations x gender	.12	.06	.05	.04		
Three-way interaction	-.07	.07	.04	.04		
Experimental group status	-.13*	.05	.01	.03		
Ethnicity	.00	.02	.03*	.01		
Highest grade completed	-.02*	.01	.00	.01		
Child age	-.02	.02	-.00	.01		
Internalizing problems (5 year, teacher report)	.06	.06				
Externalizing problems (5 year, teacher report)			.08*	.03		
	$\chi^2$	df	p	CFI	RMSEA	SRMR
Fit Indices	148.81	57	.00	.81	.06	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 20. Structural equation model with exposure to violence x age x gender interaction predicting internalizing and externalizing problems

	<u>Internalizing Problems</u>		<u>Externalizing Problems</u>			
<b>Model Variables</b>	Estimate	S. E.	Estimate	S. E.		
Exposure to violence	.17***	.05	.14***	.04		
Child age	.01	.03	.01	.02		
Gender	-.15**	.05	.02	.03		
Exposure to violence x child age	.02	.04	.02	.02		
Exposure to violence x gender	-.12*	.05	.03	.02		
Child age x gender	-.03	.04	-.01	.02		
Three-way interaction	- .01	.05	.00	.03		
Experimental group status	-.13*	.05	.01	.03		
Ethnicity	.01	.02	.03*	.01		
Highest grade completed	-.02*	.01	.00	.01		
Internalizing problems (5 year, teacher report)	.11	.07				
Externalizing problems (5 year, teacher report)			.09**	.03		
	$\chi^2$	df	<i>p</i>	CFI	RMSEA	SRMR
<b>Fit Indices</b>	142.72	53	.00	.80	.07	.06

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

## Appendix I:

### List of Items for Each Measure

#### Exposure to violence

(0 = never, 1 = once, 2 = more than once)

*During the past 12 months, how often did you...*

- a. You see someone shoot or stab another person
- b. Someone pull a knife or gun on you
- c. Someone shoot you
- d. Someone cut or stab you
- e. Were you jumped

#### Internalizing Problems

(1 = never, 2 = rarely, 3 = sometimes, 4 = most of the time, 5 = all of the time)

*My child...*

- a. Has low self-esteem.
- b. Appears lonely.
- c. Is easily embarrassed.
- d. Shows anxiety about being with a group of kids.
- e. Acts sad or depressed.

#### Manifest Anxiety

(1 = never true, 2 = hardly ever true, 3 = sometimes true, 4 = true most of the time, 5 = always true)

- a. You worry a lot of the time (worry/oversensitivity)
- b. You are afraid of a lot of things (worry/oversensitivity)
- c. You are tired a lot (physiological anxiety)
- d. You have trouble going to sleep at night (physiological anxiety)
- e. Other children are happier than you are (social concerns/concentration)
- f. You wake up scared some of the time (physiological anxiety)
- g. How often do you worry when you go to bed at night? (worry/oversensitivity)
- h. How often do you feel nervous? (worry/oversensitivity)
- i. How often do you have trouble making up your mind? (physiological anxiety)
- j. How often do you find it hard to keep your mind on your school work? (social concerns/concentration)
- k. How often do you have trouble remembering things? (social concerns/concentration)
- l. How often do others seem to do things easier than you can? (social concerns/concentration)
- m. How often do you have bad dreams? (physiological anxiety)

#### Externalizing Problems (Likert-type items)

(1 = never, 2 = rarely, 3 = sometimes, 4 = most of the time, 5 = all of the time)

*My child...*

- a. fights with others.
- b. talks back to adults when corrected.
- c. threatens or bullies others.
- d. argues with others.
- e. loses temper easily.
- f. gets angry easily.

Delinquency

(1 = never, 2 = 1-2 times, 3 = 3-4 times, 4 = 5 or more times)

*During the past 12 months, how often did you...*

- a. threaten to beat up someone to make them do something they did not want to do.
- b. take part in a gang fight.
- c. have a fistfight with another person.
- d. carry a weapon—for example, a chain, knife, or gun.
- e. take something of large value, worth \$100 or more, that did not belong to you.
- f. get into a place, a movie, a game or a performance without paying the admission price.
- g. take something of little value, worth less than \$10, that did not belong to you.
- h. break into and enter somewhere to take something.
- i. purposely damage or destroy public or private property that did not belong to you.
- j. purposely damage or destroy something that belonged to your parents or other family members.
- k. purposely destroy parts of a car, such as a radio antenna or tires.
- l. purposely set a fire in a building or in any other place.
- m. get drunk on beer, wine, or other alcoholic beverages.
- n. use marijuana or hashish.
- o. use tobacco or smoke cigarettes.
- p. use inhalants such as glue or solvents.
- q. use cocaine or other illegal drugs such as LSD or PCP.
- r. use drugs or alcohol while carrying a weapon such as a gun, knife, or club.
- s. get arrested for a crime.
- t. get convicted of a crime.
- u. drive a car without its owner's permission.

Participation in Activities

(1=never, 2=less than once a month, 3=about every month, 4=about every week, 5=about everyday)

*During the school year, in or out of school, how often did you...*

- a. Take lessons such as dance, music, or arts and crafts that do not involve sports?
- b. Play a sport or take lessons with a coach or instructor, things like gymnastics, karate, soccer, baseball, softball, cheerleading/drill team?
- c. Belong to a club or youth group like cubs, or boy scouts/girl scouts, drama club, or a youth group associated with a church or temple?
- d. Go to Sunday school or religious services, take religion classes, or participate in church or temple choir?

- e. Go to recreation or community centers where there were adults supervising, such as the Y, the Boys and Girls Club?
- f. Go to a before- or after-school program, like at school or a center?
- g. Participate in leadership activities, things like student council/student government, debate or drama club?
- h. Participate in musical activities like band, choir, orchestra or in a musical group?

School Climate (Likert-type items)

(1=Not True at All, 2=Hardly Ever True, 3=Sometimes True, 4=True Most of the Time, 5=Always True for you)

*How true are the following...*

- a. You feel close to others at your school.
- b. You feel like you are a part of your school.
- c. You are happy to be at your school.
- d. The teachers at your school treat students fairly.
- e. You feel safe in your school.

Family Routines (Likert-type items)

(1=almost never, 2=not too often, 3=sometimes, 4=fairly often, 5=always)

*During the school year...*

- a. your family has a time during the day or evening when family members talk to one another or play quiet.
- b. children do their homework around the same time of day or night.
- c. children go to bed around the same time every week night.
- d. family members eat dinner or supper together.
- e. dinner or supper is eaten around the same time each night.
- f. at least some of the family eats breakfast together in the morning.

Positive Parent-Adolescent Relations

1= not at all true, 2 = hardly ever true, 3 = sometimes true, 4 = true most of the time, 5 = always true)

- a. Your (PCG) is what you think a perfect (PCG) should be.
- b. Your (PCG) tries to understand your problems and worries.
- c. Your (PCG) spends a lot of time talking about things with you.
- d. You are happy when you are at home.
- e. You talk over important plans with (her/him).
- f. You often have good times at home with (her/him).
- g. You feel that your (PCG) is proud of you.
- h. (She/he) usually treats you fairly.
- i. You feel close to (her/him).
- j. You know that (she/he) is your friend.
- k. There is real love and affection for you at home.

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