

Violent Victimization, Aggression, and Parent-Adolescent Relations: Quality Parenting as a Buffer for Violently Victimized Youth

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Abstract Prospective associations between violent victimization, the quality of the parent-adolescent relationship, and the subsequent onset of violent aggression were examined. Using the National Longitudinal Study of Adolescent Health (Add Health), participants were divided into violent and non-violent cohorts based on whether they had committed an act of violence prior to Wave 1. Results showed that violent victimization at Wave 1 predicted the onset of violent aggression at Wave 2 for adolescents who were non-violent at baseline. Earlier violent victimization, however, had no effect on aggression trajectories for baseline violent adolescents. Parent-adolescent relations functioned as a protective buffer, such that violently victimized adolescents who reported high quality relationships with parents were less likely to be involved in violent aggression at Wave 2. Subsequent gender interaction analyses revealed that while the buffer-

ing effect was evident for males, parent-adolescent relations did not protect females from the onset of aggressive behaviors. Findings are evaluated in light of social learning and cycle of violence theories that highlight the role of violent victimization among adolescents.

Keywords Parent-child relationship · Violence · Victimization · Onset of aggression

Adolescents experience the highest rate of violent victimization of any age group (Bureau of Justice Statistics, 2001; Hindelang, 1976), and adolescence is a time period when the experience of violence first hand is not uncommon (Boney-McCoy and Finkelhor, 1995; Bureau of Justice Statistics, 2001; Hinton-Nelson et al., 1996; Howard et al., 2002; Kilpatrick et al., 2000; Shaffer and Ruback, 2002). An estimated 70% of urban youth in neighborhoods characterized by high crime and poverty rates have experienced some form of violent victimization (Scarpa, 2003). Researchers who used data from the National Longitudinal Study of Adolescent Health (Add Health; Udry, 1997) provided evidence that 19% of adolescents had experienced at least one form of violent victimization within the previous year (Shaffer and Ruback, 2002). Such evidence illustrates the need to address what has been identified as a significant public health risk for adolescents (Thornton et al., 2002).

Due to the prevalence of adolescents impacted by violent acts, the current study focused on the role of violent victimization in the subsequent onset of violent behavior. Because research has suggested that violence victims are more likely to be violent aggressors (Lopez and Emmer, 2002; Singer, 1986), tools for prevention were investigated. Specifically, the parent-adolescent relationship was considered as a buffer of later adolescent delinquent behavior (Bjarnason et al., 1999).

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Operationalization of violent victimization

Violent victimization is defined as the experience of a severe incident of violence such as being shot, stabbed, or seriously injured in a fight (Beauvais et al., 1996; Kilpatrick et al., 2000; Menard, 2002; Shaffer and Ruback, 2002; Singer, 1986), and therefore is unique compared to other less serious forms of peer victimization that occur within youth communities, such as verbal taunting, being pushed, or hit (e.g. Hanish and Guerra, 2002; Hodges et al., 1999; Kochenderfer and Ladd, 1997; Perry et al., 1988). To remain consistent with the majority of previous studies that assessed serious, life-threatening incidents, the present study adopted a working definition of violent victimization as an event that caused serious injury or harm. Such a definition includes the actual experience of violence such as being stabbed or shot, while parsing out those victimization incidents that only have the potential to result in serious violence, but do not (e.g., being threatened with a weapon). Thus, the main objective of the current study was to investigate major violent victimizations as opposed to minor occurrences.

Documented negative outcomes of violent victimization

An array of negative social and psychological outcomes have been associated with violent victimization during adolescence (Macmillan, 2001). Perceptions are drastically altered following violent incidents, as youth begin to form images of a negative life. In one study, early adolescent violence victims were more likely to believe that violence was a universal experience, reflected in their belief that most Americans were likely to die a violent death (Hinton-Nelson et al., 1996). In comparison to adolescents whose exposure to violence was primarily through eye-witness, victims themselves had lower levels of hope regarding life. Howard et al. (2002) found feeling unloved, unwanted, or afraid to be associated with a history of violent victimization. Additionally, adolescent victims were shown to be at risk for substance abuse (Kilpatrick et al., 2000), anxiety, depression (Boney-McCoy and Finkelhor, 1995), symptoms of posttraumatic stress disorder (PTSD; Boney-McCoy and Finkelhor, 1995; Slovak, 2002; Slovak and Singer, 2002), and suicide (Evans et al., 2001). Thus, the aftereffect of violent victimization has become alarming.

Violent victimization has also been linked to onset and commission of violently aggressive behaviors (e.g. Fagan, 2003; Shaffer and Ruback, 2002; Singer, 1986; Widom, 1989). For example, the cycle of violence hypothesis (see Widom, 1989) contends that child maltreatment is a generational and learned behavior passed from parent to child through observation and interaction. When put into context of non-domestic community peer-relations, the cycle of violence hypothesis can be extended to suggest that experiences

as a victim of violence may promote the development and use of violent aggression. Because victimization may offer individuals information about how to respond to threats, victimization illustrates a potential threat for an expanding population of aggressive individuals (Fagan, 2003; Shaffer and Ruback, 2002; Singer, 1986). Theoretically, the process of violent victimization may serve to bolster the number of aggressive individuals among the population, and warrants further research on the factors involved in whether victims transition to become aggressors.

Violent aggression following experiences of violent victimization

Violently victimized youth have also been shown to develop higher rates of violent aggressive behavior during adolescence as compared to non-victimized youth, thus calling for attention to this population. Based on data from the National Longitudinal Study of Adolescent Health (Add Health; Udry, 1997), Shaffer and Ruback (2002) analyzed a sample of over 5,000 adolescent participants and assessed self-reports of violent victimization and violent aggression.¹ Victimization and aggression counts consisted of self-report assessments of having been shot, stabbed, seriously injured, or having been threatened by another person. Using cross-lag logistic regressions that controlled for Wave 1 aggression, the authors showed violent victimization at Wave 1 to be a significant predictor of Wave 2 violent aggression. Fagan (2003) conducted a similar longitudinal study, and also demonstrated that adolescent violence victims reported elevated levels of both short- and long-term violent offending.

Despite a temporal link between violent victimization and violent aggression (Fagan, 2003; Shaffer and Ruback, 2002; Singer, 1986; Widom, 1989), the direction between the two has been debated. One reason for this ambiguity lies in the classification of victims and aggressors. Studies have suggested victim-offender (or victim-aggressor) overlap, because some individuals may experience both victimization and perpetrate aggressive acts concurrently (Pellegrini et al., 1999; Shaffer and Ruback, 2002; Singer, 1986). For example, Shaffer and Ruback (2002) identified 15% of adolescents as being involved in both violent victimization and violent aggression at Wave 1 of their study. Further complicating efforts to identify violent victimization as a precursor to violent aggression, a transactional association between violent victimization and aggression has been shown such that earlier levels of problem aggression were associated with victimization and vice versa (Lauritsen et al., 1992; Loeber et al., 2001; Menard, 2002; Shaffer and Ruback, 2002; Singer, 1986).

¹ The term violent aggression was used in our paper rather than what Shaffer and Ruback (2002) termed violent offending.

In an attempt to portray violent victimization as a predictor of violent aggression, researchers have tested various methods, however limitations have still been restraining. For instance, although Shaffer and Ruback (2002), and Fagan (2003) controlled for baseline aggression (or offending) in their analyses, a definite conclusion could not be drawn whether violent victimization led to the onset of violent aggression. That is, the effect violent victimization had on adolescents who were not violently aggressive at Wave 1, compared to those who were aggressive was left uninvestigated. Though it can be concluded that violent victimization affects increases in violent aggression, unexplored is whether victimization experiences influence violent and non-violent adolescents differently. To address this concern in the current study, we separated adolescents into subgroups on their violent aggression at Wave 1, which allowed for the investigation of whether factors in adolescents' social context explain the onset of violent aggression. Additionally, analyses based on these groupings can reveal whether violent and non-violent adolescents differ in their susceptibility to the influence of violent victimization, as indicated by violent aggression trajectories over time.

Parenting and its role in preventing adolescent violent aggression

Family and parenting contexts have been shown to play a central role in protecting adolescents against the development of or engagement in maladaptive behaviors (Liard et al., 2003; Masten and Coatsworth, 1998), such as delinquency (Bjarnason et al., 1999; Loeber and Dishion, 1983) and violent aggressive activity (Franke, 2000; Gormon-Smith et al., 1996; Herrenkohl et al., 2003; Reese et al., 2000; Shaffer and Ruback, 2002; Spillane-Grieco, 2000). Patterson's theory of coercive family process (1982; see also Patterson et al., 1992) suggested that negative exchange within the parent-adolescent relationship eventually lead to the teaching, socialization, and acquisition of antisocial and aggressive behaviors. Conversely, those parents who are able to maintain positive relations with their adolescent children facilitate pro-social development (Patterson, 1980), and thus have the potential to reduce within the peer group the likelihood of maladaptive behaviors (such as violent aggression). Similar arguments made by Bjarnason et al. (1999) provided evidence that the parent-adolescent relationship serves to reduce levels of delinquent behavior. For instance, adolescents were more likely to confide and trust their parents' counsel if an established emotional bond existed. In absence of this bond, adolescents were more likely to disregard advice and rules established by parents. Those who were strongly bonded also developed mutual respect, and consequently had an easier time following rules and openly communicating. Healthy communication between parent and child increased

the knowledge a parent had about their child and the child's major life events, which thus enhanced their ability to identify dangerous life course problems and appropriately intervene. Thus, in the current study, importance was given to identifying the value parents have in minimizing aggressive acts among adolescents. Specifically, because parents are a general resources for many adolescents, they may be used as a tool to override negative development, such as aggression.

In benefit to a strong parent-child relationship, the presence of positive parenting has been noted to mediate the relationship between violence exposure and subsequent negative outcomes (Price, 2001; Wallen and Rubin, 1997). Wallen and Rubin (1997) discussed the specific familial factors which had been found to mediate between exposure to violence and various maladjustments (though not violent aggression). Based on the literature, the authors concluded the mediating relationship to be a product of the physical availability of parents, their ability to provide protection, safety, and emotional support during traumatic events, as well as the parents' ability to facilitate moral development and serve as models for adaptive coping. Given the roles that parents play during non-normative events throughout child and adolescent development, a similar protective buffer may also exist for violence victims who are at risk for becoming violent aggressors.

Despite the wealth of information available on parenting as a protective factor (e.g. Bjarnason et al., 1999; Gormon-Smith et al., 1996; Herrenkohl et al., 2003; Wallen and Rubin, 1997; Shaffer and Ruback, 2002), little is known regarding whether parental buffers differ in function between male and female youths who are exposed to violence. Of the studies that have reported on the link between violent victimization and aggression (e.g. Fagan, 2003; Shaffer and Ruback, 2002; Singer, 1986), little specific attention was given to gender differences, or the possibility of the existence of a gender interaction. What these studies have confirmed is that males are more likely to be victimized and violently aggressive. Higher rates of aggression among male adolescents has been widely documented throughout the literature (see Cairns et al., 1989; Maccoby and Jacklin, 1974) as one reason why research in this area has historically focused on males. Recently, however, evidence has emerged to suggest the incidence of violent aggression among females has increased notably. For example, between 1988 and 1997, the rates of court referrals for males increased 26% as compared to 69% for females (Bureau of Justice Statistics, 1999). Gender differences in rates of violent victimization, violent aggression (Bureau of Justice Statistics, 2001), and parent-child relations (Carlo et al., 1999; Starrels, 1994) suggest further attention be paid to family context in the development of violent aggression. Since literature pertaining to female aggression is sparse, additional research is needed to confirm whether violent victimization is a pathway to violent

aggression and whether proactive parenting serves as a protective buffer.

The present study

Our study investigated two areas of adolescent violent victimization. Using a longitudinal data set (Add Health; Udry, 1997) that spanned roughly one year, we first examined relations between violent victimization and subsequent reports of violent aggression. Our hypotheses followed the theoretical frameworks of social learning (Bandura, 1973, 1977) and subcultural violence theories (Wolfgang & Ferracuti, 1967), such that greater exposure to violent victimization was predicted to explain violent aggressive behaviors at Wave 2.

To address limitations of previous studies (e.g. Shaffer and Ruback, 2002; Singer, 1986), we examined levels of violent victimization at Wave 1 and the associations with subsequent violent aggression at Wave 2 after we divided the sample into two cohorts on the basis of baseline violent aggression counts. Distinguishing previously violent adolescents from non-offenders allowed us to evaluate the extent to which violent victimization served as a catalyst to the onset of violent aggression in adolescents. Thus, our first two hypotheses were specific to the baseline groups. First, we hypothesized experiences of violent victimization would explain the onset of Wave 2 violent aggression for adolescents who were non-violent during Wave 1. Comparatively, we predicted that the level of violent victimization experienced would influence aggression trajectories across waves for baseline violent adolescents. Specifically, baseline violent adolescents who were severely victimized were hypothesized to show a consistent involvement in violent aggression across waves, as opposed to non-victims. Consistent with Shaffer and Ruback's report that within the Add Health data set violent aggression decreased between both waves, we predicted baseline violent adolescents who lacked experiences of violent victimization would decrease in violent aggression counts at Wave 2.

Third, we hypothesized adolescent ratings of parent-adolescent relations (PAR) quality would moderate the relationship between Wave 1 violent victimization and violent aggression at Wave 2. Following past research on family and parental factors (Bjarnason, 1998; Gormon-Smith et al., 1996; Patterson, 1980, 1982; Price, 2001; Wallen and Rubin, 1997) we predicted violently victimized adolescents who reported positive parent-adolescent relations (PAR) – warmth, care, communication and relationship quality – would be less likely to endorse violent aggression at Wave 2. Adolescents from low quality PARs who were violently victimized were expected to endorse an even higher number of violent aggression incidents at Wave 2. Within the testing of our third hypothesis, we estimated three-way interactions to investigate gender differences in the interaction between PAR scores and violent victimization. Because little research had

previously explored this link, we viewed this analysis as exploratory, serving a descriptive purpose, and not subject to a hypothesis.

Method

Participants

Waves 1 and 2 of the Add Health public data set (Udry, 1997) were used. The public use data set contained 6,504 cases and this study reported on a sub-sample of participants who had complete data at Waves 1 and 2 for all variables pertinent to our analyses ($N = 3,696$). When divided by biological sex, 1,784 (48%) were male and 1,912 (52%) were female. Participants were aged 11–21 at Wave 2 ($M = 15.92$, $SD = 1.59$), and reported a mean household income of 48,400 dollars per year. The sub-sample was composed of 70.6% White, 21.3% Black, 3.4% Latino, 2.9% Asian, 1.2% Native American, and 0.6% classified as other.

Design and procedure

Data were collected from participants during two waves spanning from 1994 to 1996. In-school questionnaires were administered by teachers during a 45–60 minute class period and the in-home assessment data were recorded by interviewees onto laptop computers. The in-school questionnaire data were collected from September 1994 through April 1995 and the in-home interviews occurred between April and December of 1995.

Adolescents who participated in the Wave 1 in-home questionnaire and interview were contacted for Wave 2 data collection approximately one year later. In-home Wave 2 interviews were administered from April through August of 1996. For information on the Add Health data set and data collection methods, see Bearman et al. (1998; see also Udry, 1997).

Measures

Although data collected from participants at both waves assessed a variety of adolescent health topics, this study specifically used variables that assessed violent victimization (Wave 1), violent aggression (Waves 1 and 2), and the quality of the parent-adolescent relationship (Wave 1). All data used for our analyses were self-reported by the adolescent. Following similar items used by Shaffer and Ruback (2002) and Fagan (2003), violent victimization and violent aggression were defined in terms of incidents that actually resulted in serious injury.² A parent-adolescent relationship quality

² We thank our correspondence with an anonymous reviewer, who pointed out the theoretical implications of including an item within

measure was developed based on evidence that parenting qualities such as warmth, communication, and positive perception of the relationship with the parent are associated with reduced risk for delinquent or violent behavior (Bjarnason et al., 1999; Gormon-Smith et al., 1996; Herrenkohl et al., 2003; Wallen and Rubin, 1997).

Violent victimization

The violent victimization score was calculated as a count of the different forms of victimization experienced by the participant. Victimization experiences that had occurred in the past year included three items that assessed how often participants had been seriously injured in a fight (item 1), had been shot (item 2) or stabbed (item 3). These specific incidents have also been assessed as violent victimization in previous studies (see Boney-McCoy and Finkelhor, 1995; Fagan, 2003; Kilpatrick et al., 2000; Shaffer and Ruback, 2002; Singer, 1986). Due to an extreme positive skew, for this study each item was scored dichotomously so that responses were either zero (no endorsement of the incident) or one (one or more counts of the specific form of victimization). An identical dichotomy was also used by Shaffer and Ruback, and is an appropriate and recommended technique for dealing with extremely skewed data that fails to conform to transformations (Tabachnick and Fidell, 1989). The violent victimization score at Wave 1 was calculated as the sum of the three victimization items, resulting in a final score with a range of zero to three ($M = 0.14$, $SD = 0.41$).

Adolescents who did not experience an incident of violent victimization received a score of zero and composed the majority of the sample ($n = 3245$, 87.8%). Of the remaining sample, 387 (10.5%) participants reported one incident, 52 (1.4%) reported two incidents, and 12 (0.03%) indicated they had experienced all three incidents. There were significant differences in the number of victimization experiences between male and female participants. Male participants ($M = 0.20$, $SD = 0.49$) reported significantly higher counts of victimization than females ($M = 0.09$, $SD = 0.32$), $t(3694) = 8.68$, $p < 0.001$, Cohen's $d = 0.27$. Nearly 17.1% of the males indicated they had experienced at least one incident of violence as victims, in comparison to 7.6% of females.

our victimization count that assessed whether the adolescent had been threatened with a weapon. Readers may note that while other violent victimization scales such as the one used by Shaffer and Ruback (2002) include violent victimization items with the *potential* for serious injury, such as being threatened with a knife or gun, counts that clearly discriminate between actual and potential victimization allow for less ambiguous interpretations of results. For this reason, our scale only included items of actual violent victimization that resulted in injury, as opposed to potential victimization. Similar rationale was used for our violent aggression measure as well.

Violent aggression

The violent aggression score at both waves consisted of two items that assessed violent acts committed within the last year. These items were intended to parallel the violent victimization experiences and included how often the adolescent seriously injured another person (item 1), and shot or stabbed someone (item 2).³ All items were dichotomized and represented whether the participant endorsed a single incident of the violent act. The resulting violent aggression count for both Waves 1 and 2 were the summation of the two incidents, ranged from zero to two, and were significantly correlated, $r(3696) = .36$, $p < 0.01$. There was an observable decrease from Wave 1 ($M = 0.20$, $SD = 0.43$) to Wave 2 aggression counts ($M = 0.10$, $SD = 0.34$) that was statistically significant, $t(3695) = 13.87$, $p < 0.001$, Cohen's $d = 0.26$. At Wave 1, 18.6% of adolescents committed at least one form of violent aggression, compared to 8.7% at Wave 2. These self reports at Wave 2 were new acts of violence, and independent of the frequency counts at Wave 1. Males and females engaged in significantly different levels of violent aggression at both Waves 1, $t(3694) = 12.38$, $p < 0.001$, Cohen's $d = 0.41$, and 2, $t(3694) = 9.40$, $p < 0.001$, Cohen's $d = 0.31$, with males reporting more experiences at both waves. Nearly 26.8% of males at Wave 1 and 13.3% at Wave 2 reported having engaged in one or more violently aggressive acts. In contrast, only 11% of females at Wave 1 and 4.4% at Wave 2 reported violent aggression perpetration.

Parent-adolescent relations

The quality of parent-adolescent relations (PAR) was measured as the average of six items that assessed interpersonal relations between participants and their parents. Items included five point Likert scale ratings (1 = strongly disagree, 5 = strongly agree) that assessed whether the parent was warm and loving, had good communication, and a good relationship with the adolescent. The remainder of the items were also answered on five point scales (1 = not at all, 5 = very much) and allowed participants to share the degree to which they were close to the parent, whether the parent cared for them, and how much the parent cared. Mean scores for mother ratings were significantly higher ($M = 4.45$, $SD = 0.58$, Range = 1–5, Cronbach's $\alpha = 0.86$) than father ratings ($M = 4.34$, $SD = 0.73$ Range = 1–5, Cronbach's $\alpha = 0.83$), $t(2794) = 8.59$, $p < 0.001$, Cohen's $d = 0.16$,

³ Data from the National Longitudinal Study of Adolescent Health merged the violent aggression incidents of being shot and stabbed into one item. For this reason, the violent aggression counts used in our study consisted of only two items, as opposed to the three item violent victimization count, which measured being shot and stabbed as two separate items.

and were moderately correlated, $r(2795) = 0.47, p < 0.001$. Given the strong correlation between the mother and father scores, and for simplicity within our analyses, a final parental score was computed using the mean of both mother and father PAR quality ($M = 4.53, SD = 0.51, \text{Range} = 1-5$). Roughly one-fourth (24.3%) of participants only had data available for one parent, in which case the PAR score reflected the single residential parent. Male participants gave higher PAR ratings ($M = 4.45, SD = 0.51$) than females ($M = 4.33, SD = 0.64$), $t(3694) = 6.24, p < 0.001$, Cohen's $d = 0.21$.

Control variables

Select covariates were included in the analyses based on their reported links to violent victimization and aggression. These included total household income as a measure socioeconomic status (SES; Beyers et al., 2001; Herrenkohl et al., 2003), biological sex (dummy coded so that one was indicative of a male, two represented females; Bureau of Justice Statistics, 2001; Fehon et al., 2001; Graham and Wells, 2001; Scarpa, 2003), and age of the adolescent (Bureau of Justice Statistics, 2001; Shaffer and Ruback, 2002). Since past research has suggested differences in violent victimization and aggression rates between ethnic minority and majority youths, a race control was also included, dummy coded so that a value of one reflected white adolescents (see Fagan, 2003; Shaffer and Ruback, 2002).

Results

Correlations among all variables used for these analyses are provided in Table 1. The values above the diagonal represent correlations for males while values below the diagonal represent associations for the females.

To address our first two hypotheses, the sample was divided into violently aggressive and non-violently aggressive adolescent groups based on Wave 1 violent aggression counts. Adolescents who reported a score of zero for

Wave 1 violent aggression were placed into the *baseline non-violent* cohort. Those adolescents who reported one or more counts of violent aggression at Wave 1 were placed into the *baseline violent* cohort. Similar grouping methods have been employed in studies to discern between violent and non-violent adolescents (e.g. Herrenkohl et al., 2003; Shaffer and Ruback, 2002). This grouping method enabled us to not only test those adolescents who were non-violent (or non-aggressive) at Wave 1 for violent aggression onset, but also to compare violence trajectories between the non-violent and violent cohorts.

Based on Wave 1 violent aggression reports, 689 participants were classified as baseline violent, while 3,007 were non-violent (Fig. 1). Within each cohort, participants were dichotomized (given the low distribution of actual victims) into two sub-groups based on levels of violent victimization experienced at Wave 1. Participants who reported zero incidents of violent victimization were assigned to a *non-victim* group ($n = 3,245$), while those who endorsed one, two, or three counts were placed in a *victim* group ($n = 451$). *T*-tests were used to examine differences in control variables between baseline violent and non-violent cohorts. There were no significant differences in age between the violent ($M = 15.93, SD = 1.50$) and non-violent ($M = 15.92, SD = 1.61$) cohorts, $t(3694) = -0.29, ns$. Difference in total household income was also non-significant, $t(3694) = 1.26, ns$, though did illustrate a slightly lower annual income level in the violent cohort ($M = 45.94, SD = 70.00$) when compared to non-violent participants ($M = 48.97, SD = 53.70$). The non-violent cohort was composed of 92.3% non-victims, and 7.7% victims. Out of the 789 baseline violent adolescents, 68.2% were non-victims, with the remaining 31.8% being classified as victims.

An ANCOVA compared victimization sub-group differences in Wave 2 aggression among adolescents who were not violently aggressive at Wave 1. Biological sex, total household income, and age were entered as covariates. As hypothesized, the level of Wave 2 violent aggression was directly related to the level of violent victimization experienced at Wave 1 for adolescents who were non-violent at baseline.

Table 1 Bivariate correlations between study variables for males ($n = 1784$) and females ($n = 1912$)

Variables	1	2	3	4	5	6
1. Household Income	–	0.04	–0.05*	–0.03	0.0	–0.04
2. Age	–0.02	–	0.04	0.02	–0.16***	0.02
3. Violent Victimization	–0.04	0.02	–	0.37***	–0.10***	0.20***
4. Violent Aggression	–0.01	–0.03	0.27***	–	–0.12***	0.36***
5. PAR	0.01	–0.14***	–0.06**	–0.12***	–	–0.09***
6. Violent Aggression (Wave 2)	–0.02	–0.02	0.12***	0.31***	–0.10***	–

Note. All variables occur during Wave 1 unless otherwise indicated. Correlations above the diagonal represent male adolescents. Correlations below the diagonal are correlations for female adolescents.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

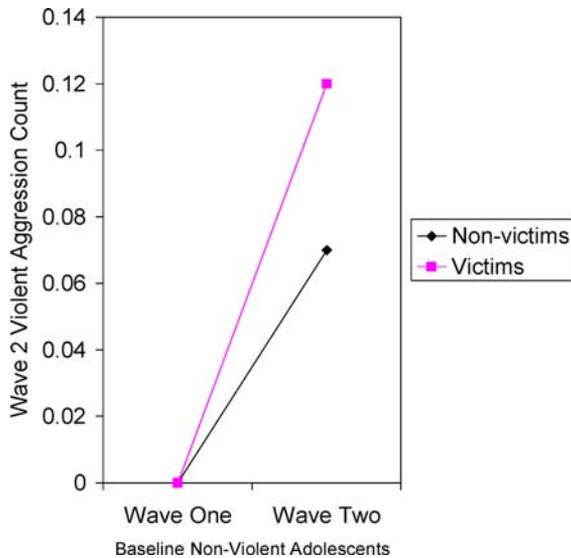


Fig. 1 Wave two violent aggression across violent victimization groups: The non-violent cohort ($n = 3,007$)

Victims reported higher Wave 2 violent aggression counts ($M = 0.12, SE = 0.02$), compared to non-victims ($M = 0.07, SE = 0.01$), $F(1, 1304) = 4.3, p < 0.05$.

To determine whether violent aggression trajectories differed by victimization experiences, two ANCOVAs compared differences in both Wave 1 and 2 aggression in violent adolescents based on victim sub-grouping. Biological sex, total household income, age, and the dummy coded variable for race were used as covariates. For Wave 1 violent aggression, victim cohorts yielded aggression counts directly related to whether they had experienced violent victimization or not. Victims reported higher Wave 1 violent aggression count ($M = 1.17, SE = 0.02$), compared to non-victims ($M = 1.02, SE = 0.01$), $F(1, 684) = 61.19, p < 0.001$. A second ANCOVA compared Wave 2 violent aggression across victimization subgroups. Victims also reported higher aggression counts for Wave 2 ($M = 0.49, SE = 0.04$), compared to non-victims ($M = 0.28, SE = 0.03$), $F(1, 684) = 13.94, p < 0.001$.

As previously reported, the overall sample significantly dropped in violent aggression from Wave 1 to Wave 2. The baseline violent cohort followed this trend, as all victimization subgroups displayed aggression drops. Our second hypothesis predicted that victimization experiences would affect violent aggression trajectories across waves. To test this, a difference score was computed by subtracting Wave 1 from Wave 2 aggression counts. According to our hypothesis, severe victims would have difference scores closer to a value of zero, reflecting stability in violent aggression across waves. Non-victims would have the largest difference scores, indicating drastic drops from Wave 1 to Wave 2 aggression. Mean difference scores for victim and non-victim subgroups were 0.85, and 0.72 respectively. A oneway

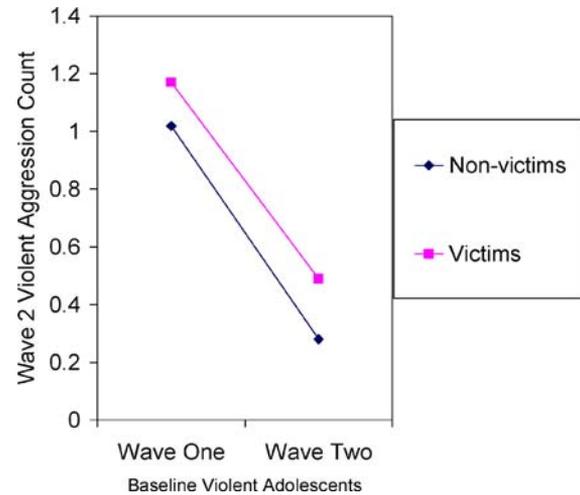


Fig. 2 Violent aggression trajectories across violent victimization groups: The violent cohort ($n = 689$)

ANOVA compared difference scores across victimization subgroups, which indicated a similar decline in aggression from Wave 1 to Wave 2, regardless of violent victimization experiences, $F(1, 687) = 2.41, ns$ (See Fig. 2). Contrary to our hypothesis, violent victimization experiences were not related to aggression trajectories across waves for baseline violent adolescents. Both victims and non-victims reported similar declines in violent aggression across Waves 1 and 2.

Finally, we assessed the role of PAR as a buffer of Wave 2 violent aggression for the entire sample ($N = 3,696$) using hierarchical multiple regression analysis. The structuring of our initial model also took into account our interest of illustrating differences in the victimization-aggression link between male and female adolescents. For this reason, a regression model was set up with variables to test for a three way interaction in predicting Wave 2 violent aggression between violent victimization, PAR, and gender. Covariates of biological sex, total household income, age, race, as well as Wave 1 violent aggression were entered as Step 1 of the analysis, and accounted for 13.9% of the model’s variance, $F(4, 3691) = 149.11, p < 0.001$. The violent victimization count and PAR score were centered, entered as Step 2, and accounted for an additional amount of the variance above and beyond the covariates, $\Delta F(2, 3689) = 12.29, p < 0.001$. Step 3 of the regression involved computing and entering three two-way interactions, containing all possible combinations of the variables that would be entered as the three-way interaction (see Aiken and West, 1991). These were the violent victimization by PAR score (vic-PAR) interaction, the violent victimization by gender interaction, and the PAR by gender interaction. Collectively, these three two-way interactions contributed a statistically significant portion of the variance, $\Delta F(3, 3686) = 4.07, p < 0.01$. Only the violent victimization by gender interaction was significant ($\beta = -0.11$,

Table 2 Regression model including the three-way violent victimization X PAR X gender interaction in predicting wave 2 violent aggression ($N = 3696$)

Predictors	<i>B</i>	<i>SE B</i>	β	<i>t</i>
Step 1				
Household Income	-0.00	0.00	-0.02	-1.07
Age	-0.00	0.00	-0.01	-0.50
Violent aggression	0.25	0.01	0.31	18.94***
Race	-0.04	0.01	-0.05	-3.27**
Gender	-0.06	0.01	-0.09	-5.68***
Step 2				
Violent victimization	0.13	0.04	0.16	3.27**
PAR	-0.04	0.03	-0.06	-1.15
Step 3				
Vic * PAR interaction	-0.09	0.06	-0.07	-1.51
Vic * gender interaction	-0.06	0.03	-0.11	-2.25*
Gender * PAR interaction	0.01	0.02	.02	0.36
Step 4				
Vic * PAR * gender interaction	0.03	0.04	0.03	0.66

Note. $R^2 = 0.14$ for Step 1 ($p < 0.001$); $\Delta R^2 = 0.006$ for Step 2 ($p < 0.001$); $\Delta R^2 = 0.03$ for step 3 ($p < 0.01$); $\Delta R^2 = 0.00$ for step 4, (*ns*).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

$p < .05$), interactions were significant, though the PAR by gender interaction was not. The final step included the violent victimization by PAR by gender three-way interaction, which was not significant. Complete statistics for this analysis are provided in Table 2.

The addition of the three way interaction also contributed to a decline in significance for the other predictors in the model. For this reason, the initial regression model was revised by pulling out the three-way interaction, as well the non-significant PAR by gender two-way interaction that was entered in Step 3. Statistics for the final regression model are provided in Table 3.

Given that gender is a categorical variable, it was appropriate to conduct separate regression analyses for males and females (Aiken and West, 1991). This permitted a sim-

pler interpretation of the results, as well as graphing of the violent victimization by PAR interaction for each gender separately.

Comparison of the regression analysis in Table 4 for males and females highlighted the violent victimization by gender interaction. Where as violent victimization was a significant predictor of Wave 2 violent aggression for males, it was not for females. The quality of parent-adolescent relations was a more powerful predictor of violent aggression at Wave 2 for females. Furthermore, where as the violent victimization by PAR interaction was significant for the males, it was marginally non-significant ($p = 0.07$) for females. Both male and female interactions were graphed following the methods outlined by Aiken and West (1991).

As indicated in Fig. 3, PAR quality moderated the relationship between Wave 1 violent victimization and Wave 2 violent aggression for males, confirming our third hypothesis. Male adolescents who reported elevated incidents of violent victimization and low PAR quality were more likely to have higher counts of violent aggression during wave two. However, high PAR quality predicted lower violent aggression counts, despite the reported level of violent victimization. The interaction showed highly rated PAR to be a protective buffer preventing Wave 2 aggression in violently victimized male adolescents. It should be noted that while the violent victimization by PAR interaction was statistically non-significant for females, graphing of the girl’s interaction demonstrated a similar buffering trend as the males (Fig. 4).

Discussion

The current study suggested the link between violent victimization and violent aggression is more complex than what has previously been reported. Although violent victimization is a

Table 3 Revised regression model including final variables predicting wave 2 violent aggression ($N = 3696$)

Predictors	<i>B</i>	<i>SE B</i>	β	<i>t</i>
Step 1				
Household Income	-0.00	0.00	-0.02	-1.07
Age	-0.00	0.00	-0.01	-0.48
Violent aggression	0.25	0.01	0.32	18.97***
Race	-0.03	0.01	-0.05	-3.27**
Gender	-0.06	0.01	-0.09	-5.75***
Step 2				
Violent victimization	0.13	0.04	0.16	3.47**
PAR	-0.03	0.01	-0.05	2.97**
Step 3				
Vic * PAR interaction	-0.06	0.02	-0.04	-2.83**
Vic * gender interaction	-0.07	0.03	-0.12	-2.49*

Note. $R^2 = 0.14$ for Step 1 ($p < 0.001$); $\Delta R^2 = 0.006$ for Step 2 ($p < 0.001$); $\Delta R^2 = 0.003$ for step 3 ($p < 0.01$).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 4 Regression model for variables predicting violent aggression at wave two for male ($n = 1782$) and female adolescents ($n = 1912$)

Predictors	Males				Females			
	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>B</i>	<i>SE B</i>	β	<i>t</i>
Step 1								
Household income	-0.00	0.00	-0.03	-1.12	-0.00	0.00	-0.00	-0.16
Age	0.00	0.01	0.00	0.05	-0.00	0.00	-0.02	-1.06
Violent aggression	0.27	0.02	0.32	13.55***	0.21	0.02	0.29	12.81***
Race	-0.05	0.02	-0.05	-2.40*	-0.03	0.01	-0.05	-2.40*
Step 2								
Violent victimization	0.05	0.02	0.07	2.75**	0.01	0.02	0.02	0.78
PAR	-0.03	0.02	-0.04	-1.51	-0.03	0.01	-0.07	-3.24**
Step 3								
Vic * PAR interaction	-0.07	0.03	-0.05	-1.98*	-0.04	0.02	-0.04	-1.79

Note. For male adolescents, $R^2 = 0.13$ for Step 1 ($p < 0.001$); $\Delta R^2 = 0.006$ for Step 2 ($p < 0.01$); $\Delta R^2 = 0.002$ for step 3 ($p < 0.05$). For female adolescents, adjusted $R^2 = 0.10$ for Step 1 ($p < 0.001$); $\Delta R^2 = 0.006$ for Step 2 ($p < 0.01$); $\Delta R^2 = 0.002$ for step 3 (*ns*).
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

risk factor for later violent aggression (Fagan, 2003; Shaffer and Ruback, 2002; Singer, 1986), our findings indicated an experience of violence may be more influential on adolescents who previously have not engaged in violently aggressive behavior. Furthermore, the quality of parent-adolescent relations moderated the association between violent victimization at Wave 1 and violent aggression at Wave 2, but only for males. Collectively, our findings imply adolescents at risk for engaging in violent aggressive behavior are males who have been violently victimized, and who lack quality parent-adolescent relations.

It is important to relate our findings to previously reported pathways associated with the development of violent aggression during adolescence (see Brame et al., 2001; Nagin and Tremblay, 1999). Nagin and Tremblay (1999) and others (Brame et al., 2001; Broidy et al., 2003) have reported an increase in aggressive behavior during early adolescence for certain youth. What have not been investigated in these sam-

ples are the factors leading to the aggression increase. We argue that violent victimization serves as one possible spark in the onset of violent aggression. This does not imply that these violence victims were not aggressive prior to the implementation of the Add Health data collection. Whether participants engaged in minor forms of aggression during childhood was unknown, and for this reason we and others (such as Brame et al., 2001) approach the use of the term *onset* with caution.

Add Health data did not expand on the nature and context in which Wave 2 violent aggressive acts occurred, thus obscuring our findings. We provide two interpretations, since self reports of Wave 2 violence perpetration could have reflected one of two forms of aggression: reactive vs. proactive (see Dodge, 1991; Poulin and Boivin, 2000). On one hand, it may be that adolescent victims of violence learned to adapt and respond to incidents of victimization with reactive aggression, as a survival mechanism. This interpretation relates to the social learning perspective of violent transgression, as

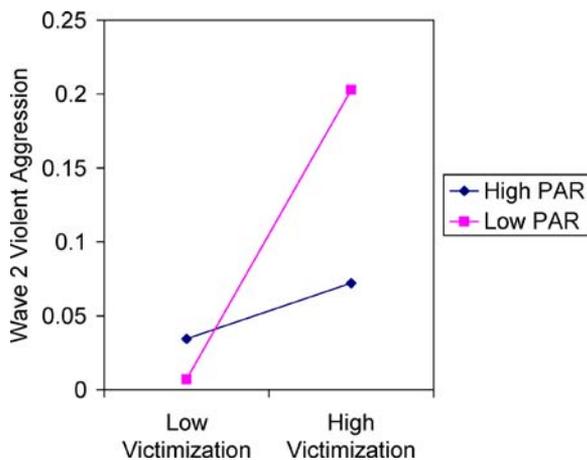


Fig. 3 Interaction of parent-adolescent relations quality and violent victimization for male adolescents: positive parenting as a buffer ($n = 1782$)

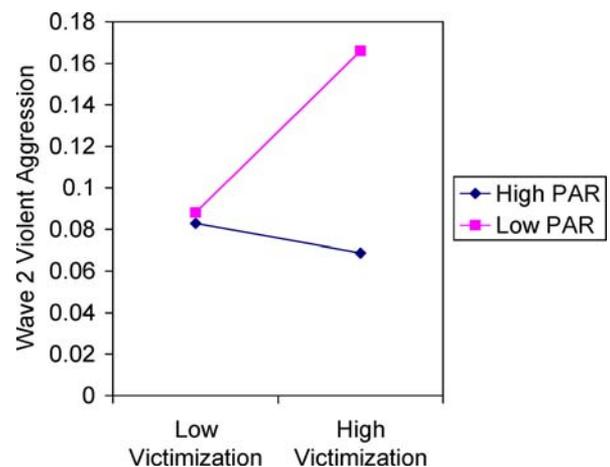


Fig. 4 Interaction of parent-adolescent relations quality and violent victimization for female adolescents: The absence of the protective buffer? ($n = 1912$)

adolescents acquire their self-defensive techniques from the aggressors who victimize them. Furthermore, under subcultural violence norms, acts of violent aggression would be ideal self-defense in response to experiencing victimization. Equally, Wave 2 violent aggression reports could have reflected incidents of proactive violence. An adolescent victim may have learned the positive reinforcements associated with using proactive (instrumental) aggression against others. Further support for this notion was provided by Shahinfar et al. (2001), who associated violence experience (through eyewitness) with perceptions of positive outcomes for the aggressor. Social learning theory also accounts for a proactive aggression explanation, as adolescents learn the positive reinforcements of violence through their experiences as victims. Since the Add Health items did not prompt further explanation of violent aggression reports, it was inappropriate to conclude whether violent victimization leads to reactive (self-defense) or proactive (instrumental) violent aggression. The question remains whether both forms of Wave 2 violent aggression were equally likely, or whether one (reactive vs. proactive) was more probable than the other.

Regardless of whether one was violently victimized or not, both victim and non-victim subgroups within the baseline violent cohort reported decreases in violent aggression from Wave 1 to Wave 2. Mean comparison of age for both violent and non-violent cohorts indicated no significant difference, excluding the possibility that violent aggression decreases were reflective of the over-all declination of adolescent violence rates over time (Bureau of Justice Statistics, 2001). Comparison of victims and non-victims suggested that the number of violence experiences did little to either decrease or maintain aggression across waves. While violent victimization had an influence on violent aggression onset in the non-violent cohort, the same cannot be concluded for adolescents in the violent cohort. Violent victimization's influence on violent aggression may not be as relevant once an adolescent has already entered the violence cycle.

Consistent with studies that demonstrated parenting was a protective factor against adolescent delinquency and violence (Gormon-Smith et al., 1996; Herrenkohl et al., 2003; Price, 2001; Wallen and Rubin, 1997), high parent-adolescent relations quality served as a buffer for violently victimized adolescents, especially for males. It can be argued that there are two mechanisms through which quality parent-adolescent relations protect violently victimized males from later engaging in violent aggressive acts. First off, coercive family process theory (Patterson, 1980), suggests violently victimized adolescent males from homes characterized as having quality parent-adolescent relations were equipped early in life with the social skills needed to adaptively react and cope with experiences of victimization. Thus, it could be that parent-adolescent relations buffered the onset of violent aggression in victims through retrospective socialization. In

other words, the positive effects of quality parent-adolescent relations functioned prior to the experience of violent victimization, resulting in the adolescent responding in an adaptive, but non-violent manner. Additionally, parent-adolescent relations could have also functioned following the event of violent victimization. In this sense, parent-adolescent relations served to assist the adolescent in coping following a traumatic event (Wallen and Rubin, 1997), facilitated through parental warmth and communication.

Communication between adolescents and their parents is an integral part for not only maintaining relations, but also informing caretakers of important events occurring in their children's lives (Bjarnason et al., 1998). Low parent-adolescent ratings may have reflected weak parent-adolescent communication. A break-down in parent-adolescent communication results in reduced awareness of children's violent victimization experiences, which in turn increases risk for negative psychological and social outcomes (see Hill and Jones, 1997). For our case, we argue a break down in communication may have also contributed to an increased risk for violent aggression. Likewise, communication and positive perceptions of the parent-adolescent relationship have also been linked to the amount of time parents spend with their offspring (Liard et al., 2003). Time spent with a parent implies shorter time unsupervised, and potentially away from deviant peers (Montemayor, 1982), which could result in fewer opportunities for adolescent victims to use retaliatory or proactive aggression (Flannery et al., 1999). For example, Flannery and colleagues (1999) found that early adolescents who spent less time with their parents and more time unsupervised and with peers engaged in greater acts of aggression, among other maladaptive behaviors. Thus, it is probable adolescent participants reporting high parent-adolescent relations scores lacked the opportunity to engage in violent behaviors since a significant amount of time was spent with parents rather than with peers or alone, though this is speculative. Further research is needed to determine whether the PAR buffer functions in part to behavioral redirection, in which the intent to engage in retaliatory aggression is offset by supervised time with parents.

An initial response to the non-significant interaction in the female adolescents regression was that female adolescents who were violently victimized did not benefit from the parent-adolescent relations buffer. However, the same conclusion cannot be drawn when consideration is given to the limited number of female violence victims. Due to the narrow range of victimization counts, the number of female adolescents considered actual violence victims in relation to high and low levels of parent-adolescent relations is low. Consequently, the non-significant interaction may have been representative of a small group of female adolescents, and thus is not applicable to youth populations in general. Indeed, though representative of a marginally non-significant

interaction, Fig. 4 suggested female adolescent violence victims may also benefit from the protective nature of quality parent-adolescent interactions. The results reported here clearly merit further inquiry, especially as pertains to the relationships between parent and female offspring during the adolescent transition, and the way in which they interact with experiences of violent victimization.

A striking difference between male and female adolescents however, is the role of the parent-adolescent relationship in predicting Wave 2 violent aggression. The PAR measure was a stronger predictor of violent aggression at Wave 2 for female adolescents, more so than violent victimization (as was the case for males). This does not imply that female adolescents are immune to the effects of violent victimization on aggression, as the near significant interaction suggested both violent victimization and PAR to be a dynamic set of predictors in the regression model. The greater role of PAR on violent aggression could be indicative of parent socialization practices unique to female adolescents. Gender specific parenting practices have been suggested to play a central role in socializing females in non-aggressive ways (Carlo et al., 1999). Following these differences in aggressive tendency between genders, it is likely that incidents of victimization rarely spark the use of violent aggression, as appropriate responses modeled for female adolescents through gender-specific socialization by parents discourage the use of violence for dealing with victimization.

Use of a mean PAR score for both mothers and fathers limited the application of our findings to homes consisting of different parental compositions. Although mean PAR scores accounted for single parent households, (such that absence of a parent did not interfere with the mean PAR calculation), there was question as to whether or not high quality PAR provided an equal effect across family types. Previous research on risk factors of violent aggression have suggested a single parent in the home serves to increase the chances of involvement in violence as a perpetrator (Shaffer and Ruback, 2002). More investigation is needed into if and how PAR quality functions as a buffer in single-parent homes of adolescents who are violently victimized.

We urge application of current study's findings to better identify at risk adolescents who lack positive parent-adolescent relations, and experience high rates of violent victimization. It is critical to address violence victims prior to their increases in violent aggression, as to prevent adolescents from entering a cycle of violence as both victims and perpetrators. Those who assist in violence prevention efforts also need to consider that risk and protective factors of violent aggression, as well as their interaction, may differ for male and female adolescents. We believe a proper application of this study will serve the growing interventions intended to stop violence from occurring within youth communities.

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References

- Aiken LS, West SG (1991) Multiple regression: Testing and interpreting interactions. Sage, Newbury Park, CA
- Bandura A (1973) Aggression: A social learning analysis. Prentice Hall, Englewood Cliffs, NJ
- Bandura A (1977) Social learning theory. Prentice Hall, Englewood Cliffs, NJ
- Bearman PS, Jones J, Udry JR (1998) The national longitudinal study of adolescent health: research design. Retrieved on February 24th, 2005 from <http://www.cpc.unc.edu/projects/addhealth/design>
- Beauvais F, Chavez EL, Oetting ER, Deffenbacher JL (1996) Drug use, violence, and victimization among White American, Mexican American, and American Indian dropouts, students with academic problems, and students in good academic standing. *J Couns Psychol* 43(3):292–299
- Beyers JM, Loeber R, Wikström PH, Stouthamer-Loeber M (2001) What predicts adolescent violence in better-off neighborhoods? *J Abnorm Child Psychol* 29(5):369–381
- Bjarnason T, Sigurdardottir TJ, Thorlindsson T (1999) Human agency, capable guardians, and structural constraints: A lifestyle approach to the study of violent victimization. *J Youth Adolesc* 28(1):105–119
- Boney-McCoy S, Finkelhor D (1995) Psychosocial sequelae of violent victimization in a national youth sample. *J of Consult Clin Psychol* 63(5):726–736
- Brame B, Nagin DS, Tremblay RE (2001) Developmental trajectories of physical aggression from school entry to late adolescence. *J Child Psychol Psychiatry Appl Discip* 42(4):503–512
- Broidy LM, et al. (2003) Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross-national study. *Dev Psychol* 39(2):222–245
- Bureau of Justice Statistics (1999) Special report: Women offenders (NCJ 175688). Greenfield & Snell, Washington, DC
- Bureau of Justice Statistics (2001) Criminal Victimization 2001: Violent victimization rates by age: 2001. US Department of Justice, Washington, DC. Retrieved October 3rd, 2003 from <http://www.ojp.usdoj.gov/bjs/welcome.html>
- Cairns RB, Cairns BD, Neckerman HJ, Ferguson LL, Garipey JL (1989) Growth and aggression: 1. Childhood to early adolescence. *Dev Psychol* 25(2):320–330
- Carlo G, Raffaelli M, Laible DJ, Meyer KA (1999) Why are girls less physically aggressive than boys? Personality and parenting mediators of physical aggression. *Sex Roles* 40(9/10):711–729
- Dodge KA (1991) The structure and function of reactive and proactive aggression. In: Pepler DJ, Rubin KH (eds) *The development and treatment of childhood aggression*. Lawrence Erlbaum, Hillsdale, NJ, pp 201–218

- Evans WP, Marte RM, Betts S, Silliman B (2001) Adolescent suicide risk and peer-related violent behaviors and victimization. *J Interpers Violence* 16(12):1330–1348
- Fagan AA (2003) The short- and long-term effects of adolescent violent victimization experienced within the family and community. *Violence Victims* 18(4):445–458
- Fehon DC, Grilo CM, Lipschitz DS (2001) Gender differences in violence exposure and violence risk among adolescent inpatients. *J Nerv Ment Dis* 189(8):532–540
- Flannery DJ, Williams LL, Vazsonyi AT (1999) Who are they with and what are they doing? Delinquent behavior, substance abuse, and early adolescents' after-school time. *Am J Orthopsychiatry* 69(2):247–253
- Franke TM (2000) The role of attachment as a protective factor in adolescent violent behavior. *Adolesc Fam Health* 1(1):40–51
- Gormon-Smith D, Tolan PH, Zelli A, Huesmann LR (1996) The relation of family functioning to violence among inner-city minority youths. *J Fam Psychol* 10(2):115–129
- Graham K, Wells S (2001) The two worlds of aggression for men and women. *Sex Roles* 45(9–10):595–622
- Hanish LD, Guerra NG (2002) A longitudinal analysis of patterns of adjustment following peer victimization. *Dev Psychopathol* 14(1):69–89
- Herrenkohl TI, Hill KG, Chung I, Guo J, Abbot RD, Hawkins JD (2003) Protective factors against serious violent behavior in adolescence: A prospective study of aggressive children. *Soc Work Res* 27(3):179–191
- Hill HM, Jones LP (1997) Children's and parents' perceptions of children's exposure to violence in urban neighborhoods. *J Nat Med Assoc* 89(4):270–276
- Hindelang MJ (1976) *Criminal victimization in eight American cities*. Ballinger, Cambridge, MA
- Hinton-Nelson MD, Roberts MC, Snyder CR (1996) Early adolescents exposed to violence: Hope and vulnerability to victimization. *Am J Orthopsychiatry* 66(3):346–353
- Hodges EVE, Boivin M, Vitaro F, Bukowski WM (1999) The power of friendship: Protection against an escalating cycle of peer victimization. *Dev Psychology* 35(1):94–101
- Howard DE, Feigelman S, Li X, Cross S, Rachuba L (2002) The relationship among violence victimization, witnessing violence, and youth distress. *J Adolesc Health* 31(6):455–462
- Kilpatrick DG, Aciermo R, Saunders BE, Resnick H, Best C, Shnurr P (2000) Risk factors for adolescent substance abuse and dependence: Data from a national sample. *J Consult Clin Psychol* 68(1):19–30
- Kochenderfer BJ, Ladd GW (1997) Victimized children's response to peers' aggression: Behaviors associated with reduced versus continued victimization. *Dev Psychopathology* 9(1):59–73
- Lauritsen JL, Laub JH, Sampson RJ (1992) Conventional and delinquent activities: Implications for the prevention of violent victimization among adolescents. *Violence Victims* 7(2):91–108
- Liard RD, Pettit GS, Dodge KA, Bates JE (2003) Change in parent's monitoring knowledge: Links with parenting, relationship quality, adolescent beliefs, and anti-social behavior. *Soc Dev* 12(3):401–419
- Loeber R, Dishion T (1983) Early predictors of male delinquency: A review. *Psychol Bull* 94(1):68–99
- Loeber R, Kalb L, Huizinga D (2001) Juvenile delinquency and serious injury victimization. *Juvenile Justice Bulletin* (August 2001). US Department of Justice, Office of Juvenile Justice and Delinquency Prevention
- Lopez VA, Emmer ET (2002) Influences of beliefs and values on male adolescents' decision to commit violent offenses. *Psychol Men Masculinity* 3(1):28–40
- Maccoby EE, Jacklin CN (1974) *The psychology of sex differences*. Stanford University Press, Stanford
- Macmillan R (2001) Violence and the life course: The consequences of victimization for personal and social development. *Ann Rev Sociol* 27(1):1–22
- Masten AS, Coatsworth J (1998) The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *Am Psychol* 53(2):205–220
- Menard S (2002) Short and long-term consequences of adolescent victimization, *Youth Violence Research Bulletin* (February, 2002). Retrieved February 24, 2005, from http://www.ncjrs.org/html/ojjdp/yv_2002.2.1/contents.html
- Montemayor R (1982) The relationship between parent-adolescent conflict and the amount of time adolescents spent alone and with parents and peers. *Child Dev* 53(6):1512–1519
- Nagin D, Tremblay RE (1999) Trajectories of boys' physical aggression, opposition, and hyperactivity on the path to physical violent and nonviolent juvenile delinquency. *Child Dev* 70(5):1181–1196
- Patterson GR (1980) Children who steal. In: Hirschi T, Gottfredson M (eds) *Understanding crime: Current theory and research*, vol 18. Sage, London, pp 411–455
- Patterson GR (1982) *Coercive family process*. Castalia, Eugene, OR
- Patterson GR, Reid JB, Dishion TJ (1992) *Antisocial boys*. Castalia, Eugene, OR
- Pellegrini AD, Bartini M, Brooks F (1999) School bullies, victims, and aggressive victims: Factors relating to group affiliation and victimization in early adolescence. *J Educ Psychol* 91(2):216–224
- Perry DG, Kusel SJ, Perry LC (1988) Victims of peer aggression. *Dev Psychol* 24(6):807–814
- Poulin F, Boivin M (2000) Reactive and proactive aggression: Evidence of a two-factor model. *Psychol Assess* 12(2):115–122
- Price AW (2001) Family and community-level moderators of adolescent exposure to community and domestic violence. *Dissertation Abstr Int* 62(3):1621B
- Reese LE, Vera EM, Simon TR, Ikeda RM (2000) The role of families and care givers as risk and protective factors in preventing youth violence. *Clin Child Fam Psychol Rev* 3(1):2000
- Scarpa A (2003) Community violence exposure in young adults. *Trauma, Violence, Abuse* 4(3):210–227
- Shaffer JN, Ruback RB (2002) Violent victimization as a risk factor for violent offending among juveniles. *Juvenile Justice Bulletin* (December, 2002). Retrieved October 14th, 2003 from <http://www.ncjrs.org/pdffiles1/ojjdp/195737.pdf>
- Shahinfar A, Kupersmidt JB, Matza LS (2001) The relation between exposure to violence and social information processing among incarcerated adolescents. *J Abnorm Psychol* 110(1):136–141
- Singer S (1986) Victims of serious violence and their criminal behavior: Subcultural theory and beyond. *Victims Violence* 1(1):61–70
- Slovak K (2002) Gun violence and children: Factors related to exposure and trauma. *Health Soc Work* 27(2):104–112
- Slovak K, Singer MI (2002) Children and violence: Findings and implications from a rural community. *Child Adolesc Soc Work J* 19(1):35–56
- Spillane-Grieco E (2000) From parent verbal abuse to teenage physical aggression? *Child Adolesc Soc Work J* 17(6):411–430
- Starrels ME (1994) Gender differences in parent-child relations. *J Fam Issues* 15(1):148–165
- Tabachnick BG, Fidell LS (1989) *Using multivariate statistics*, 2nd ed. Harper Collins, New York, NY
- Thornton TN, Craft CA, Dahlberg LL, Lynch BS, Baer K (2002) Best practices of youth violence prevention: A sourcebook for community action. National Center for Injury Prevention and Control. Centers for Disease Control and Prevention. Retrieved on February 8th, 2004 from <http://www.cdc.gov/ncipc/dvp/bestpractices.htm>

- Udry JR (1997) The national longitudinal study of adolescent health (Add Health), Waves I & II, 1994–1996 (Data sets 48–50, 98, A1–A3, Kelly, M. S., Peterson, J. L.) [machine-readable data file and documentation]. Carolina Population Center, University of North Carolina at Chapel Hill (Producer), Chapel Hill, NC. Sociometrics Corporation, American Family Data Archive (Producer & Distributor), Los Altos, CA
- Wallen J, Rubin RH (1997) The role of the family in mediating the effects of community violence on children. *Aggression Violent Behav* 2(1):33–41
- Widom CS (1989) The cycle of violence. *Science* 244(4901):160–166
- Wolfgang ME, Ferracuti F (1967) *The subculture of violence: Towards an integrated theory in criminology*. Tavistock, New York, NY

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