

Violence, Coping, and Mental Health in a Community Sample of Adolescents

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Abstract:

The current study examined the coping strategies, exposure to violence and psychological trauma symptoms of violent adolescents compared to less violent and nonviolent adolescents in a community sample. An anonymous self-report questionnaire was administered to students in six public high schools (grades 9–12). The 10% most violent adolescents were identified and compared to their less violent and nonviolent peers. A total of 3724 students represented 68% of adolescents in all targeted schools. Ages ranged from 14 to 19 years; 52% were female; and 35% were African-American, 34% Caucasian and 23% Hispanic. Analyses revealed that violent adolescents compared to their less violent and nonviolent peers employed more maladaptive coping strategies, were exposed to higher levels of violence and reported higher clinical levels of psychological trauma symptoms. Maladaptive coping was also significantly associated with psychological trauma symptoms and violent behavior, even after controlling for the influence of demographic factors. The findings support the importance of appropriate identification, assessment and referral services for adolescents in nonclinical settings, and the role that coping strategies play in contributing to adolescent mental health and well-being.

Keywords: mental health; coping strategies; violence; adolescents

Article:

Adolescents are regularly exposed to high levels of violence at home, at school, and in their neighborhoods (Lorion & Saltzman, 1993; Richters & Martinez, 1993; Singer, Anglin, Song, & Lunghofer, 1995). High levels of exposure to violence and victimization have been consistently related to posttraumatic stress disorder symptoms and other mental health problems like increased levels of anger, anxiety, and depression (Breslau, Daves, Andreski, & Peterson, 1991; Overstreet & Braun, 2000; Schwab-Stone et al., 1995). How adolescents cope with violence and other stressful events can either facilitate positive change into adulthood or contribute to later problem behavior and poor mental health (Rice, Herman, & Petersen, 1993). Compared to their peers, violent adolescents are at particular risk of being exposed to higher rates of violence and victimization, and to experience associated behavior and emotional problems (Finkelhor, 1995; Pynoos & Eth, 1985). The purpose of this study was to examine the relationship between exposure to violence, coping strategies, and mental health and violence among a community sample of violent adolescents compared to their nonviolent peers.

Coping has been defined as a set of behaviors and cognitions that allow a person to avoid, minimize, or tolerate stressful events (Plancherel & Bolognini, 1995), and coping behaviors can be characterized as either positive or negative (Rutter, 1990). Adolescents who endorse more positive, prosocial coping strategies tend to build and maintain supportive social relationships, meet their individual needs, and may be more resilient (Earls, 1994; Fraser, 1996), characteristics which reduce adolescent risk for engaging in problem behavior (Blum et al., 2000; Resnick, Bearman, & Blum, 1998). Prosocial coping strategies have also been shown to insure survival, reduce stress, stimulate higher mental processes, and reinforce social skills (Blechman, Dumas, & Prinz, 1994). Chronic exposure to violence and victimization from violence is more likely to contribute to the use of negative or maladaptive coping strategies. For example, chronic exposure to and victimization by violence have been shown to contribute to a combination of asocial (internalizing, depression) and antisocial (externalizing,

aggression) coping strategies (Blechman et al., 1994). Adolescents exposed to high levels of violence at home are more likely to endorse maladaptive coping strategies such as saying mean things to other people, and using alcohol and drugs (Flannery, Singer, Williams, & Castro, 1998).

Adolescents who witness traumatic incidents of violence such as a shooting at school (Schwartz & Kowalski, 1991) or who are victims of an assault (Fitzpatrick & Boldizar, 1993) may experience transient mental health symptoms, including depression, increased risk for suicide and drinking problems (Pastore, Fisher, & Friedman, 1996). Exposure to violence has been linked to a number of mental health and behavioral problems, including depression, stress, excessive worries and fears, anxiety, low self-esteem, posttraumatic stress, self-destructive and aggressive behavior, and impaired social skills (Fitzpatrick & Boldizar, 1993; Freeman, Mokros, & Pozmamski, 1993; Furlong, Chung, Bates, & Morrison, 1995; Osofsky, Wewers, Hann, & Fick, 1993; Pynoos & Eth, 1985; Pynoos & Nadar, 1988; Richters & Martinez, 1993; Shakoor & Chalmers, 1991; Singer et al., 1995). The impact of violence on social processing and competence can significantly affect an adolescent's ability to choose and act on using prosocial, adaptive coping strategies.

Children who have been exposed to or victimized by violence at high rates are also more likely to self-report engaging in violent behavior (Thornberry, 1994). Singer and colleagues (1999) found that exposure to recent violence accounted for 24% of the variance in self-reported violent behavior, even after controlling for demographic factors and the influence of parental monitoring and watching violence on television (Singer et al., 1999). In a longitudinal study, adolescent victims of child maltreatment were 31% more likely to report involvement in violent behavior, and children maltreated prior to the age of 12 were 24% more likely to report violent behavior in high school than their nonviolent peers (Thornberry, 1994).

One of the most common co-morbid problems for aggressive, violent youth is their use of alcohol and other drugs. Compared to nonviolent youth, violent adolescents are about ten times more likely to sell drugs, eight times more likely to commit nonviolent felonies, two to three times more likely to be weekly users of alcohol, cigarettes, and marijuana, and more likely to have tried cocaine or be a polydrug user. They are also more likely to dropout of high school, and are more likely to report poorer mental health (Ellickson, Saner, McGuigan, 1997). Sosin, Koepsell, Rivera, and Mercy (1995) compared fighters to adolescents who never fought. They found that adolescents who reported fighting accounted for 22% of students who attempted suicide, 49% who carried a firearm, 46% who used cocaine, 18% of all DUIs, and 25% of those who reported multiple sex partners.

Youth diagnosed with a conduct disorder have also been shown to endorse more aggressive coping strategies than their nondelinquent peers (Hastings, Anderson, & Hemphill, 1997). In fact, a delinquent response to stress is often perceived by the youthful offender as a reasonably effective short-term coping strategy (Brezina, 2000). Aggressive adolescents typically are also more at-risk for mental health and behavior problems because they do not typically utilize effective problem-solving strategies (Huesmann & Moise, 1999). Aggressive adolescents are more likely, for example, to misattribute neutral cues in their environment as hostile and they are less attentive to important social cues in the interaction (Dodge, Bates, & Petit, 1990). This misattribution often leads to altercations that, coupled with poor problem-solving skills and ineffective coping strategies, escalates interpersonal conflicts into violence. Young persons without the skills and competencies to resolve conflicts or effectively cope with stressors are at increased risk for violence perpetration and victimization (Lochman & Dodge, 1994).

Although research has been conducted on coping styles of adolescents, and separately on the relationship between exposure to violence and trauma symptoms, much less is known about how aggressive, violent youth cope with violence and its impact on their mental health. The current study examined coping strategies, exposure to violence and mental health in a large community-based sample of adolescents. We were particularly interested in the coping strategies and mental health problems of youth who report engaging in high levels of violent behavior. Adolescents were categorized into one of three groups. They were considered part of the "most violent group" if they scored in the top 10% of the entire sample (by gender) on self-reports of violent

behavior. This represented adolescents about 1.5 standard deviations above the mean for our sample. Adolescents who self-reported engaging in no aggressive or violent behavior in the past year were categorized as “nonviolent.” The remaining adolescents were identified as “less violent.”

We expected that the most violent youth would report utilizing more maladaptive, and fewer positive or adaptive coping strategies compared to their less violent peers. We also expected the most violent adolescents would report higher levels of violence exposure and victimization, and would self-report higher levels of clinically significant trauma symptoms compared to their less violent and nonviolent peers, especially higher levels of anger, anxiety, and depression. Finally, we expected that the use of more maladaptive coping strategies and absence of adaptive coping would be associated with psychological trauma symptoms and violent behavior, even after controlling for the influence of demographic factors in our sample.

METHOD

The study protocol was approved by the University Review Committee for Human Studies of Case Western Reserve University, Cleveland, Ohio. The sample consisted of students in grades 9 through 12 from six public schools: two Cleveland, Ohio city schools, one Cleveland area suburban high school, one small city high school in northeast Ohio, and two Denver, Colorado city high schools. In the larger school districts, high schools were chosen by the superintendent as representative of that district. In the suburban school district, there was only one high school. Students in the Cleveland and Denver city high schools resided in predominantly lower or lower-middle class socioeconomic neighborhoods. The small city high school was located in an economically depressed area whose residents, primarily blue-collar workers, were experiencing high rates of unemployment. Students from the suburban school resided in a small upper-middle class town.

To maximize recruitment, students in all classrooms attending school on the day surveys were administered had the opportunity to participate. Passive consent procedures were employed. Namely, parents were notified of the survey by letter, and given the opportunity to withdraw their children from the study. Less than 1% of parents in any school chose not to let their child take part. Students were informed prior to the survey that their participation was completely voluntary. During administration of the survey, students were again assured verbally and in writing that their answers would be kept confidential. Classroom teachers proctored the administration of the questionnaires. Once students completed the survey, they placed the questionnaire in a separate unmarked envelope. Teachers did not see any completed surveys. Students completed individual anonymous surveys during one 45-minute class period. The questionnaire was designed to be understood at the fifth grade reading level and was pretested on a socioeconomically diverse sample of adolescents.

An overall sample of 3724 students was obtained representing 68% of the students in all of the schools at the time of the survey. The representativeness of our sample was tested by comparing completed questionnaires from each school with the school's overall distribution of students by age, gender, and race. Our sample is representative of each school, with a few exceptions. White students were underrepresented in the small city high school in Ohio. In one of the Denver city schools, females were overrepresented and African-Americans were underrepresented. In the other Denver city school, Hispanics were underrepresented. However, the above differences between our sample and the sampling population were relatively small, all within 6%. Additional information on the total sample has been reported elsewhere (Singer et al., 1995; Song, Singer, & Anglin, 1998). The age of the participating adolescents was 14 to 19 years old ($M = 16.02$, $SD = 1.23$). The sample was 52% female, 35% African American, 23% Hispanic, 34% Caucasian, 3% Asian, and 5% Other (Table 1). Twenty-three percent of adolescents reported living in a small city, 10% in a suburb, and 67% in an urban area.

Variables and Instrumentation

Violent Behavior. Violent behavior scores were derived from participant's reports based on the frequency with which they had engaged in each of the following six violent acts during the past year: threatening others with physical harm; slapping or punching someone before the other person hit them; slapping or punching someone after they had been hit; beating or mugging someone; attacking someone with a knife; or shooting at someone with a real gun. A 6-point Likert scale ranging from “never” (0) to “almost everyday” (5) was used to assess the

frequency of each type of violent behavior. Principal component analysis on the Violent Behavior Questionnaire (VBQ) items revealed that the items loaded on a single factor, accounting for 51% of the variance among items (Song, Singer, & Anglin 1997). Each item correlated highly with the variable cluster (range .56 to .81) and the internal consistency of the items was acceptable ($\alpha = .79$). The VBQ has been utilized reliably in studies with elementary school children (Singer et al., 1999) and has demonstrated concurrent validity in middle school samples with self-reports of child aggression and delinquent behavior (Flannery & Vazsonyi, 2001).

Coping Strategies. Students were asked to report on the frequency with which they utilized each of 17 coping strategies “when they were upset.” Students rated the frequency with which they engaged in a particular behavior on a 4-point scale ranging from “never” (0) to “almost all the time” (3). The general coping strategies for the items were identified through examinations of published coping scales and theoretical constructs related to coping (Moos & Billings, 1982; Patterson & McCubbin, 1987). Both positive and negative coping strategies were selected and ranked with respect to developmental appropriateness for adolescents by five experts in the field of adolescent mental health. Higher ranked themes were then cast into items for use in the larger questionnaire and pretested on a group of 60 high school students. The final strategies included playing sports; talking to a friend; getting angry and yelling at people; sleeping; watching television; saying something mean to people; helping others with problems; using drugs or alcohol; talking to a family member; going to church; participating in school activities; being with a boyfriend or girlfriend; crying; talking to a teacher, minister or counselor; listening to music; joking; and being by themselves.

TABLE 1. Demographics

	% Females			% Males		
	% Most Violent (<i>N</i> = 191)	% Less Violent (<i>N</i> = 1248)	% Non-Violent (<i>N</i> = 484)	% Most Violent (<i>N</i> = 166)	% Less Violent (<i>N</i> = 1325)	% Non-Violent (<i>N</i> = 277)
Grade						
9th	39.3	32.2	23.6	39.2	29.6	19.1
10th	30.9	27.3	21.3	30.7	28.2	31.4
11th	15.2	20.5	27.1	16.3	22.4	25.6
12th	14.7	19.9	27.9	13.3	19.8	23.5
Ethnicity						
African-American	53.7	37.7	22.4	51.2	34.2	24.8
Mexican-American	21.6	23.2	22.9	24.1	22.2	22.3
Oriental/ Asian-American	1.1	2.6	6.9	1.2	3.3	7.7
Caucasian	15.8	31.3	44.7	18.1	35.4	40.1
Other	7.9	5.3	3.1	5.4	4.9	5.1
Geographical Location						
Small City	16.8	24.8	22.3	24.7	22.9	22.0
Suburban	3.7	6.8	20.2	2.4	10.7	15.5
Urban	79.6	68.4	57.4	72.9	66.3	62.5
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Age	15.80 (1.13)	15.89 (1.23)	16.16 (1.25)	15.93 (1.11)	16.08 (1.22)	16.27 (1.24)
Self-Reported Violent Behavior	10.30 (3.46) ^a	2.67 (1.50) ^a	0.00 (0.00) ^a	15.33 (3.21) ^b	3.99 (2.67) ^b	0.00 (0.00) ^b

^a $p < .0001$ for females.

^b $p < .0001$ for males.

For our examination of the relationship between coping and psychological trauma symptoms, we created two scales utilizing the individual coping styles. Scales were created based on a conceptual grouping of behaviors considered to represent either adaptive or maladaptive coping styles. Coping strategies that were harmful to self or others, isolating, or inappropriate were conceptually categorized as maladaptive (scale ($\alpha = .64$)). These eight items included getting angry and yelling at others; saying mean things to other people; using alcohol and drugs; sleeping; watching television; crying; being by themselves; and being with a boyfriend/girlfriend. Youth engaging in maladaptive coping strategies tend to be lashing out in anger toward others, withdrawing from others, or using sub-stances to deal with stress.

The remaining nine items were combined to form an adaptive coping scale ($\alpha = .74$). Adaptive coping was defined as strategies that sought help from others, were problem-solving oriented, or included interacting with others in a prosocial way. These included helping other people with their problems; getting involved in school activities; talking to a family member; playing sports; listening to music; joking; going to church; talking to a teacher; and talking to a friend. These adaptive coping strategies revolve around being with other individuals, talking with others, or engaging in problem-solving activities (i.e., school activities or sports).

Recent Exposure to Violence. Recent exposure to violence was assessed by a 22-item scale which measured the amount of violence that a youth witnessed or was victimized by at home, at school, or in the neighborhood in the past year (Singer et al., 1995, 1999). This scale measures five specific acts of violence: threats, slapping/hitting/punching, beatings, knife attacks, and shooting. For the first three types, separate items were designed to capture the site where the violence occurred: at home, at school, or in the neighborhood. Reports on knife attacks or shootings were not site specific. Subjects were requested to report separately violence they had experienced directly and personally witnessed over the past year. A 6- point Likert scale ranging from “never” (0) to “almost every day” (5) was used to assess the frequency of exposure to each type of violence. Principal component analyses revealed the 22-items load on a single scale yielding five factors with adequate internal consistency (average $\alpha = .75$). The five factors are:

1. witnessed violence in the neighborhood;
2. victimized by violence or witnessed violence at home;
3. witnessed violence at school;
4. witness or victim of a shooting or knife attack; and
5. victimized by violence at school or in the neighborhood (Singer et al., 1995).

Trauma Symptoms. Psychological trauma symptoms were assessed using the 54- item Trauma Symptom Checklist for Children (TSC-C; Briere, 1996). The TSC-C was developed as a standardized, normed test to assess childhood trauma-related symptomatology. The TSC-C was written to be understandable to children as young as 8 years of age. The TSC-C contains six-subscales assessing anxiety (9-items), depression (9- items), posttraumatic stress (10-items), dissociation (10-items), anger (9-items), and sexual concerns (10-items). The child is presented with a list of thoughts, feelings, and behaviors and asked to mark “How often do each of these things happen to you.” Items reflect assessments of current functioning. Each item is rated on a 4-point Likert scale ranging from “never” (0) to “almost all the time” (3). In addition to the scale scores, computed by summing individual scale items, a Total Trauma Symptom score can be computed. Requests by school personnel resulted in the removal of all items related to the sexual concern subscale. Each of the individual scales demonstrated adequate internal reliability (average $\alpha = .85$). The TSC-C has high internal reliability and concurrent validity, and has been used to differentiate clinical from nonclinical samples (Briere, 1996; Singer et al., 1995).

Violent Behavior Samples

Three separate groups of adolescents were identified for this study:

1. most violent,
2. less violent, and
3. nonviolent.

We utilized the entire available sample of adolescents ($N = 3724$) to identify our most violent, less violent, and nonviolent groups. Adolescents were included in a violent group depending on their scale score on six self-reported violent behaviors (range 0 through 30). These behaviors included threatening others with physical harm; slapping, hitting or punching; beating up someone; attacking someone with a knife; and shooting at or shooting someone with a gun.

Adolescents were included in the “most violent” group if they were in the top 10% for their gender on self-reported violent behavior. For both genders, this represented adolescents who were approximately 1.5 standard deviations above the mean for this sample. For females, those who scored seven and above on the violent behavior scale were included in the most violent group. Males with a scale score of 12 and above were considered to be in the most violent group. This strategy resulted in a “most violent” sample of 191 females and 166 males. Adolescents were considered to be “nonviolent” if they received a score of zero on the violent behaviors scale. Thus, for all six violent behavior questions, adolescents reported that they had never engaged in any of the behaviors during the past year. The nonviolent sample consisted of 484 females and 277 males.

The remaining adolescents were considered to be in the “less” violent group. The less violent group self-reported engaging in at least one violent act within the past year, but were less violent than the most violent group. The less violent females ranged from 1 to 6 on the violent behavior scale, while male total scores ranged from 1 to 11. A total of 2573 adolescents were in the less violent group ($n = 1248$ females; $n = 1325$ males). Thirty-three adolescents ($n = 33$) from the original sample were not included in the final analyses: 31 adolescents did not report on their violent behavior, and two adolescents did not report on their gender.

Analysis Plan

All analyses were conducted by gender comparing differences between the most violent, less violent, and nonviolent adolescents. Analysis of variance (ANOVA) with post hoc Scheffé was employed to examine group differences in sample demographic characteristics and differences between groups on recent violence exposure. Chi square analyses were used to examine group differences in frequency of coping strategy and to examine differences in levels of clinically significant trauma symptoms between the most violent adolescents and their peers. Finally, hierarchical multiple regression was utilized to examine the association between coping strategies and psychological trauma symptoms and violent behavior after controlling for the effects of demographic factors (gender, age, ethnicity, geographic location of residence).

RESULTS

Sample demographics are contained in Table 1. For females, age and grade were significantly different between violent behavior groups [$F(2,1920) = 10.06, p < .0001$; $F(2,1922) = 10.21, p < .0001$, respectively].

Specifically, post hoc Scheffé revealed that nonviolent females were significantly older and in higher grades than the less violent and most violent females. A significant group difference existed by age for males, but not for grade [$F(2,1763) = 4.45, p < .05$ for age; $F(2,1767) = 1.75, p > .05$ for grade], with nonviolent males significantly older than the most violent males. The less violent and nonviolent males did not differ by age.

Coping Strategies. Table 2 reflects the percentage of adolescent respondents who indicated they utilized a specific coping strategy at least sometimes. The most commonly endorsed coping strategy by all youth was listening to music (90%–96%). The least frequently endorsed coping strategies were going to church (47%–56%) and talking to a teacher, minister, or counselor (26%–34%). There were no differences in rates of endorsement on any of these strategies for most violent, less violent, and nonviolent adolescents. Regarding gender differences, males were more likely to endorse playing sports as a way of coping with stress (85% vs. 61%) while females were more likely to report “crying” as a way to cope when they were upset (88% vs. 33%).

The most violent adolescents were significantly more likely than other adolescents to use maladaptive coping strategies when they were upset. Violent males and females were both more likely to get angry/yell [$\chi^2(2, N = 1752) = 87.18, p < .0001$ for males; $\chi^2(2, N = 1913) = 102.07, p < .0001$ for females], say something mean to people [$\chi^2(2, N = 1753) = 98.98, p < .0001$ for males; $\chi^2(2, N = 1912) = 164.07, p < .0001$ for females], and

use alcohol or drugs [$\chi^2(2, N = 1748) = 132.49, p < .0001$ for males; $\chi^2(2, N = 1912) = 86.02, p < .0001$ for females] compared to youth in the less violent and nonviolent groups. The most violent males also reported they wanted to be with a boyfriend or girl-friend more often as a coping strategy when they were upset [$\chi^2(2, N = 1741) = 58.68, p < .0001$] and sleeping [$\chi^2(2, N = 1750) = 11.19, p < .01$] compared to their peers, but this difference was not significant for females.

TABLE 2. Gender Differences on Percent of Adolescents Using Each Coping Strategy at Least Sometimes

	Females			Males		
	% Most Violent (N = 191)	% Less Violent (N = 1248)	% Non-Violent (N = 484)	% Most Violent (N = 166)	% Less Violent (N = 1325)	% Non-Violent (N = 277)
<i>Most Frequently Endorsed Strategy by All Youth</i>						
Listen to music	95.8	95.9	94.6	93.4	93.3	90.8
<i>Strategies Used More by Most Violent Youth</i>						
Get angry and yell	91.5 ^a	79.4	59.7	85.5 ^b	68.9	45.1
Say something mean to people	90.0 ^a	73.4	46.3	89.2 ^b	69.5	45.1
Use alcohol or drugs	56.8 ^a	30.6	20.2	68.1 ^b	35.9	13.9
Be with a boyfriend/girlfriend	91.5 ^a	83.7	67.7	88.5 ^b	78.0	59.3
Sleep	87.9	86.6	84.4	87.3	80.4	74.4
<i>Strategies Used More by Other Youth</i>						
Help other people with their problems	84.7	84.5	84.8	59.0	69.3 ^b	67.2
Get involved in school activities	53.2	56.9	57.4	46.7	57.0	59.6 ^b
Talk to a family member	58.5	67.7	70.6 ^a	57.6	65.7	61.9
Play sports	60.0	63.2	62.0	85.5	87.5 ^b	81.1
Talk to a friend	96.3	96.6	93.4	84.9	86.0	90.0 ^b
<i>Strategies That Do Not Differentiate Most Violent and Other Youth</i>						
Watch TV	84.2	83.8	81.3	82.5	83.2	81.3
Cry	87.9	88.9	86.3	32.3	34.8	32.0
Joke	81.5	82.0	77.0	86.7	83.6	79.6
Be by myself	89.5	90.7	90.8	83.0	87.2	82.7
<i>Strategies Endorsed Least Often</i>						
Go to church	52.9	56.7	53.8	47.6	47.9	50.9
Talk to a teacher, minister or counselor	33.7	34.6	34.4	26.2	28.5	30.9

^a $p < .05$ for females in chi-square test.

^b $p < .05$ for males in chi-square test.

Less violent males were more likely to help other people with their problems as a means of coping with stress [$\chi^2(2, N = 1752) = 7.21, p < .05$] or play sports [$\chi^2(2, N = 1757) = 8.11, p < .05$] than the most violent and nonviolent males. Nonviolent males reported getting involved in school activities [$\chi^2(2, N = 1745) = 7.67, p < .05$] and talking to a friend more than their most violent and less violent male peers [$\chi^2(2, N = 1757) = 6.45, p < .05$]. Nonviolent females were more likely than the most violent and less violent females to talk to a family member [$\chi^2(2, N = 1909) = 9.08, p < .05$]. There were no significant differences between the most violent, less violent, and nonviolent adolescents on other coping strategies used. These included watching television, crying, joking, and “being by myself” (Table 2).

Exposure to Violence. Analysis of variance (ANOVA) revealed that the most violent adolescents in our sample reported higher levels of exposure to violence and victimization from violence [$F(2,1768) = 356.43, p < .0001$ for males; $F(1, 1922) = 386.89, p < .0001$ for females] (Table 3). Post hoc Scheffé revealed that for both males

and females, the most violent adolescents reported significantly higher levels of violence exposure and victimization than their peers. Adolescents in the less violent group also reported experiencing significantly more violence exposure and victimization than nonviolent adolescents.

TABLE 3. ANOVA Examining Self-Reported Recent Violence Exposure

	Most Violent Group <i>M (SD)</i>	Less Violent Group <i>M (SD)</i>	Nonviolent Group <i>M (SD)</i>	<i>F</i>
Females	30.02 (14.36) ^a	15.31 (10.11) ^b	6.92 (6.10) ^c	386.89*
Males	36.36 (15.57) ^a	17.43 (11.22) ^b	7.12 (6.88) ^c	356.43*

Note. * $p < .0001$; different superscripts denote a significant difference between groups at $p < .0001$.

Trauma Symptoms. To examine levels of clinically significant trauma symptoms for the most violent versus other adolescents, means on each trauma scale were calculated separately for all females ($n = 1923$) and all males ($n = 1768$). Scores equal to or greater than two standard deviations above the mean for each gender were used as the “clinical range” for each trauma scale. Self-report ratings in the clinical range indicate a high probability of the presence of serious psychological or behavioral difficulties related to the specific trauma symptom, and that a more complete evaluation of the individual’s psychosocial status is warranted (Briere, 1996).

Chi-square analyses revealed significant differences between the most violent, less violent and nonviolent youth on all trauma symptoms (Table 4). Significantly more violent males and females were in the clinical range on self-reported anger, anxiety, dissociation, depression, and posttraumatic stress disorder symptoms than less violent and nonviolent adolescents. Less violent adolescents were also more likely to be in the clinical range on all trauma symptoms compared to nonviolent youth. The most violent adolescents were more likely to be in the clinical range on one or more trauma symptoms compared to adolescents in all other groups, while less violent youth were more likely to be in the clinical range on one or more trauma symptoms than nonviolent youth [$\chi^2(2, N = 1768) = 144.20, p < .0001$, for males; $\chi^2(2, N = 1923) = 121.28, p < .0001$, for females].

Trauma Symptoms and Coping Strategies. Through the use of hierarchical regression, we assessed the degree to which adolescent self-reported total trauma symptoms and violent behavior could be explained by youths’ maladaptive and adaptive coping strategies, after controlling for the influence of demographic factors (gender, age, ethnicity, and geographic location). We also examined the interaction between gender and coping strategies. In each hierarchical regression, demographic variables were entered first as a set to control for their effects, followed by each of the coping strategy main effects and their interactions with gender. Demographics and coping styles were hierarchically regressed on total trauma symptoms and violent behavior. Tables 5 and 6 report the results of these hierarchical regressions.

Regarding the influence of demographic factors, in our fully specified model (Model 5) gender was found to have a significant main effect on violent behavior ($P = .14, p < .01$), with males having significantly higher levels of self-reported violent behavior than females. Age was significantly related to violent behavior ($P = -.07, p < .0001$), with older adolescents reporting less violent behavior. Ethnicity was related to both total trauma symptoms ($P = .06, p < .0001$) and violent behavior ($P = -.13, p < .0001$). This finding suggests that Caucasian students reported higher levels of total trauma symptoms than African-American, Hispanic, and other minority students; however, minority students self-reported more violent behavior than Caucasian students. Geographical location was not significantly related to total trauma symptoms or violent behaviors. Overall, demographic variables accounted for approximately 6% and 8% of the variance for trauma symptoms and violent behavior respectively, with gender having the most significant influence among these variables in Model 1.

The main effect of maladaptive coping accounted for 28% of the variance for total trauma symptoms ($\beta = .55, p < .0001$) and 12% of the variance for violent behavior ($\beta = .36, p < .0001$). Adaptive coping strategies, on the other hand, accounted for less than 1% of the variance in total trauma symptom scores and just over 1% of the variance in violent behaviors. The significant contribution of maladaptive coping relative to adaptive coping

held true even when the order of variable entry was reversed in the model, with adaptive coping strategies entered before maladaptive coping strategies.

In our fully specified model, the interaction between gender and maladaptive coping was significant for total trauma symptom score ($\beta = -.16, p < .0001$) and violent behavior ($\beta = .46, p < .0001$), suggesting that females at higher levels of trauma symptoms or more violent females tended to endorse more maladaptive coping strategies compared to males and to their less violent peers. The interaction between gender and maladaptive coping accounted for less than 1% of the variance explained in the models.

TABLE 4. Percentage of Adolescents in Clinical Range of the Trauma Symptoms

	Females			Males		
	Most Violent (N = 191)	Less Violent (N = 1248)	Non-Violent (N = 484)	Most Violent (N = 166)	Less Violent (N = 1325)	Non-Violent (N = 277)
TSCC Subscales						
Anger	26.2	3.7	0.6*	27.1	3.2	0.0**
Anxiety	11.5	4.3	1.2*	17.5	2.9	2.2**
Depression	14.7	5.8	1.9*	15.7	4.9	2.9**
Dissociation	11.0	4.6	2.5*	15.1	3.8	1.4**
PTS	9.9	3.9	0.8*	12.7	3.7	1.8**
One or more subscales in clinical range	35.1	11.8	4.3*	42.2	11.2	4.7**

* $\chi^2(2, N = 1923), p < .0001$.

** $\chi^2(2, N = 1768), p < .0001$.

TABLE 5. Hierarchical Regression on Total Trauma Symptoms

Explanatory Variable	Model 1 β	Model 2 β	Model 3 β	Model 4 β	Model 5 β
Gender	-.24***	-.12***	-.12***	-.00	.00
Age	.00	-.01	-.01	-.01	-.01
Ethnicity	-.01	.07***	.06***	.07***	.06***
Geographical location	-.01	.00	.01	.01	.01
Maladaptive coping		.55***	.57***	.72***	.71***
Adaptive coping			-.06***	-.06***	-.03
Maladaptive coping* gender				-.18***	-.16**
Adaptive coping* gender					-.03
Adjusted R^2	.058	.339	.342	.345	.344
Incremental R^2		.281	.003	.003	-.001

Note. Beta values are standardized.

* $p < .05$. ** $p < .01$. *** $p < .0001$.

DISCUSSION

While there exists substantial research on the relationship between violence exposure and subsequent mental health problems and on how adolescents generally cope with stressful situations, we know little about the relationship between violence, coping strategies and mental health for violent adolescents in community samples. In our sample, violent adolescents reported higher levels of exposure to violence and victimization from violence than a comparison sample of adolescents in their communities. The most violent adolescents also self-reported higher rates of clinically significant levels of all trauma symptoms, particularly anger, anxiety, and depression at rates two to twelve times symptoms reported by their less violent and nonviolent peers. These behavioral and mental health problems are exacerbated for violent youth by an overreliance on maladaptive coping strategies and a lack of prosocial, adaptive coping strategies. This combination of factors can lead to poor long-term adjustment and mental health.

TABLE 6. Hierarchical Regression on Violent Behavior

Explanatory Variable	Model 1 β	Model 2 β	Model 3 β	Model 4 β	Model 5 β
Gender	.21***	.29***	.30***	.05	.14**
Age	-.06***	-.07***	-.07***	-.0***	-.07***
Ethnicity	-.17***	-.12***	-.13***	-.13***	-.13***
Geographical location	-.01	.00	.00	.01	.00
Maladaptive coping		.36***	.41***	.11*	.02
Adaptive coping			-.12***	-.13***	.07
Maladaptive coping* gender			.35***	.46***	
Adaptive coping* gender					-.26
Adjusted R^2	.078	.200	.212	.222	.225
Incremental R^2		.122	.012	.010	.003

Note. Beta values are standardized.

* $p < .05$. ** $p < .01$. *** $p < .0001$.

The most common coping strategies utilized by adolescents in general were listening to music and talking to a friend. In the current community sample 84% to 96% of adolescents used these two coping strategies at least sometimes. However, the most violent adolescents were more likely to employ maladaptive coping strategies and less likely to employ prosocial or adaptive coping strategies compared to their peers. Coping strategies used more often by violent adolescents included: getting angry and yelling at people; saying something mean; using alcohol or drugs; and being with a girlfriend/boyfriend. Most of these behaviors are likely to increase the potential for violence, either by the individual displaying the behaviors, or by individuals reacting to the behaviors. Spending time with a boyfriend/girlfriend raises the additional concern for the potential of unintended pregnancy, intimate partner violence, and sexually transmitted diseases.

Comparison adolescents who were not in our most violent group were more likely to use prosocial and adaptive coping strategies. The coping strategies used more often by less violent and nonviolent adolescents included: helping other people with their problems; getting involved in school activities; and talking to a family member. Adolescents who endorse more positive, prosocial coping strategies have been found to build and maintain supportive relationships and be more resilient (Earls, 1994; Fraser, 1996). The coping methods used by comparison adolescents in this sample allow for the youth to develop connections with other peers through school activities, positive role models, and their family, as well as to allow them the satisfaction of helping out another person in need. These prosocial strategies have been found to reduce stress and reinforce social skills (Blechman et al., 1994).

The findings suggest that violent adolescents would benefit from developing more constructive coping strategies that neither perpetuate their violent behaviors nor put them at risk for other serious problems. Individuals working in schools and other youth-serving agencies/organizations should be aware of the multiple risks encompassed by these adolescents, and should facilitate referrals to services designed to address the myriad needs of this highly vulnerable population. The manner in which adolescents cope with violence and stress in their lives can significantly influence their long-term physical and mental health outcomes (Blechman et al., 1994; Flannery et al., 1998).

Few adolescents, regardless of their self-reported levels of violent behavior, endorsed going to church or talking to a teacher, minister, or counselor. This result has important implications for long-term adolescent functioning and adaptation. Findings from the longitudinal Adolescent Health Study (Blum et al., 2000; Resnick et al., 1998) have consistently demonstrated the importance of adult mentoring and involvement and attachment to religion as protective factors that minimize adolescent risk for engaging in substance use, delinquency, violence, and early sexual activity.

The high clinical levels of anger among violent males (26%) and females (27%) suggest a substantial potential for continued violent behavior unless appropriate intervention is given to help them develop more competent anger management skills. In addition, violent males (16%) and violent females (15%) exhibited significantly

higher levels of clinical depression than comparison youth (5%). The combination of clinically significant anger and depression warrants attention for their relation to potential suicide, especially for violent females (Flannery, Singer, & Wester, 2001).

A limitation of this study was that it relied solely on adolescent self-reports and did not contain collateral data such as juvenile court records or evidence of treatment status. Findings were also limited by the cross-sectional nature of the data and to the geographic scope from which the sample was drawn. Nonetheless, this study has several strengths. We surveyed a large multiethnic, community-based sample of adolescents from two distinctly different geographic regions of the country. Students came from various types of communities spanning urban, suburban, and rural locations. We surveyed males and females who reported engaging in violent behavior in the past year and compared them to all other adolescents in our sample, and consistently found significant differences on levels of violence exposure and victimization, coping strategies, and clinically significant levels of trauma symptoms. This is a more conservative approach than comparing adolescents in the highest group of self-reported violent behavior with a restricted sample of adolescents reporting no violent behavior at all.

This study also added additional information to the existing literature on violent adolescents. Previous research has examined the risk factors of engaging in violence (i.e., exposure to violence and mental health); however, this study also examined how the most violent adolescents in a community sample utilized coping strategies and found that they tended to use more maladaptive coping strategies. Further, maladaptive coping was shown to be significantly related to adolescent mental health symptoms and to violent behavior. When working with adolescents in schools and primary care settings, prosocial skills enhancement and the development of adaptive coping strategies should be included in the programs that are offered to adolescents. It is difficult to determine whether the maladaptive, negative coping strategies result in higher levels of exposure to violence and violent behavior, or vice versa. Either way, teaching prosocial, positive coping strategies can have a positive influence. It may either reduce the amount of violent behavior adolescents engage in or help prevent the violent behavior from occurring.

The results of the current study suggest that violent adolescents have been exposed to a greater amount of violence, experience clinically higher levels of trauma symptoms, and are more likely to use maladaptive coping strategies when under stress than comparison peers. This combination of factors tends to isolate these adolescents from both their peers and adults, and significantly increases the likelihood of negative outcomes such as social isolation, involvement with antisocial activities and violent behavior. The use of more adaptive coping strategies is an important way to assist adolescents in building and maintaining supportive relationships and to enhance self-efficacy. Adolescents who behave in adaptive ways in responding to stress are less likely to use violence as a way to solve conflicts (Blechman et al., 1994; Blum et al., 2000; Earls, 1994; Fraser, 1996; Resnick et al., 1998). Through the development prosocial coping skills and supportive interpersonal relationships, adolescents will more effectively adapt to the stresses of violence exposure and reduce the risk for serious mental health problems.

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