

University of Montana

ScholarWorks at University of Montana

Psychology Faculty Publications

Psychology

7-2008

Relations Among Gender, Violence Exposure, and Mental Health: The National Survey of Adolescents

Rochelle F. Hanson

Medical University of South Carolina

Cameo Borntager

University of Montana - Missoula, cameo.borntager@umontana.edu

Shannon Self-Brown

Georgia State University

Dean G. Kilpatrick

Medical University of South Carolina

Benjamin E. Saunders

Medical University of South Carolina

See next page for additional authors

Follow this and additional works at: https://scholarworks.umt.edu/psych_pubs



Part of the [Psychiatry and Psychology Commons](#)

Let us know how access to this document benefits you.

Recommended Citation

Hanson, Rochelle F.; Borntager, Cameo; Self-Brown, Shannon; Kilpatrick, Dean G.; Saunders, Benjamin E.; Resnick, Heidi S.; and Amstadter, Ananda, "Relations Among Gender, Violence Exposure, and Mental Health: The National Survey of Adolescents" (2008). *Psychology Faculty Publications*. 6.

https://scholarworks.umt.edu/psych_pubs/6

This Article is brought to you for free and open access by the Psychology at ScholarWorks at University of Montana. It has been accepted for inclusion in Psychology Faculty Publications by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

Authors

Rochelle F. Hanson, Cameo Bortrager, Shannon Self-Brown, Dean G. Kilpatrick, Benjamin E. Saunders, Heidi S. Resnick, and Ananda Amstadter



Published in final edited form as:

Am J Orthopsychiatry. 2008 July ; 78(3): 313–321. doi:10.1037/a0014056.

Relations among Gender, Violence Exposure, and Mental Health: The National Survey of Adolescents I

Rochelle F. Hanson, PhD

Medical University of South Carolina

Cameo Borntreger, PhD

University of Hawaii

Shannon Self-Brown, PhD

Georgia State University

Dean G. Kilpatrick, PhD, Benjamin E. Saunders, PhD, Heidi S. Resnick, PhD, and Ananda Amstadter

Medical University of South Carolina

Abstract

Using a nationally representative sample of 4,008 adolescents, this study examines gender differences in violence exposure, major depressive episode (MDE) and posttraumatic stress disorder (PTSD), and characteristics of violence incidents. It was hypothesized that there would be gender differences in the types of violence exposure reported as well as the prevalence of MDE and PTSD; and that gender would moderate the relationship between violence exposure and mental health outcomes. Results indicated significant gender differences in rates of violence exposure, PTSD and MDE. Additionally, gender was a moderating variable in the relation between sexual assault and PTSD, but not in the other violence exposure-mental health relations examined. It thus appears that the pathways for developing PTSD may be different for male and female victims of sexual abuse. Implications for interventions and future research are discussed.

Introduction

Child and adolescent violence exposure is a pervasive problem in the United States and has been identified as a significant public health problem by the Centers for Disease Control and World Health Organization (CDC, 2006). Numerous studies have documented the prevalence and impact of trauma on youth. In a recent study by Finkelhor, Ormrod, Turner, and Hamby (2005), a nationally representative sample of youth ($n = 2,030$), aged 2 to 17 years, was interviewed to determine incidence rates of various types of victimization and violence exposure experiences. Findings indicated that over half of the sampled youth experienced physical assault during the survey year; approximately 1 in 8 experienced child maltreatment (e.g., emotional abuse, neglect); approximately 1 in 12 experienced sexual victimization (e.g., rape, sexual assault, forced to view pornography); and as many as 1 in 3 had witnessed some form of violence (e.g., witnessed domestic violence, seen a murder, lived in a war zone). These figures suggest that a large number of children and adolescents are exposed to direct victimization and witnesses to other forms of violence.

Risk Factors for Violence Exposure

Various risk factors for violence exposure have been described in the literature, including a prior history of victimization, low socioeconomic status, parental substance abuse, conduct problems, and a family history of psychiatric problems (Cox, Kotch, & Everson, 2003; Davis

& Siegel, 2000; Hanson, Self-Brown, Fricker-Elhai, Kilpatrick, Saunders, & Resnick, 2006). Studies have also demonstrated that exposure to one type of violence (e.g., sexual abuse by a family member) increases risk for exposure to other types of violence (e.g., witnessing domestic violence) (Cox, Kotch, & Everson, 2003; Hanson, et al., 2006). For example, Finkelhor, et al. (2005) found that children who reported one type of victimization had a 70% chance of experiencing another form of victimization within one year. Previous research has also demonstrated gender differences in prevalence rates for specific types of violence exposure. For example, it is well established in the literature that males have higher rates of exposure to physical assault and witnessing violence in the community, whereas, females are more likely than their male counterparts to experience sexual victimization (Buka, Stichick, Birdthistle, & Earls, 2001; Davis & Siegel, 2000; Foster, Kuperminc, & Price, 2004; Kilpatrick, Ruggiero, Acierno, Saunders, Resnick & Best, 2003; Stevens, Ruggiero, Kilpatrick, Resnick, & Saunders 2005; Tjaden & Thoennes, 2000).

Violence Exposure and Psychological Outcomes

A considerable number of studies have documented relationships between violence exposure and a host of adverse psychological outcomes. For example, data from the National Survey of Adolescents (NSA; Kilpatrick, Acierno, Saunders, Resnick, Best, & Schnurr, 2000; Kilpatrick et al., 2003) revealed that violence exposure was associated with major depressive episode (MDE), posttraumatic stress disorder PTSD, and/or substance abuse and dependence (SA/D).

Despite the strong associations among violence exposure and adverse outcomes, some violence-exposed youth appear ‘resilient’ as evidenced by their abilities to maintain high levels of adaptive behavior and psychological functioning (Cicchetti & Lynch, 1993). Thus, it appears that moderating factors may mitigate the conditions under which violence exposure in youth leads to adverse outcomes (Holmbeck, 1997). Cicchetti and Lynch (1993) described an ecological/transactional model to serve as a framework for understanding potential moderating factors associated with youth violence exposure, specifically describing factors that perpetuate child maltreatment. Based on this model, risk factors and protective factors exist at the individual, family, community, and societal levels of children's ecologies.

Building upon this model (1993), the current authors suggest that gender, a factor that exists at the individual level of the ecological framework, may be important in explaining differential outcomes in the face of violence exposure (see Cicchetti & Lynch, 1993, p. 99). Several studies have indicated that there are gender differences in both violence exposure and violence-related mental health (e.g., Breslau & Anthony, 2007; Breslau et al., 1998; Breslau, Peterson, Poisson, Schultz & Lucia, 2004; Kessler, 1995; Kessler et al., 1995; Stein & Gelberg, 1997). For example, Horowitz, Weine, and Jekel (1995) found that female participants of any age were approximately 5 times more likely to develop posttraumatic stress disorder (PTSD) following exposure to trauma/violence than their male counterparts. Indeed, despite level of exposure, girls appear to be more likely to report symptoms of distress after experiencing violent incidents overall. However, some research has indicated that there may be gender differences in the *types* of symptoms reported following exposure to violence. Thus, rather than concluding that boys do not experience symptoms or that they minimize their response to a violent event, it is possible that there are fundamental, gender differences in the type of response. Specifically, girls may be more likely to report internalizing symptoms (e.g., depression, anxiety, hyperarousal), whereas boys more often report externalizing symptoms (e.g., aggression, conduct problems) (Buckner, Beardslee, & Bassuk, 2004; Foster et al., 2004; Leadbeater, Blatt, & Quinlan, 1995). In a separate manuscript, using NSA data, Kilpatrick et al., (2003) found that girls were 2.5 times more likely than boys to be diagnosed with comorbid PTSD and MDE, and boys were twice as likely as girls to be diagnosed with substance abuse or dependence. According to an ecological model, environmental influences and their interactions with

individual factors, such as gender, may affect the likelihood of violence exposure and the relative vulnerabilities and outcomes.

Thus, the current study attempts to explore the potential moderating role of gender in the relationship between violence exposure and mental health outcomes and also whether there are gender differences in abuse incident characteristics. Specifically, using a nationally representative sample of 4,008 adolescents, the authors hypothesized that: 1) there would be gender differences in the types of violence exposure reported, with girls endorsing more exposure to sexual abuse, and boys reporting more exposure to witnessing violence as well as physical assault; 2) there would be gender differences in the overall prevalence of MDE and PTSD in that more girls than boys would meet criteria for both symptom sets, and 3) gender would moderate the relationship between violence exposure and mental health outcomes such that specific characteristics of girls who experience violence put them more at risk than boys for poor mental health outcomes.

Method

Participants

Detailed descriptions of the sample and study methodology have been discussed previously (see Kilpatrick et al., 2000, 2003). Thus, this description will be confined to specific measures and procedures that are central to the current study. Schulman, Ronca, and Bucuvalas, Inc. (SRBI), a New York based survey research firm, conducted sample selection and interviewing. To construct the initial probability sample, a multi-stage, stratified, area probability, random digit dialing (RDD) six-stage sampling procedure was utilized. A total of 4,023 adolescents, ages 12-17, completed the survey, including 862 drawn from an oversampling of households located in areas designated as central cities by the U.S. Bureau of the Census, and 3,161 who comprised the national probability sample. The full sample was weighted to conform to the 1995 Census estimates for American adolescents on age, race, and gender.

Prior to initiating contact with the adolescent, a parent or guardian in each household was briefly interviewed. Of 5,367 eligible households (i.e., those with at least 1 adolescent between the ages of 12-17), 4,836 parents completed interviews (90% of eligible households), 4,236 parents gave permission for their adolescent to be interviewed (79% of eligible households and 88% of the completed parent interviews), and 4,023 adolescents assented and completed interviews (75% of eligible households, 83% of households with parent interviews, and 95% of households with parent permission). These participation and completion rates are comparable to other adolescent studies using similar methodology (e.g., Ageton, 1983; Finkelhor & Dziuba-Leatherman, 1994; Finkelhor et al., 2005).

Consistent with previously published papers from this dataset (e.g., Kilpatrick et al., 2003; Hanson et al., 2006), data for this paper were weighted and limited to the subsample of NSA respondents who provided complete information about age and race/ethnicity. Within this sample, approximately equal numbers of boys ($n = 2,002$) and girls ($n = 1,904$) were interviewed. All ages ranging from 12-17 years were roughly equally represented; the average age was 14.49 years ($SD = 1.70$). Of the 3,907 respondents, 2,831 were White, non-Hispanic (72%), 590 were African American, non-Hispanic (15%), 311 were Hispanic (8%), 139 were Native American (4%), and 46 were Asian (1%). Household income levels were \$20,000 or below for 17.4% of the sample, \$20,000-40,000 for 33% of the sample, \$40,000-75,000 for 35.3% of the sample, and above \$75,000 for 14.3% of the sample.

Measures

A highly structured telephone interview with specially trained interviewers was used to gather information about a variety of topics including demographic characteristics, violence exposure, family environment, and mental health outcomes. Survey questions are available from the first author.

Demographic characteristics—Adolescents were asked their current age in years at the time of the interview, and their gender was also recorded. Race and ethnicity were assessed using standard questions employed by the U.S. Bureau of the Census (1988). Four dummy-coded variables were created for analyses to refer to each of the following participant groups: African American, non-Hispanic ($n = 590$, 15.1%); Native American, non-Hispanic ($n = 139$, 3.6%); Asian American, non-Hispanic ($n = 46$, 1.2%); and Hispanic ($n = 311$, 8.0%). Caucasian, non-Hispanic participants ($n = 2,820$, 72.2%) served as the reference group.

Violence exposure—Adolescents were asked behaviorally specific questions about exposure to violence including unwanted sexual contact, physical assault, and witnessed violence in the home or community. Specific steps were taken to increase accuracy and honesty in responding, including highly behavioral specific terminology and introductory statements to orient participants to the questions being asked (Kilpatrick et al., 2003). *Sexual assault* (SA) was defined as episodes which involved (a) forced vaginal or anal penetration by an object, finger, or penis; (b) episodes of forced oral sex; (c) episodes in which another person touched the respondents' breasts or genitalia against their will; or (d) episodes in which respondents were forced to touch another's genitalia. *Physical assault* (PA) included being (a) attacked or threatened with a gun, knife, or some other weapon; (b) attacked by another person with perceived intent to kill or seriously injure; (c) beaten and injured (i.e., “hurt pretty badly”) by another person; (d) spanked so forcefully that the respondent sustained welts or bruises, or required medical care; or (e) cut, burned, or tied up by a caregiver as a punitive consequence. *Witnessed violence* (WV) included direct observation of any of the following events: (a) seeing someone shot with a gun; (b) seeing someone cut or stabbed with a knife; (c) seeing someone threatened with a gun, knife, or other weapon; (d) seeing someone mugged or robbed; or (e) seeing someone raped or sexually assaulted. Violence could occur in the home, school or neighborhood, between people known or unknown to the respondent.

Mental health outcomes—Questions were asked to ascertain whether respondents met *DSM-IV* [American Psychiatric Association (APA), 1994] criteria for posttraumatic stress disorder (PTSD) and major depressive episode (MDE) using a modified version of the National Women's Study (NWS) PTSD and Depression Modules (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Research on these modules (Ruggiero, Rheingold, Resnick, Kilpatrick, & Galea, 2006) has provided support for concurrent validity and several forms of reliability (e.g., temporal stability, internal consistency, diagnostic reliability). The NWS-PTSD module was validated in the *DSM-IV* TSD field trial, which included male and female respondents, against the Structured Clinical Interview for DSM (SCID); the inter-rater kappa coefficient was 0.85 for the diagnosis of PTSD and comparisons between the NWS-PTSD module and SCID yielded a kappa coefficient of 0.71 for current PTSD (Kilpatrick, Resnick, Freedy, et al., 1998). Research also has found a high correspondence between telephone and in-person administration of the PTSD module (Acierno, Resnick, Kilpatrick & Stark-Riemer, 2003).

The NWS modules assess each *DSM-IV* criterion for PTSD and MDE (APA, 1994) with a *yes/no* response and yield *DSM-IV* diagnoses of PTSD and MDE for the previous six months. Adolescents were classified as positive for current PTSD or MDE only if they met full criteria

as specified by the *DSM-IV*. Cronbach's' alphas for this sample were .87 and .85 for PTSD and MDE, respectively, indicating good internal consistency.

Procedure

All NSA interviews were conducted in 1995, in English or Spanish, depending on participant's preference. Interviews with both parents and adolescents were conducted using Computer Assisted Telephone Interviewing (CATI) technology. (For a review of this technology, please refer to Kilpatrick et al., 2000). The parent interview was conducted first, at which time the parent was asked information about the family and was provided with a brief description of the study and interview topics (e.g., substance use, dangerous or risky situations, including property crime and physical or sexual violence). Parents were also informed that their adolescent could refuse to answer questions and that the interview could be terminated at any time. During this brief parent interview, permission to contact the adolescent was secured. Adolescent assent to participate was obtained prior to starting the interview.

Two steps were taken to ensure that adolescents had a reasonable degree of privacy while responding to questions so that they could answer as openly and honestly as possible. First, the interviewer directly asked if the adolescent was in a situation where privacy was assured and s/he could respond in an open fashion. Second, the interview was designed primarily with closed-ended questions (i.e., *yes/no*) so that if others were listening they would hear no information that might endanger or have negative consequences for the adolescent. Adolescents received a certificate of participation in the "National Survey of Adolescents" and a check for five dollars. Approval by the University Institutional Review Board (IRB) was obtained prior to any data collection.

Participant protection—According to federal guidelines for studies funded by the U.S. Department of Justice, investigators are precluded from releasing confidential information without participant consent. As a further protection for participants, a specific protocol was developed to identify those adolescents in potentially dangerous situations. An adolescent who indicated that s/he (a) had been sexually abused in the past year, (b) had been hit or physically assaulted by a family member living in the household in the past year, and that either (a) or (b) had not been disclosed to anyone, was identified as a "potential child in danger." A clinician on the project team then interviewed each of these adolescents. Those judged by the clinician to be in current danger were encouraged to make a voluntary report to child protective services. If they were unwilling, the clinician was prepared to make the report. It is important to note that no clinicians had to make a report throughout the duration of the study. All adolescents were also asked if they would like the toll-free number of Child Help, a national telephone-counseling program for at-risk youth. Approximately one-half of the participants requested this number.

Data Analyses—The primary data-analytic strategy was multivariate logistic regression. Two logistic regression models were constructed to examine the relations among gender, violence exposure (SA, PA, and WV), and the two mental health outcomes (MDE and PTSD). For these models, demographics were entered on the first step, including the dummy coded racial/ethnic groups (i.e., African American, Hispanic, Asian, and Native American), with Caucasian, non-Hispanic as the reference group, age, and gender, followed by the violence exposure types on Step 2. On the final step, interaction terms (i.e., gender * PA, gender * WV, gender * SA) were entered to explore the potential moderating role of gender on violence exposure and mental health outcomes. Descriptive analyses were conducted using Statistical Package for Social Sciences version 12.0 (SPSS-12.0), and the SUDAAN statistical package, Version 9.0, was used for logistic regression analyses to account for survey weighting. For both SPSS and SUDAAN analyses, weights were utilized.

Results

Prevalence of Violence Exposure

Findings presented are specific to the purposes of this study. (For more comprehensive results of the NSA see Kilpatrick, 2000; 2003). Overall, approximately 48% of the surveyed adolescents reported exposure to some type of violence in their lifetimes, with boys reporting more exposure than girls [51.3% vs. 44.1%, $X^2(1, 3906) = 21.03, p < .001$] (see Table 1). Sexual assault (SA) was reported by 8.2% ($n = 321$) of respondents, physical assault (PA) was reported by 22.5% of respondents, and 39.7% of respondents reported witnessing violence (WV) at some point in their lifetime. Girls were more likely than boys to report SA [$X^2(1, 3906) = 41.0$; $X^2(1, 3906) = 86.6$], whereas boys were more likely to report witnessing violence [$X^2(1, 3906) = 31.9$]. There were no significant gender differences in overall exposure to physical assault.

Gender and Mental Health

Prevalence rates for mental health outcomes showed that approximately 8% ($n = 174$) of the adolescents who experienced any traumatic event met PTSD criteria in the past six months and 15% ($n = 334$) met criteria for MDE in the past six months. Of these adolescents reporting PTSD, 59% ($n = 102$) were girls and 41% ($n = 72$) were boys. Thus, girls who reported any type of trauma history were more likely than boys to meet criteria for PTSD [$X^2(1, 2290) = 10.47, p < .01$]. The same findings were obtained for MDE; among those with any trauma history girls were more likely than boys [60% ($n = 201$) vs. 40% ($n = 133$) to meet criteria for MDE. [$X^2(1, 2290) = 27.88, p < .001$]. These findings supported Hypothesis 2, namely that there would be gender differences in the prevalence rates for PTSD and MDE following exposure to any type of trauma.

Gender, Violence Exposure, and Outcome

The final logistical regression models for MDE and PTSD are shown in Tables 2 and 3. As hypothesized, of the demographic characteristics, gender was the variable most strongly associated with the two mental health outcomes (ORs = 2.02 and 1.74 for MDE and PTSD, respectively). After controlling for the demographics, sexual abuse, physical abuse, and witnessing violence remained significantly associated with both MDE and PTSD (For MDE ORs = 2.75, 2.82, 1.88, respectively; for PTSD ORs = 5.71, 3.66, 2.94, respectively). Of most relevance for the current paper, there was a significant gender by SA interaction for PTSD ($p < .05$), indicating that gender was a moderating variable in the relation between sexual abuse and PTSD (see Table 3). No other interactions emerged as significant for PTSD or MDE.

In terms of the gender by SA interaction for PTSD, a bar graph depicting the relations among sexual assault and PTSD for boys and girls (Figure 1) revealed that adolescents with a sexual abuse history were at greater risk for PTSD compared to those who did not experience sexual abuse. However, in contrast to hypothesis 3, the relation between sexual abuse and PTSD was stronger and the risk was greatest for boys who reported sexual abuse.

Because of the significant interaction, additional analyses were conducted to examine the relations among violence exposure and PTSD in separate regression models for boys and girls. These separate models are shown in Table 4, allowing for direct comparison. Boys were 5.64 times as likely to meet criteria for PTSD when they reported a history of SA, whereas girls with a sexual abuse history were 2.14 times more likely to meet PTSD criteria than those with no SA history. Although no significant interaction emerged for PA by gender and PTSD, boys were nearly four times more likely to meet criteria for PTSD when they reported a history of PA, whereas girls with a PA history were nearly three times more likely to meet PTSD criteria than those with no PA history. Finally, for WV there were no gender differences; both boys

and girls with a history of WV were nearly three times more likely to meet criteria for PTSD than those with no history of WV.

Gender and Sexual Abuse Incident Characteristics

In order to explain potential differences in risk for PTSD between sexually abused boys and girls, exploratory chi-square analyses were conducted. These analyses examined whether there were gender differences in sexual abuse incident characteristics, including life threat, whether the abuse was reported to authorities, single versus multiple incidents, physical injury, penetration, and abuse disclosure. Each of these incident characteristics were coded dichotomously (1= 'yes'). In addition, the relationship of the perpetrator to the victim was examined, specifically whether the perpetrator was known to the victim. Results showed that girls were significantly more likely than boys to report life threat [$X^2(1, 315) = 5.7, p < .01$] and more likely to report SA to authorities [$X^2(1, 309) = 4.3, p < .05$]. There were no significant differences related to the number of incidents (i.e. series vs. single incident). Girls were significantly more likely to report physical injury [$X^2(1, 316) = 3.4, p < .05$] and penetration [$X^2(1, 320) = 3.0, p < .05$], as well as to have disclosed the abuse [$X^2(1, 321) = 22.5, p < .001$] and to report the perpetrator as a stranger [$X^2(1, 315) = 4.5, p < .05$].

Discussion

The primary purpose of this study was to investigate the relations among gender, violence exposure, and two specific mental health outcomes, PTSD and MDE. Consistent with past research (Davis & Siegel, 2000; Foster et al., 2004), results indicated differences between boys and girls in regard to incidence rates of violence exposure. As hypothesized, girls were more likely than boys to report SA and boys were more likely to report witnessing violence. However there were no gender differences in physical assault/abuse. As stated previously, there are equivocal findings in the literature regarding gender differences in rates of physical assault. One possible explanation for the findings in the present study is that the physical assault definition included both physically abusive punishment by a caregiver, as well as physical assault by someone outside of the home. Some studies focused on community violence exposure found higher rates of physical assault among boys (Fitzpatrick & Boldizar, 1993; O'Keefe, 1997; Richters & Martinez, 1993; Schwab-Stone et al., 1999; Singer, Anglin, Song, & Lunghofer, 1995; Springer & Padgett, 2000). However, it is possible that when physically abusive punishment alone is examined, fewer gender differences may be found. Thus, by including both physical assault and physically abusive punishment, it is possible that differences in prevalence rates for boys and girls are obscured or, alternatively, that gender is not a determining factor regarding risk for physical assault. This finding also suggests the possibility that more girls are victims of physical assault or abuse than previously thought, highlighting the need for a thorough trauma assessment among all children and adolescents, regardless of gender.

In terms of gender differences in PTSD and MDE diagnoses, as hypothesized and consistent with existing literature (e.g., Buckner, Beardslee, & Bassuk, 2004; Danielson, de Arellano, Kilpatrick, Saunders, & Resnick, 2005; Feiring, Taska & Lewis, 1999; Horowitz, Weine, and Jekel, 1995; Leadbeater, Blatt, & Quinlan, 1995; Ullman & Filipas, 2005), girls were significantly more likely than boys to meet criteria for both PTSD and MDE. Additionally, main effects emerged for physical abuse, sexual abuse, and witnessing violence for both outcomes, with those adolescents reporting a history of any of these types of violence reporting higher rates of PTSD and MDE. Thus, both sexual and physical assault, as well as witnessing violence, increased the risk for these types of disorders.

This study's main contribution to the current literature was its examination of the moderating role of gender in the relation between violence exposure and mental health outcomes in a large

nationally representative sample of adolescents. The results showed that gender was a moderating variable in the relation between SA and PTSD, but not in the other relations examined (PA-PTSD, WV-PTSD, SA-MDE, PA-MDE, WV-MDE). With regard to the lack of significant findings on the relationship between violence exposure and MDE, some research suggests that the adult constructs for psychiatric disorders in childhood may not appropriately depict symptom expression for children and adolescents (e.g., van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). Thus, it is possible that MDE as described in the NSA may not represent specific symptom clusters for the current sample. With regard to PTSD, findings indicated that violence-exposed boys and girls were more at risk than their non-exposed, gender counterparts for developing PTSD. However, the relationship was stronger and risk was greater for boys than girls when examining sexual abuse exposure. These findings were incongruent with those typically found in the literature, which suggest that girls are predominantly more at risk for internalizing symptoms, such as PTSD. Thus, these results suggested the need for further inquiry and explanation.

One area explored was the role of mediating factors, such as characteristics of the abuse. The authors hypothesized that characteristics surrounding SA incidents may be associated with outcomes, with a differential pattern for boys versus girls. Consistent with previous research, results showed that boys were less likely to report life threat, penetration, or physical injury (e.g., Ullman & Filipas, 2005). Yet, typically these severe characteristics tend to be correlated with poorer outcomes (e.g., Banyard, et al., 2004). Thus, the current findings may be explained by other factors that place boys at particular risk for mental health problems associated with violence exposure. For example, Feiring, Taska, and Lewis (2002) examined the role of shame and similar emotional-cognitive experiences in relation to sexual abuse. They found that higher levels of shame and a pessimistic attribution style were independently predictive of poorer adjustment in youth at the time of disclosure and at 1 year follow-up. Although girls reported more severe characteristics of abuse (e.g., penetration), their reported levels of shame were lower than boys at the 1 year follow-up. Thus, boys' feelings of shame may persist longer, thereby putting them more at risk for developing poor mental health outcomes, such as PTSD. Relatedly, a study by Andrews, Brewin, Rose, and Kirk (2000), found that shame and anger predicted PTSD symptoms in adult crime victims with child abuse histories at 1-month post-crime, and shame alone predicted PTSD symptoms at 6-months post-crime. Thus, strong feelings of shame may contribute to the development of PTSD. Indeed, examination of incident characteristics in the current study revealed that boys were less likely to disclose the abuse or report it to authorities. Thus, boys who are sexually abused may experience higher levels of shame that prevents them from talking about the abuse and places them at greater risk for poor mental health outcomes. Additionally, because boys are less likely to report sexual abuse to the authorities, they may also be less likely to receive needed, appropriate treatment.

Other than shame, related attributions may include a number of stereotypic concerns, such as a fear of being viewed as homosexual (if the offender were male) or the influence of male socialization practices in general, which convey a number of messages including that boys are powerful, invulnerable human beings and that a boy/man should always welcome sexual activity (Faller, 1989). It is thus possible that sexually abused boys experience more avoidance symptoms because of their fears of being viewed negatively by others. In sum, factors such as shame, fear of stigma, stereotypic concerns, and other potential influences on male socialization exist at varying levels of child ecology, according to the models proposed by Bronfenbrenner (1977) and Cichetti and Lynch (1993). Depending upon the scope of interaction within the various levels (i.e., school, home, community), these factors may have more or less influence on children's vulnerabilities to mental health outcomes and coping strategies. This, among other theories, should be explored in future research when considering the relationship of gender, violence exposure, and mental health outcomes, as the explanation is likely to be complex.

Limitation

A few limitations to this study should be noted. First, the current findings were based on a cross-sectional study design and, consequently, do not allow for any causal statements. Likewise, all assessment data were self-report and retrospective in nature, which raises the possibility of shared method variance and prohibits a comprehensive assessment of adolescent functioning. In addition, only those households with telephones were sampled which could potentially decrease generalizability. However, data indicate that relatively few households are eliminated by non-telephone coverage (Keeter, Miller, Kohut, Groves, & Presser, 2000), minimizing these concerns. Also, only a certain number of mental health variables were assessed. It is likely that many other deleterious outcomes are associated with violence exposure type, and the inclusion of other outcomes, such as sexualized behaviors, poor academic performance, and delinquency could result in a different pattern of relations between violence exposure and outcome. Lastly, there was a smaller sample of sexually abused boys, compared to sexually abused girls, which can obscure the ability to find explanations for differential effects of abuse as a function of gender.

Practice Implications

Findings from the current study may be particularly important in relation to the assessment and treatment of trauma-related disorders in adolescents. For example, sexual abuse victims, regardless of gender, are at significant risk for PTSD, as well as a host of other negative mental health outcomes, and empirically supported treatments for these disorders are readily available to practitioners. These types of interventions, such as *Trauma-focused Cognitive Behavioral Therapy* (Cohen, Mannarino, & Deblinger, 2006) target the cognitive distortions typically found among sexual abuse victims, which would help to address the potential feelings of self-blame and guilt. Findings from this study suggest the possibility that boys' symptoms of PTSD, particularly avoidance, could stem from feelings of shame or environmental influences, which are important issues to address in treatment. In addition, these types of interventions employ exposure-based techniques which target the avoidance, hyperarousal and reexperiencing symptoms of PTSD. As suggested by this study, both boys and girls could benefit from this type of intervention.

Relatedly, another advantage of a trauma-focused intervention, such as TF-CBT, is the flexibility and adaptability of the intervention. TF-CBT is designed for adaptation to best meet the needs of individual clients. Thus, tailoring an intervention to address idiosyncratic symptom patterns would be a key component to the recovery of sexual assault victims of both genders. Further, given that sexually abused boys are at significant risk for PTSD according to the current findings, thorough assessment for sexual abuse and its effects must be employed by practitioners. Consistent with previous research, the current study also suggested that there may be a gender bias in reporting sexual abuse, where boys are less likely to report, of which practitioners must be aware in order to inform their interview and assessment skills of victims. On a related note, the findings that boys are less likely to acknowledge or report their abuse presents a challenge to ensuring that they will actually seek out and receive needed treatment services. It is thus important to develop other forums and ways for boys to obtain information about trauma and its effects as a way to encourage pursuit of treatment, if indicated. Some potential ways to provide this information is in school settings, since many schools have health education programs, development of flyers and informational brochures that could be distributed in a variety of locations (physician's offices, athletic venues), as well as the promising area of developing informational websites and intranet programs that help both male and female adolescents identify needed resources. In addition, programs for parents, providing them with this information, is another means of increasing the likelihood that boys (and girls) will obtain appropriate services.

Conclusions

Overall, findings from this study revealed that violence exposure is related to poor mental health outcomes in adolescents and more research is needed to prevent violence exposure as well as to ameliorate its effects. Findings from the current study also revealed that gender is a moderating factor in the relationship between violence exposure and mental health outcomes, such as PTSD. Girls are at significant risk of being exposed to both physical and sexual abuse and of developing internalizing disorders such as PTSD and MDE. Additionally, in contrast to previous studies indicating that boys are less likely to report internalizing symptoms, the current study found that boys who reported sexual assault were at particular risk to meet criteria for PTSD. One possible theory discussed was that environmental influences on developing feelings of shame and other negative cognitions reduce the likelihood that boys will disclose and thereby potentially receive needed interventions. Thus, it appears possible that the pathways for developing PTSD may be different for male and female victims of sexual abuse. Studies assessing these specific issues are needed in order to inform assessment and treatment interventions, and future research is clearly needed to replicate these findings.

Acknowledgments

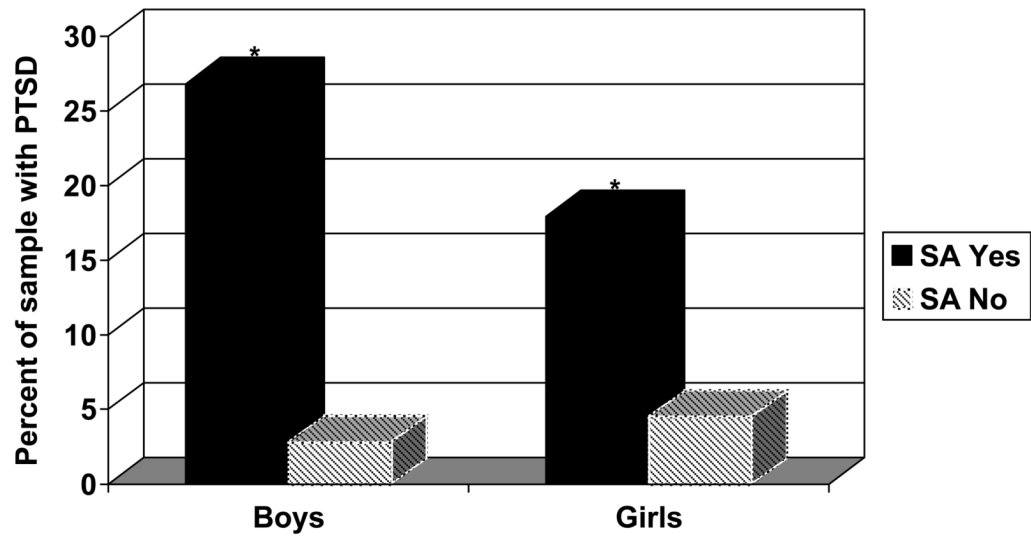
This research was supported by Grant 93-IJ-CX-0023 from the U.S. Department of Justice, Office of Justice Programs, National Institute of Justice. Views contained in this article do not necessarily represent those of the agencies supporting this research.

References

- Acierno R, Resnick H, Kilpatrick D, Stark-Riemer W. Assessing elder victimization: Demonstration of a methodology. *Journal of Social Psychiatry and Psychiatric Epidemiology* 2003;38(11):644–653.
- Ageton S. The dynamics of female delinquency, 1976-1980. *Criminology: An Interdisciplinary Journal* 1983;21:555–584.
- Aiken, L.; West, S. Thousand Oaks. Sage Publications, Inc; CA: 1991. *Multiple Regression: Testing and Interpreting Interactions*.
- Andrews B, Brewin C, Rose S, Kirk M. Predicting PTSD symptoms in victims of violent crime: The role of shame, anger, and childhood abuse. *Journal of Abnormal Psychology* 2000;109:69–73. [PubMed: 10740937]
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*. American Psychiatric Association; Washington, D.C.: 1994.
- Banyard VL, Williams LM, Siegel JA. Childhood sexual abuse: A gender perspective on context and consequences. *Child Maltreatment* 2004;9:223–238. [PubMed: 15245676]
- Breslau N, Anthony JC. Gender differences in the sensitivity to posttraumatic stress disorder: An epidemiological study of urban young adults. *Journal of Abnormal Psychology* 2007;116:607–611. [PubMed: 17696716]
- Breslau N, Kessler RC, Chilcoat H, Schultz LR, Davis GC, Andreski P. Trauma and posttraumatic stress disorder in the community: The 1996 Detroit Area Survey of Trauma. *Archives of General Psychiatry* 1998;55:626–632. [PubMed: 9672053]
- Breslau N, Chilcoat HD, Kessler RC, Davis GC. Previous exposure to trauma and PTSD effects of subsequent trauma: Results from the Detroit Area Survey of Trauma. *American Journal of Psychiatry* 1999;156:902–907. [PubMed: 10360130]
- Breslau N, Peterson EL, Poisson LM, Schultz LR, Lucia VC. Estimating post-traumatic stress disorder in the community: Lifetime perspective and the impact of typical traumatic events. *Psychological Medicine* 2004;34:889–898. [PubMed: 15500309]
- Bronfenbrenner U. Toward an experimental ecology of human development. *American Psychologist* 1977;32:513–531.
- Buckner J, Beardslee W, Bassuk E. Exposure to violence and low-income children's mental health: Direct, moderated, and mediated relations. *American Journal of Orthopsychiatry* 2004;74:413–423. [PubMed: 15554803]

- Buka S, Stichick T, Birdthistle I, Earls F. Youth exposure to violence: Prevalence, risks, and consequences. *American Journal of Orthopsychiatry* 2001;71:298–310. [PubMed: 11495332]
- Centers for Disease Control and Prevention. Child Maltreatment: CDC Activities. 2006. Retrieved March 30, 2006, from <http://www.cdc.gov/ncipc/factsheets/cmactivities.htm>
- Cicchetti D, Lynch M. Toward an ecological/transactional model of community violence and child maltreatment: Consequences for children's development. *Psychiatry* 1993;56:96–118. [PubMed: 8488217]
- Cohen, JA.; Mannarino, AP.; Deblinger, E. *Treating Trauma and Traumatic Grief in Children and Adolescents*. The Guilford Press; New York: 2006.
- Cox C, Kotch J, Everson M. A longitudinal study of modifying influences in the relationship between domestic violence and child maltreatment. *Journal of Family Violence* 2003;18:5–17.
- Danielson CK, de Arellano MA, Kilpatrick DG, Saunders BE, Resnick HS. Child maltreatment in depressed adolescents: Differences in symptomatology based on history of abuse. *Child Maltreatment* 2005;10:37–48. [PubMed: 15611325]
- Davis L, Siegel L. Posttraumatic stress disorder in children and adolescents: A review and analysis. *Clinical Child and Family Psychology Review* 2000;3:135–154. [PubMed: 11225750]
- Faller KC. Characteristics of a clinical sample of sexually abused children: How boy and girl victims differ. *Child Abuse & Neglect* 1989;13:281–291. [PubMed: 2743185]
- Feiring C, Taska L, Lewis M. Adjustment following sexual abuse discovery: The role of shame and attributional style. *Developmental Psychology* 2002;38:79–92. [PubMed: 11806704]
- Finkelhor D, Dzuiba-Leatherman J. Victimization of children. *American Psychologist* 1994;49:173–183. [PubMed: 8192272]
- Finkelhor D, Ormrod R, Turner H, Hamby S. The victimization of children and youth: A comprehensive, national survey. *Child Maltreatment* 2005;10:5–25. [PubMed: 15611323]
- Fitzpatrick KM, Boldizar JP. The prevalence and consequences of exposure to violence among African-American youth. *Journal of the American Academy of Child & Adolescent Psychiatry* 1993;32:424–430. [PubMed: 8444774]
- Foster J, Kuperminc G, Price A. Gender differences in posttraumatic stress and related symptoms among inner-city minority youth exposed to community violence. *Journal of Youth and Adolescence* 2004;33:59–69.
- Hanson RF, Self-Brown S, Fricker-Elhai A, Kilpatrick D, Saunders B, Resnick H. The relations between family environment and violence exposure among youth: Findings from the National Survey of Adolescents. *Child Maltreatment* 2006;13:3–15. [PubMed: 16382087]
- Holmbeck G. Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology* 1997;65:599–610. [PubMed: 9256561]
- Holmbeck GN. Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology* 2002;27:87–96. [PubMed: 11726683]
- Horowitz K, Weine S, Jekel J. PTSD symptoms in urban adolescent girls: Compounded community trauma. *Journal of the Academy of Child and Adolescent Psychiatry* 1995;34:1353–1361.
- Keeter S, Miller C, Kohut A, Groves R, Presser S. Consequences of reducing nonresponse in a national telephone survey. *Public Opinion Quarterly* 2000;64:125–148. [PubMed: 10984330]
- Kessler RC. The national comorbidity survey: Preliminary results and future directions. *International Journal of Methods in Psychiatric Research* 1995;5(2):139–151.
- Kessler RC, Sonnega A, Bromet E, Hughes M. Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry* 1995;52(12):1048–1060. [PubMed: 7492257]
- Kilpatrick D, Acierno R, Saunders B, Resnick H, Best C, Schnurr P. Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology* 2000;68:19–30. [PubMed: 10710837]
- Kilpatrick, DG.; Resnick, HS.; Freedy, JR.; Pelcovitz, D.; Resick, PA.; Roth, S.; van der Kolk, B. The posttraumatic stress disorder field trial: Evaluation of the PTSD construct criteria A through E. In: Widiger, T.; Frances, A.; Pincus, H.; Ross, R.; First, M.; Davis, W.; Kline, M., editors. *The posttraumatic stress disorder field trial: Evaluation of the PTSD Construct: Criteria A Through E. DSM-IV sourcebook*. American Psychiatric Press; Washington, DC: 1998. p. 803-844.

- Kilpatrick DG, Ruggiero KJ, Acierno RE, Saunders BE, Resnick HS, Best CL. Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: Results from the National Survey of Adolescents. *Journal of Consulting and Clinical Psychology* 2003;71:692–700. [PubMed: 12924674]
- Leadbeater B, Blatt S, Quinlan D. Gender-linked vulnerabilities to depressive symptoms, stress, and problem behaviors in adolescents. *Journal of Research on Adolescence* 1995;5:1–29.
- O'Keefe M. Adolescents' exposure to community and school violence: Prevalence and behavioral correlates. *Journal of Adolescent Health* 1997;20:368–376. [PubMed: 9168384]
- Resnick H, Kilpatrick D, Dansky B, Saunders B, Best C. Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology* 1993;6:984–991. [PubMed: 8113499]
- Richters JE, Martinez PE. The NIMH community violence project: I. Children as victims of and witnesses of violence. *Psychiatry* 1993;56:7–21. [PubMed: 8488215]
- Ruggiero KJ, Rheingold AA, Resnick HS, Kilpatrick DG, Galea S. Comparison of two widely used PTSD-screening instruments: implications for public mental health planning. *Journal of Traumatic Stress* 2006;19:699–707. [PubMed: 17075907]
- Schwab-Stone M, Chen C, Greenberger E, Silver D, Lichtman J, Voyce C. No safe haven II: The effects of violence exposure on urban youth. *Journal of the American Academy of Child & Adolescent Psychiatry* 1999;38:359–367. [PubMed: 10199106]
- Singer MI, Anglin TM, Song L, Lunghofer L. Adolescents' exposure to violence and associated symptoms of psychological trauma. *JAMA* 1995;273:477–482. [PubMed: 7837366]
- Springer C, Padgett DK. Gender differences in young adolescents' exposure to violence and rates of PTSD symptomatology. *American Journal of Orthopsychiatry* 2000;70:370–379. [PubMed: 10953783]
- Stein J, Gelberg L. Comparability and representativeness of clinical homeless, community homeless, and domiciled clinic samples: Physical and mental health, substance use, and health services utilization. *Health Psychology* 1997;16:155–162. [PubMed: 9269886]
- Stevens TN, Ruggiero KJ, Kilpatrick DG, Resnick HS, Saunders HS. Variables differentiating singly and multiply victimized youth: Results from the National Survey of Adolescents and implications for secondary prevention. *Child Maltreatment* 2005;10:211–223. [PubMed: 15983106]
- Tabachnick, B.; Fidell, L. *Using Multivariate Statistics*. Allyn and Bacon; Boston: 2001.
- Tjaden, P.; Thoennes, N. Full report of the prevalence, incidence and consequences of violence against women: Findings from the National Violence Against Women Study (NCJ 183781). National Institute of Justice; Washington, DC: 2000.
- Ullman SE, Filipas HH. Gender differences in social reactions to abuse disclosures, post-abuse coping, and PTSD of child sexual abuse survivors. *Child Abuse & Neglect* 2005;29:767–782. [PubMed: 16051351]
- van der Kolk B, Roth S, Pelcovitz D, Sunday S, Spinazzola J. Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of Traumatic Stress* 2005;18:389–399. [PubMed: 16281237]



*p<.001

Figure 1.
Gender as a Moderator

Table 1

Prevalence of violence exposure by gender and total sample (n=3907)

	Boys	Girls	Total
Total Exposure *	51.3	44.1	47.8
SA *	3.5	13.2	8.2
PA	26.1	18.8	22.5
WV *	44.0	35.2	39.7

Note: Values represent percentages.

* $p < .001$.

Table 2
 Logistic Regression: Demographic and violence exposure characteristics associated with past six month MDE

	Step				Final model					
	B	SE	t	OR	CI (95%)	B	SE	t	OR	CI (95%)
Step One										
Age 11-12	-	-	-	-	-	-	-	-	-	-
14-15	0.70	0.17	4.16	2.01 ^{***}	1.45-2.79	0.56	0.17	3.25	1.75 ^{**}	1.25-2.46
16-17	0.75	0.17	4.45	2.11 ^{***}	1.52-2.93	0.44	0.18	2.47	1.56 [*]	1.10-2.22
Gender	0.70	0.13	5.54	2.02 ^{***}	1.58-2.60	0.90	0.20	4.56	2.47 ^{***}	1.67-3.64
African American	-0.15	0.20	-0.74	0.86	0.58-1.28	-0.51	0.21	-2.43	0.60 [*]	0.39-0.90
Hispanic	0.18	0.18	0.99	1.20	0.84-1.71	-0.02	0.19	-0.11	0.98	0.67-1.43
Native American	0.32	0.28	1.12	1.37	0.79-2.40	-0.03	0.30	-0.10	0.97	0.54-1.75
Asian	0.33	0.45	0.72	1.39	0.57-3.38	0.44	0.45	0.98	1.56	0.64-3.77
Step Two										
Sexual abuse	0.90	0.17	5.35	2.45 ^{***}	1.76-3.00	1.01	0.35	2.93	2.75 ^{**}	1.40-5.42
Physical abuse	0.85	0.14	5.97	2.33 ^{***}	1.77-3.08	1.04	0.24	4.33	2.82 ^{***}	1.76-4.51
Witnessing violence	0.55	0.14	4.00	1.75 ^{***}	1.32-2.27	0.63	0.24	2.58	1.88 ^{**}	1.17-3.04
Step Three										
Gender X physical abuse						-0.09	0.30	-0.30	0.91	0.50-1.65
Gender X witnessing violence						0.00	0.30	0.01	1.00	0.56-1.79
Gender X sexual abuse						-0.53	0.40	-1.34	0.59	0.27-1.28

Note. n = 3,907 (weighted).

Betas in the "Step" column represent those yielded for each individual step. MDE = major depressive episode. The "age" variable has ages 11-12 as the reference category. All others are dichotomously coded, with a code of "0" reflecting that the demographic/exposure characteristic was not endorsed by participants and a code of "1" indicating that the characteristic was endorsed. SE = standard error; OR = odds ratio; CI = confidence interval.

* $p < .05$

** $p < .01$

*** $p < .001$.

Table 3
 Logistic Regression: Demographic and violence exposure characteristics associated with past-6 month PTSD

	Step					Final model				
	B	SE	t	OR	CI (95%)	B	SE	t	OR	CI (95%)
Step One										
Age 11-12	-	-	-	-	-	-	-	-	-	-
14-15	0.26	0.24	1.08	1.30	0.81-2.10	-0.01	0.26	-0.04	0.99	0.60-1.64
16-17	0.87	0.24	3.66	2.38 ^{***}	1.50-3.80	0.38	0.26	1.46	1.46	0.88-2.42
Gender	0.55	0.19	2.97	1.74 ^{**}	1.21-2.50	1.00	0.37	2.70	2.71 ^{***}	1.32-5.61
African American	0.71	0.24	2.92	2.04 ^{**}	1.26-3.29	0.26	0.24	1.07	1.29	0.81-2.06
Hispanic	0.70	0.26	2.73	2.02 ^{**}	1.22-3.34	0.46	0.28	1.63	1.58	0.91-2.75
Native American	-0.14	0.44	-0.31	0.87	0.37-2.08	-0.75	0.50	-1.49	0.47	0.18-1.26
Asian	0.59	0.66	0.89	1.81	0.49-6.71	0.77	0.78	0.99	2.15	0.47-9.92
Step Two										
Sexual abuse	1.28	0.21	6.01	3.58 ^{***}	2.36-5.43	1.74	0.43	4.02	5.71 ^{***}	2.44-13.36
Physical abuse	1.05	0.19	5.51	2.85 ^{***}	1.97-4.14	1.30	0.30	4.31	3.66 ^{***}	2.03-6.61
Witnessing violence	1.01	0.20	5.00	2.75 ^{***}	1.85-4.09	1.08	0.36	3.04	2.94 ^{**}	1.47-5.90
Step Three										
Gender X physical abuse						-0.29	0.39	-0.74	0.75	0.35-1.61
Gender X witnessing violence						-0.08	0.43	-0.20	0.92	0.40-2.13
Gender X sexual abuse						-0.98	0.50	-1.95	0.38 [*]	0.14-1.01

Note. $n = 3,907$ (weighted).

Betas in the "Step" column represent those yielded for each individual step. PTSD = Posttraumatic Stress Disorder. The "age" variable has ages 11-12 as the reference category. All others are dichotomously coded, with a code of "0" reflecting that the demographic/exposure characteristic was not endorsed by participants and a code of "1" indicating that the characteristic was endorsed.

SE = standard error; OR = odds ratio; CI = confidence interval.

* $p < .05$

** $p < .01$

*** $p < .001$.

Table 4
Final Logistic Regression Models for Posttraumatic Stress Disorder Separate for Gender

Variable	Girls (n = 1,904)			Boys (n = 2,002)		
	B	OR	95% CI	B	OR	95% CI
Step 1						
Age 11-12	-	-	-	-	-	-
14-15	0.47	1.60	0.88-2.90	-0.85	0.43	0.17-1.06
16-17	0.58	1.78	0.94-3.35	0.08	1.08	0.49-2.39
African American	-0.07	0.93	0.52-1.67	0.68	1.97	0.95-4.10
Hispanic	0.41	1.51	0.77-2.96	0.49	1.63	0.62-4.33
Native American	-0.82	0.44	0.14-1.38	-0.76	0.47	0.08-2.85
Asian	0.45	1.57	0.24-10.14	1.34	3.83	0.30-48.54
Step 2						
Sexual abuse	0.76	2.14**	1.30-3.50	1.73	5.64***	2.40-13.24
Physical abuse	1.01	2.75***	1.67-4.53	1.29	3.64***	1.99-6.64
Witnessing violence	1.00	2.71***	1.64-4.49	1.08	2.95**	1.39-6.26

Note:

Betas in the "Step" column represent those yielded for each individual step. PTSD = Posttraumatic Stress Disorder; OR = Odds Ratio; CI = 95%. The "age" variable has ages 11-12 as the reference category. All others are dichotomously coded, with a code of "0" reflecting that the demographic/exposure characteristic was not endorsed by participants and a code of "1" indicating that the characteristic was endorsed.

* $p < .05$

** $p < .01$

*** $p < .001$.