

Childhood Traumas and Adolescent Psychopathology in a Probability Sample

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Abstract

This study was conducted to examine the association between childhood traumas and psychopathology in adolescents. Specifically, the study evaluated the association between lifetime exposure to 19 potentially traumatic events and serious emotional disturbance (SED), using data from the National Comorbidity Survey Adolescent Supplement, a probability sample of 13-17-year-old adolescents ($N = 10,106$). Sixty-two percent of adolescents reported experiencing at least one trauma, and the mean number of traumas reported was 1.4. Adjusting for demographic characteristics, 18 of the 19 traumas were significantly and positively associated with SED, with traumas involving interpersonal violence having especially large effect sizes. The largest effect sizes were obtained for (a) beaten by date or romantic partner, (b) raped, and (c) beaten by parent or guardian. Fifteen traumas were significantly and positively associated with SED when all 19 traumas were examined simultaneously, thereby providing evidence for the specificity of associations between these traumas and SED. These results suggest that the experience of specific potentially traumatic events is associated with psychopathology in adolescents and highlight the importance of the associations between traumas involving interpersonal violence and psychopathology in adolescents.

Introduction

Approximately half of the adult general population in the United States will experience one or more psychiatric disorders in their lifetime (Kessler et al., 1994). Researchers have examined the correlates and causes that are associated with psychiatric disorders to better understand and treat individuals with mental health problems. One significant feature of psychiatric disorders is that many symptoms of psychopathology first emerge in either childhood or adolescence (Costello, Egger, & Angold, 2005). In fact, studies have shown that nearly half of adolescents will meet criteria to be diagnosed with a psychiatric disorder within the past year, and approximately a quarter of adolescents will meet criteria for these disorders just within the past 30 days of the time of report (Kessler et al., 2012). Similarly, a large percentage of adolescents experience symptoms of psychological distress that may not, however, meet full criteria for a diagnosis of a DSM-V disorder (Roberts, Andrews, Lewinsohn, & Hops, 1990). Although many adolescents experience mental health problems, less than half of adolescents diagnosed with emotional disorders receive care of any kind (U.S. Department of Health and Human Services [HHS]: Office of Adolescent Health [OAH], 2018).

With respect to specific disorders, researchers have found a higher prevalence of internalizing disorders during adolescent development, when compared to externalizing disorders (Kessler, Chiu, Demler, & Walters, 2005). Childhood internalizing disorders have been defined as “covert, overcontrolled behaviours that involve a substantial degree of subjective distress for the individual experiencing them” (Merrell, 2008; as cited by Miller & Jome, 2010, p. 510), and include diagnoses such as depression and anxiety. Researchers have described how these disorders are often overlooked in youth populations due to the fact that they are not as disruptive in social settings as some externalizing disorders may be (Tandon, Cardeli, & Luby, 2009).

Researchers have attempted to better understand correlates to adolescent internalizing psychopathology in order to develop successful interventions (Kessler et al., 1994, 2012). Experiencing childhood trauma(s) has been studied as a possible risk factor in developing internalizing disorders (Kessler et al., 1994, 2012; Mauritz, Goossens, Draijer, & van Achterberg, 2013). For example, in a sample of children (ages 0-17 years) who gave self-reports of their recent experiences, researchers found that over 60% of children experienced or witnessed a victimization within the past year (Finkelhor, Turner, Ormrod, & Hambry, 2009). Researchers have also examined differences in the prevalence of low versus high magnitude traumatic events. The magnitude of the trauma has been determined by factors such as when the event happened, where it happened, and whether or not a perpetrator was involved. One study found that 25% of children had experienced a high magnitude event (Costello, Erkanli, Fairbank, & Angold, 2002). The study also found that 18% of children experienced multiple high magnitude traumatic events, and that 30% of children experienced low magnitude traumatic events, which were defined as slightly less extreme stressors.

In addition to asking children to directly report on their experience of potentially traumatic events, researchers have employed retrospective reports from adults as a separate method to examine prevalence of childhood traumas. For example, researchers in one study asked adults to recall their childhood experiences as a whole and they had the opportunity to report on repeat traumas that may not have been adequately assessed if participants were surveyed at a certain point in childhood (Scher, Forde, McQuaid, & Stein, 2004). This methodology proved to be of value due to the fact that 13% of the participants reported having experienced multiple forms of child-maltreatment, the most common forms being physical abuse and physical neglect, which often co-occurred.

Interpersonal Traumas and Developing Internalizing Disorders

Researchers have created different frameworks or conceptualizations of trauma to better understand the nature of the association between types of trauma and outcomes such as mental health. Interpersonal traumas involving violence or victimization represent one specific type of trauma that may be particularly important for internalizing disorders:

[V]ictimization can be defined as harm that comes to individuals because other human actors have behaved in ways that violate social norms . . . In interpersonal victimization, the elements of malevolence, betrayal, injustice, and immorality are more likely to be factors than in accidents, diseases, and natural disasters. (Finkelhor, 2008, p. 23)

Researchers seeking to determine whether the interpersonal aspects of traumas influence psychopathology levels have found that interpersonal traumas result in alterations to one's attributions and schemas, as well as impair the ability to have healthy interpersonal interactions, possibly due to the trauma's connection to another individual (D'Andrea, Ford, Stolbach, Spinazzola, & van der Kolk, 2012).

In studies that looked at specific interpersonal traumas and the development of specific internalizing disorders, researchers found that victims of rape were significantly more likely to develop depression when compared to non-victim control groups (Atkeson, Calhoun, Resick, & Ellis, 1982). Additionally, a substantial amount of domestic violence victims (31% to 84%) go on to develop post-traumatic stress disorder (PTSD) at some point in their life (Jones, Hughes, & Unterstaller, 2001), and that those who are victim to sexual abuse are more likely to develop "depression and self-destructive behavior, anxiety, feelings of isolation and stigma, poor self-esteem, [and] a difficulty in trusting others" (Browne & Finkelhor, 1986, p. 66). In summary,

prior research suggests there is a reliable association between internalizing disorders and interpersonal traumas involving violence or victimization.

Interpersonal Childhood Traumas and Internalizing Disorders in Adolescence

Adolescence has been characterized by intense changes in hormonal activity and physical development (Coleman & Hendry, 1990; as cited by Blakemore & Choudhury, 2006), as well as significant shifts in social and emotional functioning that may lead to altered perceptions of identity, self-consciousness, and cognitive plasticity (Rutter & Rutter, 1993). Due to the many developmental changes adolescents face, both physically and within their environment, this population has proved to be particularly susceptible to developing emotional disorders (Johnson & Wolke, 2013). The development of psychiatric difficulties in adolescence has been shown to increase substantially when adolescents experience childhood trauma or adversity (McLaughlin et al., 2012). For example, one study examined the extent to which a population of adolescent girls who lived in New Haven, Connecticut and who attended a local medical clinic, mainly seeking gynecological care, experienced PTSD (Horowitz, Weine, & Jekel, 1995). Results suggested that nearly 70% of the girls surveyed met symptom criteria for PTSD (Horowitz et al.). Other studies have found that childhood adversities surrounding family maladaptive functioning, such as parental maltreatment (e.g., abuse, neglect) or parental maladjustment (e.g., divorce, interparental violence) resulted in significantly higher levels of psychopathology than other types of adversities, such as experiencing the death of a loved one (McLaughlin et al., 2012).

Several studies have examined the relationship between certain types of interpersonal trauma experienced by children and psychopathology in adolescence. For example, researchers have found that children who experience sexual abuse have a significantly higher likelihood of

developing depression and suicidal or self-injurious tendencies in adolescence (Kendall-Tackett, Williams, & Finkelhor, 1993). Additionally, another study suggested that young adults (age 18) who experienced childhood sexual abuse reported a higher number of emotional difficulties, such as major depression, anxiety disorder, and suicidal behaviors, than those children who did not report such experiences (Fergusson, Horwood, & Lynskey, 1996). Aside from sexual maltreatment, physical abuse in childhood was shown to also increase risk for psychopathology in adolescence, including greater risk for depression, anxiety and PTSD (Pelcovitz, Kaplan, DeRosa, Mandel, & Salzinger, 2000). These findings suggest that to better understand mental health outcomes in adolescents, it may be beneficial to focus on adolescents who have experienced interpersonal traumas involving violence.

Trust, Attachment, and Developing Internalizing Disorders

A property that is specific to interpersonal traumas versus other types of trauma, such as accidents or natural disasters, is that there is a violation or betrayal of trust between the victim and the perpetrator that may result in a lack of general trust from the victim (Cole & Putnam, 1992; Finkelhor & Browne, 1985; Gobin & Freyd, 2014; Goldsmith, Freyd, & DePrince, 2012; Nishith, Mechanic, & Resick, 2000; van der Kolk, 2005). Research in this area has found that individuals who survived high betrayal traumas, or traumatic events where the victim was very close to the perpetrator, were generally less trusting than the general population (Gobin & Freyd, 2014). A significant majority (91%) of all reported child maltreatment cases were classified as high betrayal traumas (U.S. Department of Health & Human Services, 2008), and research has suggested that the prevalence of parent-child victimization may be influencing the development of significant trust issues in many children (Dunn, 1993). Failure to develop trusting behaviors has been associated with a lack of interpersonal relationships and, in turn, a higher risk for

developing internalizing disorders (Finkelhor & Browne, 1985; Cole & Putnam, 1992). Findings suggest that adults who have experienced interpersonal traumas involving violence, such as domestic violence and rape, report higher levels of depression than those who experience impersonal traumas, such as natural disasters and accidents (Fowler, Allen, Oldham, & Frueh, 2013). This idea related to findings in attachment studies in that suggested interpersonal traumas may disrupt secure relationships and thus lead to a higher risk of developing psychopathology (Roche, Runtz, & Hunter, 1999). Indeed, Fowler et al. (2013) recommended that an assessment of insecure attachment style should be included when treating patients with depressive symptoms. This type of assessment may offer information on how to best approach potential interventions as well as to determine who should receive treatment if resources are limited.

There are many other developmental factors that have been associated with early traumatic experiences that may be associated with trust and developing psychopathology (van der Kolk, 2005). A difference between adults and children who experience traumatic events is that children are still experiencing phases of development that adults have achieved (van der Kolk). Research has suggested that if a child lacks the tools, usually the influence of a caretaker, to learn to appropriately cope with and compartmentalize previous traumas, they will maintain unorganized responses to unpleasant stimuli, which may result in a lack of trust or future psychopathology (van der Kolk).

Constructs of Psychological Disturbance

Prior research has shown that traumas, particularly interpersonal traumas involving violence or victimization, are associated with specific psychiatric disorders. However, to accurately assess the presence of specific disorders, researchers often use time consuming surveys and/or clinician administered diagnostic interviews in order to assess for disorders in

each person. Although these assessments are important in determining the presence of specific disorders, they are inefficient in being able to quickly screen for the severity of non-specific mental health issues, as well as in being able to allow researchers to collect data for large, epidemiological studies concerned with mental health (Kessler et al., 2010).

In order to meet these needs in a reliable, valid manner, researchers have developed screeners for identifying people with serious emotional or behavioral disorders, and use of these screening measures is important for identifying people who may need treatment (Kessler et al., 2010). These assessment tools have been utilized in school settings, for example, as they are cost effective and easy to administer due to their brevity (Li, Green, Kessler, & Zaslavsky, 2010). Schools are also the primary providers of mental health services for youth, as studies have shown that about 80% of children who received resources for mental health obtained them from the school that they attended (Leaf et al., 1996). As resources in a social system, such as a school, are limited to those who show symptoms of severe emotional disturbances, effective screening scales are necessary to identify individuals with elevated symptoms (Li, Green, Kessler, & Zaslavsky).

Having a way to determine the severity of emotional disturbances in school settings could be potentially helpful in understanding youth mental health trends, which could lead to more effective treatments by the respective institution, county, or state. For example, researchers have shown that the effects of trauma are complex in nature, and lead to a variety of mental health outcomes, which are resolved most effectively through different types of treatments (Courtois, 2008). If it were shown that experiences of trauma were associated with elevated symptoms of emotional disturbance, then screening scales could be used to identify people with elevated symptoms and provide them with trauma-focused treatments.

Given that broad screening measures are now often used to assess and monitor mental health in schools, as well as to evaluate prevalence of mental health problems in community surveys, there is an unmet need for research on the association between childhood traumas and serious emotional disturbance (SED) in adolescents. The current study was designed to address this need through examining the association between different types of potentially traumatic events and SED in a large probability sample of adolescents.

Aims of the Current Study

This study was conducted with the goal of better understanding the relationship between trauma and SED in adolescents. The study examined the association between different types of potentially traumatic events and SED in a large, probability sample of adolescents, 13-18 years of age, in the United States. The aims of the study were to (a) examine the bivariate associations between 19 potentially traumatic events and SED, and (b) evaluate the specificity of the association between each traumatic event and SED through statistically adjusting for their shared associations with the other traumatic events. We hypothesized that interpersonal traumas involving violence would be particularly associated with SED in adolescents in light of the previously reviewed literature.

Methods

Participants

Participants were drawn from the National Comorbidity Survey Replication Adolescent Supplement (NCS-A; Merikangas et al., 2009). Full details concerning the procedures of the survey are presented elsewhere (Kessler et al., 2009; Merikangas et al., 2009). In brief, the NCS-A is based on a nationally representative sample of adolescents (ages 13-18) who completed an extensive interview to assess the prevalence and correlates of psychopathology. The current

study had a sample size of 10,106 adolescents. After weighting (described below), the sample was 49% female and 51% male, and the mean age was 15.2 years ($SD = 1.5$). The ethnic distribution of the sample was 66% white, 15% black, 14% Hispanic, and 5% other. This sample included adolescents who resided in homes that were shared with adults represented in the original National Comorbidity Survey Replication (NCS-R; Kessler et al., 2004), as well as from additional middle, junior high, and high school recruitments. Adolescents were paid \$50 as compensation for their participation. Written informed consent from both the adolescent and the parent of the adolescent was obtained before the interview took place. The NCS-A was approved by the Institutional Review Board at Harvard Medical School and the University of Michigan.

Measures

Serious Emotional Disturbance (SED). To assess for non-specific SED, we utilized the K6 scale (Kessler et al., 2003). The K6 is comprised of six questions, asking respondents about how frequently they experienced each of six symptoms in the month before the interview. Items are scored on a 0-4 scale, with response options of *never*, *a little of the time*, *some of the time*, *most of the time*, and *all of the time*. Questions were related to mental well-being, such as the subjects' perceived feelings of hopelessness and struggle to complete daily tasks. Responses were summed, with higher scores indicating higher levels of SED. Cronbach's alpha for the K6 in this sample was .77.

Childhood Traumas. Childhood traumas were assessed using the Composite International Diagnostic Interview (CIDI; Kessler & Üstün, 2004). The CIDI is a fully-structured interview designed to be used by trained lay interviewers. The interview was modified for use in the NCS-A to employ language appropriate for adolescents (Merikangas et al., 2009). Lifetime exposure to 19 potentially traumatic events (PTEs) were assessed as part of the post-traumatic

stress disorder section of the CIDI. The occurrence of each trauma was dummy coded (0 = trauma did not occur; 1 = trauma occurred).

Analyses

To examine the bivariate association between each trauma and SED (Aim 1), linear regression analyses were conducted. In each analysis, K6 scores were regressed on lifetime occurrence of a trauma, with demographic characteristics (age, gender, race/ethnicity) entered as covariates; separate analyses were conducted for each trauma. To examine the multivariate association between trauma and SED (Aim 2), a single linear regression analysis was conducted, in which K6 scores were regressed on demographic characteristics and lifetime occurrence of the set of all 19 traumas. Sample weights were used in these analyses, weighted for residual discrepancies from population-level sociodemographic and geographic characteristics based on the 2000 US Census; data from the household sample were further weighted for variation in within-household probability of selection. Analyses were conducted using the Statistical Package for the Social Sciences (SPSS). Effect sizes for the difference in adjusted means for people who did versus those who did not experience the trauma were estimated using d (Cohen, 1988).

Results

A majority (62%) of adolescents reported having experienced at least one traumatic event in their lifetime, and 34% of participants reported having experienced more than one traumatic event. The number of traumatic events reported ranged from 0 to 15, and the mean number of traumatic events was 1.36 ($SD = 1.66$). The mean score on the K6 questionnaire was 3.59 ($SD = 3.44$), with a range of 0 to 24.

To evaluate the bivariate association between each trauma and SED, K6 scores were regressed on the lifetime prevalence of experiencing each traumatic event in a series of 19

multiple regression analyses. Demographic characteristics (age, gender, race/ethnicity) were included in the analyses as covariates. Results from these analyses are presented in Table 1. As can be seen in this table, results suggest that after statistically adjusting for demographics, each of the traumatic events was significantly associated with higher K6 scores, with the exception of *ever in a place of war/revolution/military coup/terror*. In decreasing order, the largest effect sizes (d ; Cohen, 1988) were found between K6 scores and (a) *beaten by date or romantic partner*; (b) *ever been raped*, (c) *beaten by parents/guardians*; (d) *ever been sexually assaulted/molested other than rape*; and (e) *beaten by other than parent, romantic partner, or date*. These five traumas were all classified a priori as traumas involving interpersonal violence.

To examine the multivariate association between traumas and SED, K6 scores were regressed on the set of 19 traumas, adjusting for demographic characteristics. This analysis evaluated the specificity of the association between each trauma and SED, adjusting for shared associations with co-occurring traumas. Results from this analysis are presented in Table 2. As seen in this table, results indicated that when statistically adjusting for not only demographics but also for the co-occurrence of the other traumatic events, the previously statistically significant associations between the trauma and SED were no longer statistically significant for (a) *mugged/held up/threatened with weapon*, (b) *ever exposed to poisonous chemical or substance*, and (c) *other extremely stressful or life-threatening event*. The other traumas remained significantly associated with greater levels of SED, although the effect sizes for these multivariate associations were generally smaller than those observed for the bivariate analyses. In decreasing order, the largest effect sizes were observed for (a) *beaten by date or romantic partner*; (b) *beaten by other than parent, romantic partner, or date*; (c) *ever been raped*; (d) *ever been sexually assaulted/molested other than rape*; and (e) *beaten by parents/guardians*. After

adjusting for the demographic variables, the set of 19 traumatic events accounted for .10 of the variance in K6 scores, $F(19,9881) = 59.80, p < .001$.

Discussion

Relationship between Trauma and SED

The first aim of the current study was to evaluate the relationship between 19 different potentially traumatic events and nonspecific SED in a large probability sample of 13-17 year old adolescents. Results indicated that after adjusting for demographic variables, 18 of the 19 traumatic events were significantly and positively associated with non-specific SED in adolescents; the one exception was that SED was not significantly associated with ever being in a place of war, revolution, military coup or terror. Consistent with prior findings, individuals who had experienced a potentially traumatic event reported higher levels of psychopathology when compared to those who did not report such events (e.g., Heins et al., 2011; Kong & Bernstein, 2009; Wingenfeld et al., 2011). Although each of these traumas were significant in their relationship to SED, the effect sizes for the strength of the associations between trauma and SED were stronger for certain types of trauma relative to other traumas. The largest effect sizes were associated with the interpersonal violence category of traumas, including being beaten, raped, or sexually abused, which was consistent with the original hypothesis of the study in that they are all classified a priori as interpersonal traumas involving violence. This may suggest that childhood interpersonal traumas are likely predictors of developing more severe psychopathology in adolescence than noninterpersonal traumas, perhaps due to changes in attachment behaviors or violations of trust, as discussed in previous literature (e.g., Goldsmith, Freyd, & DePrince 2012; Sroufe, Carlson, Levy, & Egeland, 1999). Based on the results of this study, having been beaten by a romantic date or partner, having been raped, and having been

beaten by a parent or guardian were the three childhood traumatic events that were associated with the largest effect sizes in the first set of analyses. Although all trauma victims showed significant increases in SED and are deserving of treatment, victims of these three specific traumas may be important populations on which to focus treatment if resources are limited.

The second aim of the current study was to evaluate the specificity of the association between each trauma and SED. Because approximately one-third (35%) of people who experienced at least one trauma reported experiencing more than one trauma, it is possible that some of the associations observed for a given trauma were secondary to the co-occurrence of some other trauma. Results from these analyses indicated that the effect sizes for each of the traumas were smaller than those from the first analyses. This suggests that overall effects of trauma are somewhat additive in their relationship to SED. In addition, there were several traumas, including having been mugged, having been exposed to poisonous substances, and the “other” trauma type that were initially associated with SED, but were no longer associated with SED when adjusting for the presence of co-occurring traumas. This suggests that for these traumas, their association with SED is secondary to the occurrence of some other trauma. For example, an adolescent may have been exposed to a poisonous chemical as a child, but that single event may not result in greater levels of SED. Instead, it may be the occurrence of a different trauma, such as being beaten by a parent or guardian, that co-occurs with exposure to a poisonous chemical, that contributes to greater levels of SED. Evaluating the specificity of the associations between each trauma and SED, adjusting for demographics and the co-occurrence of other traumas, is an important strength of the current study, as such analyses are crucial for mental health professionals to understand which traumas are specifically associated with psychopathology in order to best treat patients (Cohen, Mannarino, & Deblinger, 2017, p. 28).

A finding of this study was that trauma exposure across the 19 potentially traumatic events accounted for roughly 10% of the variance in SED reported by participants. Although this is a relatively high percentage of the variance in SED, it provides hope for trauma victims by suggesting that trauma exposure in childhood is not nearly the only factor contributing to a person's overall level of SED. Other factors, such as genetics, support systems, and resilience have been shown to influence mental health outcomes (Hyman, 2000; Rutten et al., 2013; Tol et al., 2011), and thus may also be playing parts in contributing to the overall mental health and well-being of victimized individuals.

Strengths of the Current Study

Inclusion of Many Traumas. In interpreting the results of the study, it is important to consider the strengths and limitations of the study. First, the inclusion of many traumas makes the findings from the study relevant to a large number of victims and mental health professionals. This also allowed us to compare the different types of traumas to one another to determine which traumas had the strongest association with SED, and whether the association between a particular trauma and SED remained statistically significant when adjusting for co-occurring traumas. Therefore, the results from the study may help researchers and practitioners alike to recognize where energy and resources could best be allocated in treating victims of traumatic events.

Brief Emotional Disturbance Screening Measure. Another strength of the study was the focus on brief assessment of psychopathology. Although the benefits of closely examining the prevalence of specific psychiatric disorders in a population is recognized, there is also value in evaluating mental health more broadly and in less time. The current study utilized an assessment tool that met the need for briefly and efficiently assessing for the severity of SED within a population, which allows for practitioners and other social service providers to evaluate

which individuals may be in need of treatment, regardless of their specific diagnoses. Although specific diagnoses are eventually made in an ideal world, brief mental health assessment tools may be useful in initially identifying level of SED in an individual or a population that may suggest a need for treatment. In our study, this was particularly useful in order to identify different levels of SED in adolescents and the associations between SED and different types of childhood traumas. Having this information has critical implications for schools and other social settings, as described in greater detail below. The importance of effectively assessing level of SED in under five minutes cannot be overstated.

Sample Type and Adjustments. A separate strength of the current study that should be acknowledged is the fact that the analyses were based on a large, probability sample, which suggests that the current findings are likely to be highly generalizable and have good external validity. Using large and representative samples helps to draw accurate conclusions concerning the associations between childhood trauma and SED in adolescence. Due to the fact that the analyses adjusted for age, race, and gender, our study was able to go above and beyond those factors in determining the strengths of the associations between trauma and SED.

Limitations to the Current Study

Sample Limitations. Although the National Comorbidity Survey Adolescent Supplement (NCS-A) sample had many strengths, it did not include some groups of people that may be important to consider in mental health analyses. These exclusions included people from inpatient health institutions, those who were homeless, and individuals who could not speak English. People from inpatient health institutions could have offered insight as to the associations between traumas and more severe levels of SED. The inclusion of people who are homeless may have offered information on that specific population's struggles and mental health

characteristics. Lastly, there are a number of individuals in the United States who do not speak English and who may have provided information on the association between trauma and SED in minority groups. However, collection of data for these individuals was not possible due to the existing language barrier between interviewers and non-English speaking individuals.

Underreporting. Another important limitation of the study mentioned in analyzing the methodology of the original NCS-A study was that there was a possibility for participants to underreport either traumatic events or symptoms of SED. Researchers have found that young adolescents were less likely to reveal information about themselves than children (Elkind & Bowen, 1979), which may suggest that adolescents may not have fully disclosed information during their CIDI interview. This could potentially be due to participants feeling embarrassed about certain feelings or being less willing to report childhood traumatic events. Although all adolescent reports were kept confidential, traumas may have been underreported due to the fact that some individuals may have been fearful of potential negative consequences after reporting against their perpetrator, if the trauma involved a perpetrator.

Another potential concern regarding the accuracy of reporting traumas relates to the age of the experienced trauma. Researchers have suggested that if an adverse childhood experience occurs early enough in life, then it is no longer the actual memory of the event that impacts emotions and interpersonal relationships, but instead, it's the representations of the event given to the child, often by caregivers, that influences interpersonal relationships (Maughan & Rutter, 1997). There is also the potential for an early childhood event to be forgotten, due to either attrition of memories or selective forgetting (Maughan & Rutter).

Design of Current Study. Lastly, it is important to note that this study was conducted using a cross-sectional design, which limits our ability to make conclusions regarding causality

between traumas and SED. It could potentially be the case that the occurrence of SED puts an individual at a higher risk for trauma exposure, versus the other way around. It could also be that there is some unmeasured third variable that effects both trauma exposure and SED. For example, one study found that there was an association between attachment insecurities and internalizing disorders (Mikulincer & Shaver, 2012), and a separate study found there was a connection between disrupted attachment and trauma victimization (Alexander, 2009). It could be that attachment insecurities promote greater levels of SED and puts one more at risk for interpersonal traumas, verses interpersonal trauma having a direct effect on psychopathology.

Implications of Findings

Our findings provide implications for social services, such as programs for mental health treatment in school settings, by offering information on how different types of childhood traumas relate to mental health outcomes in adolescent populations. This study specifically utilized an emotional distress screening tool that is already being employed by a number of schools and communities in the United States. The use of this tool increases the likelihood that the current findings may be applicable to service providers by potentially informing those treating adolescent trauma victims on which victim types may need more immediate treatment. In addition to this, service providers may be able to make better treatment judgements, especially when resources are limited, and have a better understanding of how to best treat individuals who have experienced trauma and are suffering. For example, this study has shown that adolescents who have experienced interpersonal traumas are likely to show especially high levels of emotional disturbance. Thus, it may be useful to allocate resources to treating those trauma-type victims. Knowledge of the prevalence of traumas as well as their significance in regard to mental

health outcomes could lead to more effective treatments within a population, as well as a more effective allocation of resources.

Another potential application of this study would be for social service providers to allocate resources towards preventing childhood traumas, specifically the traumas that are associated with the highest levels of emotional disturbances. For example, our study found that having been beaten by a romantic partner or date was associated with the highest levels of emotional disturbances in adolescents, even when adjusting for all other traumas (see Table 2). It may be worth investigating the effects of interventions focused on limiting abuse within child and adolescent romantic relationships, as well as other traumas with the largest effect sizes, in an attempt to minimize adolescent suffering.

Overall, the findings of this study provide researchers data on broad mental health trends within adolescents in the United States who have experienced potentially traumatic events. In addition to this, clinicians and social service providers can use the information offered by this study to create efficient treatment plans and interventions that will aid communities and schools in the best ways given available resources. Understanding the differences between trauma types and how they affect individuals is a crucial foundation to aiding victims in an effective manner and decreasing emotional disturbance.

Directions for Future Research

Due to the cross-sectional nature of this study's design, no causality can be claimed about the relationship between trauma and adolescent psychopathology. A longitudinal study examining the occurrence of childhood trauma at one point in time and mental health over the span of childhood and into adolescence would be an appropriate next step in understanding the relationship between these two variables. These findings could have important implications for

how to best treat both victims of trauma and those who are suffering from high levels of SED. It could also prove to be useful to examine potential mediating or moderating factors that are influencing the onset and persistence of SED. A few potential mediating or moderating factors worth investigating between trauma and psychopathology based on the existing literature would be attachment styles, resilience, family functioning, drug/alcohol abuse, and self-compassion. It is important for researchers and mental health clinicians alike to better understand the different pathways that exist between trauma and mental health in order to best understand and treat psychopathology associated with trauma.

Final Conclusions

The prevalence of both childhood traumatic events and psychopathology in adolescence are astoundingly high, and are important considerations regarding the well-being of youth in the United States. Results from this study suggest that highest levels of SED were associated with interpersonal traumas involving violence or victimization, including the experiences of being beaten, raped, and sexually molested. Compared to adults, children and adolescents may be particularly vulnerable populations for whom trauma will most likely have a more lasting impact due to the amount of development that is still in place (van der Kolk, 2005). This suggests that there is high value in adopting a developmental perspective on clinical research to best aid both sides of this issue: trauma exposure and the development of psychopathology.

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Table 1

Associations between Individual Traumatic Events and Serious Emotional Disturbance

Trauma	%	<i>B</i>	SE	<i>p</i>	<i>d</i>
Beaten by parents/guardians	2.2	2.958	0.232	<.001	0.86
Beaten by date or romantic partner	1.2	3.551	0.316	<.001	1.03
Beaten by other than parent, romantic partner or date	5.3	2.515	0.150	<.001	0.73
Mugged/held up/threatened with weapon	7.6	1.383	0.130	<.001	0.40
Ever been raped	2.7	3.172	0.209	<.001	0.92
Ever been sexually assaulted/molested other than rape	3.9	2.590	0.175	<.001	0.75
Ever been stalked	5.0	2.167	0.157	<.001	0.63
Ever in a life-threatening car accident	7.8	0.971	0.126	<.001	0.28
Ever any other life-threatening accident (not car)	8.4	1.059	0.123	<.001	0.31
Ever in major disaster	12.9	0.585	0.101	<.001	0.17
Ever had serious/life-threatening illness	6.3	1.037	0.140	<.001	0.30
Ever exposed to poisonous chemical or substance	2.5	1.226	0.219	<.001	0.36

(table continues)

Table 1

Associations between Individual Traumatic Events and Serious Emotional Disturbance

Trauma	%	<i>B</i>	SE	<i>p</i>	<i>d</i>
Witnessed serious physical fights at home	8.0	1.878	0.124	<.001	0.55
Close friend or relative died unexpectedly	28.7	0.827	0.076	<.001	0.24
Close friend/relative had stressful/life-threatening experience	9.5	1.534	0.116	<.001	0.45
Saw person badly injured/killed, or a dead body	12.4	1.364	0.104	<.001	0.40
Ever in a place of war/revolution/military coup/terror	2.4	0.360	0.222	.104	0.10
Other extremely stressful or life-threatening event	3.7	0.870	0.180	<.001	0.25
Upsetting traumatic event not reported	6.0	2.263	0.142	<.001	0.66

Note. Analyses adjust for age, gender, and race/ethnicity (White, Black, Latino, Other).

Table 2

Associations between All Traumatic Events and Serious Emotional Disturbance

Trauma	<i>B</i>	SE	<i>p</i>	<i>d</i>
Beaten by parents/guardians	1.023	0.240	<.001	.30
Beaten by date or romantic partner	1.926	0.341	<.001	.60
Beaten by other than parent, romantic partner or date	1.459	0.155	<.001	.42
Mugged/held up/threatened with weapon	-0.009	0.134	.949	.00
Ever been raped	1.169	0.223	<.001	.34
Ever been sexually assaulted/molested other than rape	1.167	0.183	<.001	.34
Ever been stalked	0.792	0.160	<.001	.23
Ever in a life-threatening car accident	0.370	0.123	.003	.11
Ever any other life-threatening accident (not car)	0.445	0.121	<.001	.13
Ever in major disaster	0.199	0.101	.048	.06
Ever had serious/life-threatening illness	0.505	0.136	<.001	.15
Ever exposed to poisonous chemical or substance	0.070	0.215	.743	.02
Witnessed serious physical fights at home	0.922	0.129	<.001	.27
Close friend or relative died unexpectedly	0.416	0.075	<.001	.12
Close friend/relative had stressful/life-threatening experience	0.455	0.117	<.001	.13
Saw person badly injured/killed, or a dead body	0.692	0.104	<.001	.20
Ever in a place of war/revolution/military coup/terror	-0.003	0.212	.989	.00
Other extremely stressful or life-threatening event	0.253	0.177	.153	.07
Upsetting traumatic event not reported	1.169	0.146	<.001	.34

Note. Analyses adjust for age, gender, and race/ethnicity (White, Black, Latino, Other).