The Relation Between Child Maltreatment and Adolescent Suicidal Behavior: A Systematic Review and Critical Examination of the Literature

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Abstract

A large body of research suggests that child maltreatment (CM) is associated with adolescent suicidal ideation and attempts. These studies, however, have not been critically examined and summarized in a manner that allows us to draw firm conclusions and make recommendations for future research and clinical work in this area. In this review, we evaluated all of the research literature to date examining the relationship between CM and adolescent suicidal ideation and attempts. Results generally suggest that childhood sexual abuse, physical abuse, emotional abuse, and neglect are associated with adolescent suicidal ideation and attempts across community, clinical, and high-risk samples, using cross-sectional and longitudinal research designs. In most studies, these associations remain significant when controlling for covariates such as youth demographics, mental health, family, and peer-related variables. When different forms of CM are examined in the same multivariate analysis, most research suggests that each form of CM maintains an independent association with adolescent suicidal ideation and suicide attempts. However, a subset of studies yielded evidence to suggest that sexual abuse and emotional abuse may be relatively more important in explaining suicidal behavior than physical abuse or neglect. Research also suggests an additive effect—each form of CM contributes unique variance to adolescent suicide attempts. We discuss the current limitations of this literature and offer recommendations for future research. We conclude with an overview of the clinical implications of this research, including careful, detailed screening of CM history, past suicidal behavior, and current suicidal ideation, as well as the need for integrated treatment approaches that effectively address both CM and adolescent suicidal ideation and suicide attempts.

Introduction

Rates of suicide increase markedly from childhood into adolescence (Kessler et al. 1999), representing a significant public health concern. In 2011, 4,688 completed suicides were reported for those aged 15–24 (Hoyert and Xu 2012). Suicide is currently the third leading cause of death in this age group (CDC 2010). Moreover, even more youth make non-lethal suicide attempts and actively engage in suicidal ideation. According to data from the 2011 Youth Risk Behavior Survey (YRBS; Eaton et al. 2012), 7.8 % of high school students in

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the United States reported a suicide attempt, and 15.8 % seriously considered attempting suicide in the past year.

When examining the general construct of suicidality, it is important to differentiate among the various forms of suicidal behavior. Suicidal ideation refers to thoughts about engaging in behaviors that are intended to end one's life (Nock and Favazza 2009). A suicide attempt is defined as deliberately causing harm to oneself with at least some intent to die (Silverman et al. 2007). Finally, a completed suicide results from a lethal suicide attempt. All three behaviors must be further distinguished from self-injurious behavior that occurs in the absence of suicidal intent, which is referred to as non-suicidal self-injury (NSSI; Nock and Favazza 2009). Although NSSI is an important area of study and shares similarities with suicidal behavior, it is a distinct phenomenon (Brown et al. 2002; Nock and Favazza 2009). The present review focuses on suicidal ideation and suicide attempts. In some instances, however, authors do not explicitly state whether or not the intent to die was assessed or considered when categorizing suicide attempts.

Given the potential lethality of suicide attempts and suicidal ideation, a fair amount of research has been conducted to examine factors that increase risk of these behaviors. One risk factor that has been the subject of significant study in the literature is child maltreatment (CM). The term CM refers to childhood sexual abuse, physical abuse, emotional abuse, and neglect. Sexual abuse is typically defined as unwanted sexual contact or inappropriate sexual conduct that does not involve contact (e.g., verbal sexual harassment, exhibitionism) between an older person and a child; coercion is frequently used but is not necessary to be considered abuse (Finkelhor 1994). Physical abuse is typically defined by bodily assaults inflicted by an older person, which have the potential to or do cause injury (Malinosky-Rummell and Hansen 1993). Emotional abuse can be more difficult to categorize than other forms of abuse, because it is more subjective. It can include verbal assaults on a child's sense of well-being or self-worth, or any threatening, demeaning, terrorizing, or humiliating remarks or behavior directed at a child by an older person (Glaser 2002). Finally, neglect is defined as the failure of the caregiver to meet a child's basic physical needs (i.e., food, shelter, safety, and supervision) or psychological and emotional needs (i.e., encouragement, belongingness, warmth, love, and support; Crouch and Milner 1993).

Like suicidal behavior, CM is not uncommon among youth. Prevalence rates of CM range from 13 to 20 % in large community samples (Arata et al. 2007; Brezo et al. 2008), with even higher rates in psychiatric samples (Boxer and Terranova 2008). Moreover, each type of CM has been associated with psychological maladjustment among youth, including suicidal ideation and attempts. These studies, however, have yet to be critically examined and summarized in a manner that allows us to draw firm conclusions and make recommendations for clinical work and future research in this area. That is the aim of the current article.

In this review, we first present empirical findings regarding the relationship between each type of CM and suicidal ideation and suicide attempts in adolescents. Subsequently, we discuss the current limitations of this literature, including issues with operationalization (definitions, assessment, and classification), research design, and mechanisms, and offer recommendations for future research. We conclude with an overview of the clinical implications of this research.

Method

Eligibility Criteria

To identify research articles on CM that occurred before the age of 18 and suicidal behavior during adolescence, *PyscINFO, PsychARTICLES,* and *MEDLINE* were searched. Keywords included the stems of *adolescen** and *suicid** in combination with *maltreatment, sexual abuse, physical abuse, emotional abuse, psychological abuse*, and *neglect*. The wildcard term *adolescen** returned results that included *adolescent* and *adolescence*. The wildcard term *suicid** yielded results that included *suicidal ideation, suicide attempt, suicide completion,* and *suicidality*. Next, relevant reference lists were searched for any additional studies that were not identified in the electronic database search. Finally, major literature reviews were searched to include all relevant empirical studies.

Inclusion and Exclusion Criteria

Studies were included in this review if (1) the sample was composed predominantly of adolescents ages 12–17; (2) some type of CM that occurred before age 18 was assessed; and (3) a measure of suicidal ideation or suicide attempt was an outcome variable. Searches from electronic databases yielded 55 empirical studies that met all inclusion criteria. The majority of studies were clustered in the last 10 years. There were no specific exclusion criteria for the current review. However, two studies explored the relationship between CM and suicide completion, but were not included in the review because one study did not specify the type of abuse under study (Brent et al. 1993) and the other study only had three cases of suicide completion (Plunkett et al. 2001).

Overview of Empirical Studies

Sexual Abuse

General Overview—As shown in Tables 1 and 2, 52 studies have examined links between a history of childhood sexual abuse, and suicidal ideation and suicide attempts in adolescents. These studies included cross-sectional and longitudinal studies of both community and high-risk samples (e.g., clinical populations, incarcerated juveniles, runaway, and homeless youth). Overall, of 28 cross-sectional studies of community samples, 27 demonstrated clear evidence of a general association between a history of sexual abuse and increased suicidal ideation and/or suicide attempts. The samples in these studies ranged from 100 participants to over 80,000 participants (*M* = 6,177 participants per study; *Median* = 1,948). The methods used to assess sexual abuse history ranged from single questions in surveys or interviews, to established scales like the Childhood Trauma Questionnaire (CTQ; Bernstein and Fink 1998), to comprehensive trauma evaluations. Likewise, the methods for assessing suicidal ideation and suicide attempts varied widely, as well, but the variation in methods produced almost no differences in the overall clear link between childhood sexual abuse and adolescent suicidal ideation and/or suicide attempts. The only exception was a study conducted by Arata et al. (2007). This group failed to find an association between childhood sexual abuse and their measure of suicidality, but this measure was a composite scale that included risky behaviors, injuries, and other phenomena that are not directly linked to suicide. Thus, the results of this single study do not detract from the preponderance of evidence supporting this association.

Additionally, 14 of 16 studies that focused on clinical/high-risk populations also found an association between childhood sexual abuse and adolescent suicidal ideation and suicide attempts. The samples in these studies ranged from 48 participants to 2,019 participants (*M* = 468 participants per study; *Median* = 291) and included delinquent, runaway, and/or homeless youth, psychiatric inpatients, and substance abusing youth, among others. There

were two studies conducted with psychiatrically hospitalized adolescents that failed to detect this link. One study included 24 depressed adolescents with a history of sexual abuse and 24 matched depressed adolescents without a sexual abuse history. An association was not found between child sexual abuse and adolescent suicidal ideation or attempts (Brand et al. 1996). The second study included 38 adolescents with a history of a suicide attempt ($N = 13$ reported abuse) and 76 controls without a suicide attempt history ($N = 15$ reported abuse). A relationship was not found between childhood sexual abuse (composite measure with physical abuse) and suicide attempts. Of all studies reviewed, these two had the smallest sample sizes which may have compromised power to detect differences. Further, Brand et al. (1996) noted that there was a restricted range on the suicide variables due to the acute symptom severity of their psychiatric inpatient sample, which also may have contributed to the null findings. Despite these latter two studies, the majority of research with clinical/high-risk samples of adolescents supports an association between childhood sexual abuse and adolescent suicidal ideation and suicide attempts.

Finally, we identified eight longitudinal studies that addressed this relationship. The sample sizes of these studies ranged from 133 participants to 1,631 participants ($M = 594$ participants per study; *Median* = 594), and the time period for the follow-up varied from 6 months to 28 years. Each of these eight studies yielded evidence to suggest that childhood sexual abuse predicts future suicidal ideation and/or suicide attempts in adolescence.

Effects of Covariates—The large majority of these cross-sectional and longitudinal studies have revealed that these links remain significant when controlling for basic covariates, suggesting the robustness of this association. Specifically, the link between childhood sexual abuse and adolescent suicide ideation/attempts remains significant when controlling demographic variables such as age or grade level (Bensley et al. 1999; Borowsky et al. 1999; Eisenberg et al. 2007; Grilo et al. 1999; Grossman et al. 1991; Hacker et al. 2006; Johnson et al. 2002; Rew et al. 2001; Riggs et al. 1990; Swanston et al. 1997; Waldrop et al. 2007), sex (Esposito and Clum 2002; Grossman et al. 1991; Hacker et al. 2006; Johnson et al. 2002; Rew et al. 2001; Riggs et al. 1990; Swanston et al. 1997; Waldrop et al. 2007), IQ (Fergusson et al. 2000), and race/ethnicity (Brown et al. 1999; Eisenberg et al. 2007; Thompson et al. 2012; Waldrop et al. 2007). However, there is some evidence to suggest that sex might moderate some of these associations (see below).

Similar to demographics and IQ, there were no family or peer variables that negated this link, including family structure (Eisenberg et al. 2007; Fergusson et al. 1996), parental separation (Beautrais et al. 1996), parental role changes (Fergusson et al. 1996, 2000; Swanston et al. 1997), mothers' level of education (Fergusson et al. 1996, 2000), family socioeconomic status (Beautrais et al. 1996; Fergusson et al. 1996, 2000; Swanston et al. 1997; Waldrop et al. 2007), parental violence or imprisonment (Beautrais et al. 1996), adolescents' attachment (Fergusson et al. 2000), parenting style or family functioning (Fergusson et al. 2000; Ryan et al. 2000; Swanston et al. 1997), parents' psychiatric symptoms and substance abuse (Johnson et al. 2002; Swanston et al. 1997; Waldrop et al. 2007), parental suicide (Rew et al. 2001), or general feelings of social connectedness (Rew et al. 2001).

In seven out of eight cross-sectional studies, the associations of childhood sexual abuse with adolescent suicidal ideation and suicide attempts remained significant when controlling for youth mental health problems, including diagnoses of major depressive disorder, conduct disorder, adjustment disorder, and social phobia (Glowinski et al. 2001), depressive symptoms (Fergusson et al. 2003; Grilo et al. 1999; Martin et al. 2004; Rew et al. 2001), hopelessness (Martin et al. 2004; Rew et al. 2001), dissociative symptoms (Kisiel and Lyons 2001), and personality factors (Fergusson et al. 2000), and a previous suicide attempt

(Johnson et al. 2002). Martin et al. (2004), however, found that when they controlled for depression and hopelessness, the links remained significant only for boys, not for girls. Further, Thompson et al. (2012) found that sexual abuse was not associated with suicidal ideation after controlling for previous suicidal ideation, depressed mood, anger, anxiety, dissociation, and post-traumatic stress (psychological distress) in addition to youth/parent demographics and family composition. The authors of this latter study note that this negative finding may have resulted from the relatively low base rate of sexual abuse in the sample resulting in limited power to detect effects as well as the presence of multiple adverse experiences in the sample. Two longitudinal studies conducted with community samples found that the effects of childhood sexual abuse on adolescent suicidal ideation and/or attempts remained significant when controlling for general psychiatric symptoms during childhood and early adolescence (Johnson et al. 2002) and current disruptive behavior (Brezo et al. 2008), whereas controlling for current conduct problems and substance abuse (and other variables) in a third study rendered this association non-significant (Fergusson et al. 2000).

Three longitudinal studies have included negative life events as covariates in study analyses with mixed results. Swanston et al. (1997) found that controlling for negative life events did not affect the association between childhood sexual abuse and suicidal ideation/suicide attempts in a longitudinal study conducted with 84 sexually abused adolescents and 84 community controls. In contrast, Fergusson et al. (2000) as well as Brent et al. (1993) found that controlling for negative life events eliminated these associations in longitudinal studies conducted with 965 youth from the community and 133 psychiatrically hospitalized adolescents, respectively. Interestingly, Swanston et al. (1997) assessed negative life events over the course of the previous year, whereas Fergusson et al. (2000) assessed for them over the course of 6 years. Thus, it is possible that a greater accumulation of negative life events in community-based samples may significantly attenuate the association between CM and suicidal ideation and suicide attempts. The Brent et al. (1993) study included psychiatrically hospitalized adolescents and assessed for negative life events over the prior 6 months. The authors concluded that the psychiatric severity of their sample in combination with their low follow-up rate (67 %) likely obscured the effect of sexual abuse on suicidal behavior. All three studies used a different measure of negative life events, which may also account for discrepant findings. Taken together, there is some evidence that negative life events may affect the relationship between sexual abuse and suicidal ideation/suicide attempts, but further investigation is needed.

Physical Abuse

General Overview—Similar to the findings regarding sexual abuse, results from studies of physical abuse reveal a fairly clear association with both suicidal ideation and suicide attempts in adolescents. Of 18 cross-sectional studies conducted with community samples, 16 revealed a positive relationship between childhood physical abuse and suicidal ideation and/or attempts (see Tables 1, 2). The sample sizes of these studies ranged from 114 to 16,644 participants ($M = 3,694$ participants per study; *Median* = 1,257), and again, a wide variety of assessment methods were employed. One of the two studies that failed to detect a link was that conducted by Arata et al. (2007), who, as noted above, used a composite outcome measure that included much more than suicidality. The other group who failed to find such a relationship had only 18 participants out of 114 who reported any history of physical abuse, by far the smallest sample size of any of the studies, with consequently low power to detect differences (Kisiel and Lyons 2001).

Similarly, nine out of 10 cross-sectional studies of clinical and high-risk samples yielded similar results. Sample sizes ranged from 114 to 2,019 ($M = 499$ participants per study;

Median = 311), and the samples included psychiatric inpatients, delinquent youth, and homeless or runaway youth. The only study that failed to find a significant relationship between physical abuse and suicide attempts in a psychiatric sample used a composite measure of sexual and physical abuse and included a small sample of suicide attempters which likely resulted in inadequate power to detect significant effects (*N* = 38 attempters; only 13 reported sexual or physical abuse; Lyon et al. 2000).

Six longitudinal studies conducted with community samples also found an association between physical abuse and adolescent suicidal ideation and/or attempts. The community samples varied in size from 200 adolescents to 1,631 adolescents (*M* = 745 participants per study; *Median* = 649), and they were followed over periods of 6 months–28 years. Three of the studies examined substantiated cases of physical abuse, while three others used self-report and interviews. In contrast, the one longitudinal study conducted with a clinical sample, which included 133 psychiatrically hospitalized adolescents, failed to find a link (Brent et al. 1993). The clinical nature of the sample may have resulted in less variability in suicidal ideation, but this study also had the shortest follow-up period (6 months) of all longitudinal studies reviewed and only retained 67 % of their original sample thereby tempering conclusions. Overall, the preponderance of evidence supports the link between childhood physical abuse and adolescent suicidal ideation and suicide attempts.

Effects of Covariates—Similar to the findings in the sexual abuse literature, the associations of childhood physical abuse with adolescent suicidal ideation and suicide attempts largely remain significant when controlling for basic confounds. For example, there was no change in the significance of these associations when demographic variables such as youth sex (Esposito and Clum 2002; Grossman et al. 1991; Hacker et al. 2006; Johnson et al. 2002; Rew et al. 2001; Riggs et al. 1990; Salzinger et al. 2007; Thompson et al. 2012; Waldrop et al. 2007), youth age (Bensley et al. 1999; Borowsky et al. 1999; Grilo et al. 1999; Grossman et al. 1991; Hacker et al. 2006; Johnson et al. 2002; Rew et al. 2001; Riggs et al. 1990; Waldrop et al. 2007), race/ethnicity (Brown et al. 1999; Thompson et al. 2012; Waldrop et al. 2007), family socioeconomic status (Waldrop et al. 2007), or caregiver education level (Thompson et al. 2012) were controlled for in study analyses.

Similarly, seven out of eight studies reviewed (four cross-sectional studies and three longitudinal) found no differences in these associations when controlling for youth mental health variables, including psychological distress (described above) in childhood and early adolescence (Johnson et al. 2002; Thompson et al. 2012), depression severity (Fergusson et al. 2003; Grilo et al. 1999; Rew et al. 2001), disruptive and risky behavior (Brezo et al. 2008; Rew et al. 2001), comorbid internalizing and externalizing symptoms (Salzinger et al. 2007), diagnoses of major depressive disorder, conduct disorder, adjustment disorder, and social phobia (Glowinski et al. 2001), or prior suicide attempts (Johnson et al. 2002). The one cross-sectional study that did find a change in this relationship included 99 physically abused and 99 non-physically abused adolescents (Kaplan et al. 1999). In this study, physical abuse was no longer associated with suicidal ideation after controlling for demographic variables (sex and age), perceived academic performance, peer support, lifetime psychopathology, exposure to suicide, parental suicide attempt, parental psychopathology, family status, family cohesion, number of deaths, and separations. Although these covariates include mental health variables, it is not clear which variables attenuated this association. However, it is possible that the presence of a mood disorder subsumed some of the variance in suicidal ideation given that a current depressive episode was a strong predictor of suicidal ideation in preliminary analyses. Moreover, the authors of this study note that their small sample size (relative to the number of variables under investigation) and limited variability on their suicide assessment instrument temper the conclusions that can be drawn from their results.

With regard to interpersonal relationships, seven studies (five cross-sectional and two longitudinal) included family variables as covariates, and three studies (two cross-sectional and one longitudinal) included peer variables as covariates, when examining the association between physical abuse and adolescent suicidal ideation and/or attempts. As with the sexual abuse literature, this relationship remained significant after controlling for a history of suicide within the family (Rew et al. 2001), family alcohol and drug problems (Waldrop et al. 2007), maternal care (Ryan et al. 2000), parent attachment (Salzinger et al. 2007), family composition (Thompson et al. 2012), and parent psychiatric symptoms (Johnson et al. 2002). Similarly, the association also remained significant when controlling for peer variables, such as social connectedness (Rew et al. 2001), suicide of a friend (Rew et al. 2001), and attachment to friends (Salzinger et al. 2007). The only exception was the aforementioned (Kaplan et al. 1999) study, which had methodological limitations that may have affected study results (relatively small sample size for the number of variables under investigation and limited variability on the suicide assessment instrument) and included numerous covariates in addition to family variables and peer support, making it hard to discern which variables attenuated this relationship.

Emotional Abuse and Neglect

General Overview—Seven cross-sectional studies (six community- and one clinically based) found significant relationships between neglect and/or emotional abuse, and adolescent suicidal ideation or behavior (see Tables 1, 2). The sample sizes of these studies ranged from 114 to 2,247 participants (M = 845 participants per study; *Median* = 740), with a wide variety of assessment methods employed. In contrast to cross-sectional research, one 17-year longitudinal study was conducted with 639 youth (39 of which had substantiated cases of childhood neglect) and found that childhood neglect did not independently predict future suicide attempts (Brown et al. 1999). The authors note that their null findings may be attributed to multiple risk factors present in their sample (see below under effects of covariates) and relatively low number of substantiated cases of neglect. Thus, cross-sectional studies, though few in number, suggest that childhood neglect and emotional abuse are associated with adolescent suicidal ideation and attempts. Results from the one longitudinal study in this area conducted to date found that neglect did not predicted future suicidal behavior. Research has not examined whether emotional abuse predicts future suicidal ideation or suicide attempts. More research is needed in this area before conclusions can be drawn.

Effects of Covariates—Four out of the seven studies described above controlled for basic covariates but yielded mixed results. Two studies found no change in association when controlling for sex (Arata et al. 2007; Hacker et al. 2006). A third study found that emotional abuse, but not neglect, was independently associated with suicide ideation after controlling for youth demographics (sex and race), youth mental health problems (previous suicide ideation and psychological distress), and family variables (parent demographics and family composition; Thompson et al. 2012). Finally, in the one longitudinal study conducted by Brown et al. (1999), neglect did not predict suicide attempts after 21 potential risk factors were controlled, including youth's sex, ethnicity, IQ, temperament, serious mental illness, anger, dissatisfaction, external locus of control, sociopathy, low religious participation, teenage pregnancy, single parenthood, welfare support, low family income, large family size, maternal factors (education, low self-esteem, low involvement), paternal factors (low involvement and low warmth), and poor marital quality of parents. Given the small number of studies to date that have controlled covariates, as well as variability in the number and types of covariates examined, it is difficult to draw firm conclusions about the effect of covariates on the association between emotional abuse or neglect, and adolescent suicidal ideation and attempts.

Summary

Taken together, the results of the aforementioned studies demonstrate that childhood sexual abuse and physical abuse are linked with both suicidal ideation and suicide attempts in adolescents. This association has been found in community samples and clinical/high-risk samples, using both cross-sectional and longitudinal methodologies. Further, this relation remained significant in most studies that controlled for youth demographics, mental health problems, family, and peer variables in study analyses, suggesting the robustness of this association. Findings were more mixed when negative life events were controlled for in study analyses. Though few in number, cross-sectional studies suggest that childhood emotional abuse and neglect are associated with adolescent suicidal ideation and attempts. However, the effect of covariates is uncertain at this time given the small number of studies conducted in this area. In general, while cross-sectional work has provided a wealth of information, data from longitudinal studies described above were often more methodologically rigorous and thus more confidence may be drawn from study results. In most cases, results from longitudinal studies are consistent with findings from cross-sectional research.

Relative Importance of Sexual Abuse, Physical Abuse, Emotional Abuse/Neglect

Thus far, this review has examined childhood sexual abuse, physical abuse, emotional abuse, and neglect independently. Research suggests, however, that they often co-occur with one another (Higgins and McCabe 2001). Thus, below we examine the relative contribution of each form of CM to adolescent suicidal ideation and behavior, when examined in multivariate analyses.

Sexual and Physical Abuse—Eighteen studies, four of which are longitudinal (Brent et al. 1993; Brezo et al. 2008; Fergusson et al. 2000; Johnson et al. 2002), examined both sexual and physical abuse in multivariate analyses, with mixed findings.

Nine studies found that, when examined simultaneously in multivariate analyses, sexual abuse and physical abuse were independently associated with suicidal ideation (Bensley et al. 1999; Fergusson et al. 2003; Waldrop et al. 2007) and/or suicide attempts (Borowsky et al. 1999; Fergusson et al. 2003; Glowinski et al. 2001; Grossman et al. 1991; Johnson et al. 2002; Molnar et al. 1998; Rew et al. 2001; Waldrop et al. 2007). One additional study examined a composite measure of sexual and physical abuse and found that it also was associated with adolescent suicide attempts (Riggs et al. 1990). Moreover, these studies controlled for potential confounding variables such as age (Bensley et al. 1999; Borowsky et al. 1999; Grossman et al. 1991; Waldrop et al. 2007), sex (Grossman et al. 1991; Rew et al. 2001; Waldrop et al. 2007), ethnicity (Molnar et al. 1998), socioeconomic status (Waldrop et al. 2007), psychiatric symptoms and diagnoses (Glowinski et al. 2001; Johnson et al. 2002), prior suicide attempts (Johnson et al. 2002), parental psychiatric symptoms (Johnson et al. 2002), and family alcohol and drug use problems (Waldrop et al. 2007), suggesting the robustness of this independent association.

In contrast, four studies found evidence to suggest that, when sexual abuse and physical abuse were examined simultaneously, only sexual abuse was associated with various measures of suicidal ideation and behavior (Beautrais et al. 1996; Brent et al. 1993; Fergusson et al. 2000; Kisiel and Lyons 2001). These analyses controlled for many covariates, such as family socioeconomic status (Beautrais et al. 1996; Fergusson et al. 2000), youth dissociative symptoms (Kisiel and Lyons 2001), youth negative life events (e.g., school problems, illness, interpersonal loss; Brent et al. 1993), parental violence, parental mental health symptoms, parental separation, parental imprisonment (Beautrais et

al. 1996), mother's education, parenting, parent changes, and attachment (Fergusson et al. 2000).

Finally, three studies that examined sexual and physical abuse as simultaneous predictors found evidence for an additive effect of sexual and physical abuse on suicide attempts. Specifically, youth who were victims of both forms of abuse were more likely to report suicide attempts (Brezo et al. 2008; Kurtz et al. 1991; Ryan et al. 2000) than either alone, as well those with no abuse (Brezo et al. 2008). This was found when examining the presence of any suicide attempt (Brezo et al. 2008; Kurtz et al. 1991; Ryan et al. 2000) as well as multiple attempts (Brezo et al. 2008), though the latter was only found for females. In contrast to attempts, only one out of two studies found evidence for an additive effect of both forms of abuse on suicidal ideation (Brezo et al. 2008), whereas another did not (Kurtz et al. 1991).

Sexual Abuse, Physical Abuse, Emotional Abuse and Neglect—Thirteen studies, one of which was longitudinal (Brown et al. 1999), examined all four forms of CM in multivariate analyses. Once again, findings were mixed, with similar patterns emerging.

Six studies found that all forms of abuse were independently associated with suicide attempts (Beautrais et al. 1996; Brown et al. 1999; Hacker et al. 2006; Locke and Newcomb 2005; Zoroglu et al. 2003) and/or suicidal ideation (Locke and Newcomb 2005; Thompson et al. 2012). However, in one of these studies that subsequently controlled for contextual risk factors described above (Brown et al. 1999), only sexual and physical abuse, not neglect, (emotional abuse not measured), remained significant. This finding underscores the importance of examining potential confounding variables in study analyses.

In contrast, three other studies found that only sexual and emotional abuse remain significant in these multivariate models when suicide attempts were the outcome variable (Beautrais et al. 1996; Hacker et al. 2006; Locke and Newcomb 2005). Specifically, one study found that emotional abuse had the strongest association with suicide attempts, with no significant independent prediction by either physical abuse or neglect (Locke and Newcomb 2005). In a second study, after controlling for adverse childhood experience, only sexual abuse and low parental care, not physical abuse, were associated with suicide attempts (Beautrais et al. 1996). Finally, Hacker et al. (2006) found that only emotional abuse was associated with suicide attempts in 9th graders while sexual abuse was associated with suicide attempts in a combined sample of 9th and 11th graders. Physical abuse was not associated with suicide attempts in either grade.

Moreover, when examining suicidal ideation as the outcome variable, Thompson et al. (2012) found that after controlling for covariates (described above), only physical and emotional abuse (not sexual abuse or neglect) were independently associated with suicidal ideation. However, the authors note that only 10 % of their sample reported sexual abuse and 10 % reported neglect, compared to 25.5 % who reported physical abuse and 34.9 % who reported emotional abuse, suggesting differential power to detect associations. A second study using a composite measure of suicide proneness (thoughts about death/suicide-related behaviors) as the outcome variable found that only neglect remained significant in multivariate analyses (Arata et al. 2007).

Finally, one study examined whether risk of suicide attempts increased with greater numbers of different forms of abuse (sexual, physical, and emotional abuse, and neglect; Zoroglu et al. 2003). Study results suggest that risk of a suicide attempt increases with the addition of each form of abuse, providing evidence for an additive effect. The authors did not examine different combinations of each form of abuse.

Summary—When more than one form of CM are included in multivariate analyses, three patterns emerge. First, most studies suggest that each form of CM remains independently associated with adolescent suicidal ideation and behavior. However, a subset of studies yielded evidence to suggest differential importance of the various types of abuse. Studies examining sexual and physical abuse suggest that sexual abuse is relatively more important than physical abuse in explaining suicidal ideation and attempts. However, when emotional abuse and neglect are added into analyses, results suggest that sexual abuse and emotional abuse are relatively more important in explaining suicide attempts than physical abuse or neglect. Finally, another subset of studies suggests that the addition of each form of abuse may be associated with an increased risk of suicide attempts, with mixed evidence for suicidal ideation. Overall, the evidence for specific effects of different types of CM is somewhat preliminary in part due to widespread methodological differences and lack of longitudinal studies. Further research is needed in this area.

Potential Moderators and Mediators

As is evident, a relatively robust independent relationship exists between all forms of CM and adolescent suicidal ideation/attempts. Though numerous studies have included covariates in study analyses, fewer studies have directly examined potential moderators or mediators of this association. To date, sex, characteristics of the abuse experience, and a few inter-/intrapersonal variables have been examined.

Sex Differences—Seven out of eight studies reviewed in this area suggest that victims' sex might moderate the association between childhood sexual abuse and suicide attempts across a variety of samples. In a sample of 2,059 adolescents, sexual abuse was independently associated with suicide attempts for males only, not females (Anteghini et al. 2001). Similarly, in 465 French adolescents who had all made at least one suicide attempt, Darves-Bornoz et al. (1998) found that sexually abused males were more likely to have made multiple suicide attempts compared to sexually abused females. Along the same lines, in a sample of 300 adolescents receiving treatment for alcohol and/or drug dependence, a history of past sexual abuse was significantly associated with making at least one suicide attempt among males but not females (Deykin and Buka 1994). In a community sample of 2,112 adolescents, Bagley et al. (1995) also found that males with a history of sexual abuse were twice as likely to report a suicide attempt as females with such a history. Similar results were obtained by Garnefski and Arends (1998), who found that among 1,490 adolescents from a community sample in the Netherlands, sexually abused males made significantly more suicide attempts than sexually abused females. In addition, although Martin et al. (2004) did not find overall differences between males and females with a history of sexual abuse, after controlling for depressive symptoms, hopelessness, and family functioning, the risk of a suicide attempt remained 15 times greater for male victims of sexual abuse, whereas sexual abuse was no longer significantly associated with suicide attempts for female adolescents. Brezo et al. (2008) found that sexually abused males were significantly more likely than sexually abused females to report a single suicide attempt at follow-up. There were no sex differences for those reporting a history of childhood sexual abuse and multiple suicide attempts at follow-up. Comparatively, Rosenberg et al. (2005) found that boys with a history of sexual abuse were significantly more likely than girls with a history of sexual abuse to report a history of multiple suicide attempts. In sum, emerging evidence suggests that childhood sexual abuse may be more strongly linked to suicide attempts in males than in females.

Findings regarding sex differences in the relationship between physical abuse and suicidal behavior are more equivocal. Two cross-sectional studies found a stronger association between childhood physical abuse and adolescent suicide attempts among males than

females. In a sample of 300 youth in substance abuse treatment, Deykin and Buka (1994) found that males with (versus without) a history of physical abuse were more likely to report a suicide attempt, but females with (versus without) a history of physical abuse were *not* more likely to report a suicide attempt. Rosenberg et al. (2005) found that when males with no suicide attempts, one suicide attempt, and multiple suicide attempts were compared on rates of physical abuse, each group reported significantly more physical abuse than the other. However, girls with no suicide attempt and one suicide attempt did not differ in the amount of physical abuse (girls with multiple suicide attempts did report more physical abuse than either of the other groups). Initial evidence suggests that physically abuse males may be at greater risk of suicide attempts compared to females. However, more research is needed in this area before definitive conclusions are drawn.

With regard to physical abuse and suicidal ideation, findings are more mixed. Two studies found a more consistent association between childhood physical abuse and adolescent suicidal ideation among females relative to males. In a cross-sectional study conducted by Baldry and Winkel (2003), physical harm perpetrated by either parent was correlated with suicidal ideation in females, but only harm perpetrated by the father was correlated with suicidal ideation in males. In a longitudinal study conducted by Silverman et al. (1996), physical abuse was linked with suicidal ideation at age 15 in both boys and girls in a sample of 375 adolescents followed since kindergarten. However, physical abuse was linked to suicidal ideation at age 21 in girls but not boys in this sample. In contrast, two studies failed to find sex differences in the relationship between childhood physical abuse and adolescent suicidal ideation. The first was a longitudinal study conducted by Brezo et al. (2008), in which 1,631 youth were followed during childhood (ages 6–12), adolescence (ages 15–18), and adulthood (ages 19–24). The second study was a cross-sectional study conducted by Kaplan et al. (1999), which included 99 physically abused and 99 non-physically abused adolescents. Sex did not moderate the relationship between physical abuse and suicidal ideation in either study.

Characteristics of the Abuse Experience—Only four groups of researchers have examined characteristics of the abuse experience and the abuser in relation to adolescent suicidal ideation and attempts. Fergusson et al. (1996) found that the relative risk of a suicide attempt increased as a function of the severity of sexual abuse. Specifically, adolescents who reported sexual abuse experiences that involved contact (i.e., touching, intercourse) with the perpetrator were more likely to report a history of suicide attempts compared to adolescents who reported non-contact sexual abuse (i.e., verbal sexual harassment) or no sexual abuse history. Plunkett et al. (2001) found several factors specific to the sexual abuse experience that were related to an increased risk of making a suicide attempt: a later age of onset of sexual abuse; when the perpetrator was an acquaintance (rather than an authority figure or caregiver); when a parent denied the abuse occurrence; when a parent expressed anger for the abuse incident toward the child rather than the perpetrator; and a history of a single episode of sexual abuse. However, the authors noted that they did not independently assess youth report of abuse and, instead, relied solely on reports that were filed with child protective services and substantiated. Therefore, these findings, particularly those related to the frequency of abuse episodes (single vs. multiple) and degree of relatedness to the perpetrator, must be interpreted with caution. In fact, the other two studies that examined characteristics of the abuser found contradictory results. Brezo et al. (2008) found that the relative risk of making a suicide attempt increased as the degree of relatedness between the perpetrator and victim increased, and this held for both sexual abuse and physical abuse victims. Eisenberg et al. (2007) noted that the links between sexual abuse and suicidal ideation were stronger when the abuser was a caregiver or stranger, rather than an acquaintance. Also related to characteristics of the abuser, Baldry and Winkel (2003) found that only physical abuse from fathers predicted suicidal ideation in

adolescent boys, whereas physical abuse from either parent predicted suicidal ideation in adolescent girls. Thus, the impact of relatedness, as well as other characteristics of the abuser and the abuse itself, remains surprisingly unclear.

Inter- and Intra-personal Factors—Two studies to date have examined interpersonal variables as moderators or mediators of the association between CM and adolescent suicidal ideation or attempts. In a cross-sectional study conducted with 200 delinquent adolescents, Esposito and Clum (2002) found that, among youth who reported more severe sexual abuse, those with higher levels of satisfaction with their social supports (composite measure of support from peers, family, and others) reported lower levels of suicidal ideation than those with more severe sexual abuse and lower satisfaction with their social supports. Interestingly, satisfaction with social support did not moderate the association between physical abuse severity and suicidal ideation. In a longitudinal study of 659 families in the community, Johnson et al. (2002) found that interpersonal problems during middle childhood mediated the associations of both childhood sexual abuse and physical abuse with later suicide attempts during adolescence.

One study examined an intrapersonal factor as a moderator of the association between CM and adolescent suicidal ideation. Esposito and Clum (2002) found that problem-solving confidence moderated the association between physical abuse and suicidal ideation in a sample of 200 delinquent youth. Specifically, among youth with more severe histories of physical abuse, those who reported lower (vs. higher) problem-solving confidence reported higher suicidal ideation. Interestingly, problem-solving confidence did not moderate the association between severity of sexual abuse and suicidal ideation.

Summary—There is a paucity of research on factors that may influence the association between CM and adolescent suicidal ideation/attempts. Sex, characteristics of the abuse experience, and a few inter- and intrapersonal factors have been the focus of investigation in this area to date. There exists relatively consistent evidence to suggest that the association between both sexual and/or physical abuse and suicide attempts may be stronger for males relative to females. Interestingly, this trend is contrary to that of suicide attempts on the whole, which are more common in females than males (Shaffer and Pfeffer 2001). Findings are more equivocal when the association between childhood physical abuse and suicidal ideation is examined. There also exists some evidence to suggest that characteristics of the abuser and the abuse experience, such as relatedness to the perpetrator, may influence the association between both sexual and physical abuse, and adolescent suicidal ideation/ behavior. However, studies in this area are few and findings somewhat mixed, suggesting a need for further research. Finally, a few inter- and intrapersonal factors show promise as potential moderators of mediators of this association, including perceived social support, interpersonal problems, and problem-solving confidence, with some evidence to suggest that they may function differently depending on type of abuse experienced (sexual vs. physical). Though these preliminary results are promising, much more work in this area is needed if we are to better understand how and why CM is linked to adolescent suicidal ideation and behavior.

Conclusions, Limitations, and Recommendations

As is evident, numerous studies have been published that examine the association between CM and adolescent suicidal ideation and attempts. Results of these published studies generally suggest that childhood sexual abuse, physical abuse, emotional abuse, and neglect are associated with adolescent suicidal ideation and attempts across community, clinical, and high-risk samples, using cross-sectional and longitudinal research designs. In most studies, these associations remain significant when controlling for potential confounding factors

such as youth demographics, mental health, family, and peer-related variables. When different forms of CM are examined in the same multivariate analysis, most research suggests that each form of CM maintains an independent association with adolescent suicidal ideation and behavior. However, a subset of studies yielded evidence to suggest that sexual abuse and emotional abuse may be relatively more important in explaining suicidal behavior than physical abuse or neglect. Research also suggests an additive effect—each form of CM contributes unique variance to adolescent suicide attempts.

Few studies have examined potential mediators or moderators of the association between CM and adolescent suicidal ideation or behavior. Biological sex has received the most attention. Specifically, research suggests that the association between sexual abuse, and to a lesser degree physical abuse, and suicide attempts, may be stronger for males than females. These findings may suggest that there are different pathways through which childhood abuse leads to suicidal behavior among males and females. A handful of studies have also examined whether abuse characteristics, social support, and interpersonal problems influence the relation between CM (sexual and/or physical abuse) and adolescent suicidal ideation or attempts. While potentially promising, results have generally been mixed across these studies likely due to differences in study sample, design, and type of abuse examined.

Though results of the studies reviewed have significantly advanced our knowledge in this area, there exist gaps and limitations in this research that temper the conclusions that can be drawn about the association between CM and adolescent suicidal ideation and behavior. Below, we review these gaps and limitations and offer recommendations for future research. Specifically, we address issues surrounding operationalization of constructs, classification of co-occurring forms of CM, research design, mechanisms of effects, and integration of theory. We then conclude this review with a discussion of associated clinical implications for the assessment and treatment of CM and adolescent suicidal behavior.

Research Limitations and Recommendations

Operationalization of Constructs (CM)—Disagreement exists in the research literature about the best way to assess CM (Hussey et al. 2005; Kinard 1994; McGee et al. 1995). A variety of methods have been used to assess CM, including items developed independently by study investigators to capture history of abuse, review of clinical charts, use of cases substantiated by child protective services, semi-structured clinical interviews, and empirically validated self-report measures of CM such as the Childhood Trauma Questionnaire (Bernstein and Fink 1998) (see Tables 1, 2). Although chart reviews and use of substantiated cases may appear on the surface to be the most objective, both have important drawbacks. Chart reviews may, in fact, yield the least reliable data, because they rely on subjective decision-making on the part of both the mental health professionals who record the CM data in the chart, as well as the research assistants who extract the CM data from the charts (see Kinard 1994 for a full discussion). Further, different research groups develop coding systems for clinical chart reviews that may vary in depth and breadth (e.g., Boxer and Terranova 2008; Fortune et al. 2005), which introduces additional variability in how CM is measured and defined. Moreover, there is also often discrepancy between information gathered from clinical chart reviews and youth report of CM experiences. For example, McGee et al. (1995) compared results of outpatient clinical chart reviews conducted by clinical researchers and social workers to self-reports gathered from 160 adolescents with substantiated cases of abuse. They found that chart reviews yielded higher rates but a lower severity of abuse than that reported by adolescents.

Similarly—despite perceived objectivity—a subjective component to the categorization of CM remains when investigations are conducted by child protective services, particularly with regard to severity and chronicity of CM (Kinard 1994). Further, legal definitions of CM

vary across counties and states, which introduces additional variability in the measurement of CM. Moreover, recent research suggests that legal substantiation of cases may not be necessary to gain an accurate assessment of the relation between CM and behavioral outcomes. Hussey et al. (2005) analyzed self-report measures (e.g., Child Behavioral Checklist; Achenbach 1991) from over 800 children and their caregivers and found that there were no significant differences between the behavioral outcomes of children with substantiated and unsubstantiated CM cases over a 4-year period.

Based on these potential limitations to chart review and substantiated cases, the use of interviews and empirically validated instruments, as well as multiple reporters, appears warranted to optimize reliability and validity of the measurement of CM and increase consistency across studies. By capturing and examining variability in the CM experience in study analyses, including measures of frequency (e.g., number of instances of abuse), severity (e.g., type of contact, degree of injury, number of perpetrators), and other related variables (e.g., relatedness to perpetrator), a more thorough understanding of the nature of the relationship between CM and adolescent suicidal ideation and behavior may be obtained.

Only six of the studies included in this review assessed variability in the CM experience. Four of these studies employed an empirically validated assessment instrument, including the Childhood Sexual Abuse Scale (Brezo et al. 2008), Childhood Trauma Questionnaire (CTQ; Locke and Newcomb 2005), Child Abuse Survey (CAS; Esposito and Clum 2002), or the Child Abuse and Neglect Questionnaire (CANQ; Zoroglu et al. 2003). Across these six studies, variability in the CM experience was captured by assessing for the frequency of the CM experience (Brezo et al. 2008; Esposito and Clum 2002; Kinard 1994; Locke and New-comb 2005; Plunkett et al. 2001; Shaunesey et al. 1993; Zoroglu et al. 2003), the type of sexual abuse experience (i.e., non-contact, non-invasive contact, or invasive contact) (Esposito and Clum 2002; Fergusson et al. 1996; Lynskey and Fergusson 1997), the number of perpetrators (Esposito and Clum 2002), the relationship of the perpetrator to the victim (Brezo et al. 2008; Kinard 2004; Lynskey and Fergusson 1997; Plunkett et al. 2001), and the age at which CM began or was first reported (Lynskey and Fergusson 1997; Plunkett et al. 2001). Further, only one study, conducted by Plunkett et al. (2001), examined parental responses to the CM experience in analyses, including parental anger at the perpetrator of the CM, parental anger with the victim, and parental denial of the CM. Though this research represents a good start, more work along these lines is needed.

Operationalization of Constructs (Suicidal Ideation and Suicide Attempts)—
There are similar methodological limitations evident in the measurement of suicidal ideation and suicide attempts in this research literature. There are a number of instruments that assess suicidal ideation and have been validated for use with adolescents, such as the Beck Scale for Suicidal Ideation (BSI; Beck and Steer 1991) and the Suicide Ideation Questionnaire (SIQ; Reynolds 1988) (see Goldston 2003 for a full review). Despite the existence of these assessment tools, only four studies included in this review used a validated instrument to assess for suicidal ideation (Brand et al. 1996; Esposito and Clum 2002; Kinard 2004; Shaunesey et al. 1993). Most researchers measured suicidal ideation with one or two questions, developed by the study investigators, which asked about the presence of any suicidal thoughts (see Tables 1, 2). Other researchers collapse different forms of suicidal behavior and associated risk factors into one variable (e.g., Arata et al. 2007; Brent et al. 1993; Fortune et al. 2005; Grilo et al. 1999; Kaplan et al. 1999; Kisiel and Lyons 2001). Predictors of suicidal ideation and suicide attempts can vary (e.g., Fergusson et al. 2000); therefore, it is important to assess both independently. Moreover, although there is indeed overlap between suicidal ideation and suicide attempts, collapsing suicidal ideation and suicide attempts into one composite measure of suicidal behavior can mask significant findings if one of these variables is more strongly associated with CM than the other. For

instance, sex differences appear to exist for the association of childhood sexual abuse with suicide attempts but not necessarily with suicidal ideation.

Another important limitation to prior research efforts involves the use of dichotomous measures of suicidal ideation. The experience of any suicidal thinking during adolescence is a relatively common phenomenon. Indeed, the most recent nationally representative study of adolescent risk behaviors indicated that 15.8 % of high school students seriously consider attempting suicide (Eaton et al. 2012). However, more severe and frequent suicidal thoughts are less common among youth and may yield a better indicator of psychological distress. Studies that use a dichotomous measure of suicidal ideation do not capture significant variability in suicidal thinking among youth and may mask the degree of the relatedness between CM and suicidal ideation and suicide attempts. However, only seven studies reviewed used a continuous measure of suicidal ideation (Brand et al. 1996; Brent et al. 1993; Esposito and Clum 2002; Kaplan et al. 1999; Kinard 2004; Locke and Newcomb 2005; Shaunesey et al. 1993).

Finally, with regard to suicide attempts, many researchers did not assess whether apparent suicidal behavior included some intent to die; yet, intent to die is the primary distinction between suicide attempts and NSSI (O'Carroll et al. 1996). Similar to suicidal ideation, there are a number of empirically based instruments that can be used with adolescents to aid in this distinction, such as the Self-Injurious Thoughts and Behaviors Interview (SITBI; Nock et al. 2007) and the Columbia-Suicide Severity Rating Scale (C-SSRS; (Posner et al. 2007) (see Goldston 2003, for a full review). However, the large majority of studies reviewed assessed for suicide attempts using a single item, developed by the investigators, without any mention of whether the intent to die was assessed (see Tables 1, 2). In the absence of an assessment of the intent to die, it is unclear whether the self-injurious behavior examined in these studies is better categorized as a suicide attempt or non-suicidal self-injury.

In summary, we recommend the use of empirically validated assessment instruments to assess both CM and adolescent suicidal behavior in future research studies. It will be important to move beyond dichotomous measures of these constructs to obtain information about the chronicity and severity of these experiences. Ideally, the use of multiple methods of assessment and multiple reporters may yield the most reliable and valid information.

Classification of Co-occurring Forms of CM—Rates of co-occurrence of different forms of CM are quite high. For example, in a sample of 519 abused children, Lau et al. (2005) found that 91 % of sexually abused and 78.7 % of physically abused children reported experiencing multiple types of CM. As a result, investigators have used two classification schemes in an attempt to manage the high rates of co-occurrence of different forms of CM and best understand the nature of the relation between these various forms of abuse and adolescent suicidal behavior. These attempts typically include ordering CM experiences in either a hierarchical manner or an additive manner. A hierarchical classification scheme is based on the assumption that some forms of CM are inherently worse than others, such as those that are active (i.e., sexual abuse) versus passive (i.e., neglect) in nature (see discussion by Boxer and Terranova 2008). Once a more severe form of CM is experienced, it is assumed that other forms become less relevant in determining psychological outcome. Typically, sexual abuse is designated as the worst form of CM, followed by physical abuse, neglect, and emotional abuse. Accordingly, an adolescent who has experienced several types of CM is categorized into the more severe classification group (Barnett et al. 1993; Manly et al. 1994).

In contrast, the additive classification scheme is based on the belief that it is not the type of CM experienced that is most important in determining psychological outcomes, but the cumulative number of CM experiences. Therefore, under this system, youth are classified by the number of CM experiences, regardless of CM type, when examining psychological outcomes (Finkelhor et al. 2007; Trickett 1998).

As discussed in detail above, approximately 40 % of studies that examined different forms of CM in the same multivariate model found evidence to suggest that some forms of abuse may be more strongly associated with suicidal ideation and/or attempts than other forms of abuse, offering some support for hierarchical models. When studies tested for additive effects, 83 % yielded evidence to suggest that the addition of each form of abuse contributes to suicidal ideation and/or attempts. Although there seems to be some evidence for both the hierarchical and additive models of CM and suicidal ideation and attempts, it remains to be seen whether either of these models is optimal in accounting for suicidal behavior in adolescence. Therefore, further examination of the variety of types of CM is another recommended area for future consideration. Attempts to match these approaches to leading theories of suicide may prove to be most fruitful. Specifically, it will be important for researchers in this area to develop theoretically based hypotheses about how the experience of various types of abuse or neglect might interact to lead to suicidal ideation and suicide attempts. For example, according to Joiner's (2007) interpersonal–psychological theory of suicide, which will be discussed in more detail below, an important question to examine might be whether the experience of painful physical injury (or threat thereof) differentiates youth who develop suicidal ideation alone versus suicide attempts subsequent to the experience of CM. Interestingly, no study reviewed captured physical injury or accounted for physical conditions resulting from CM.

Study Design—Almost all of the studies included in this review (see Tables 1, 2) use cross-sectional studies with retrospective reports of CM. Studies that include legally substantiated cases of CM may yield the shortest time interval between the CM experience and its assessment. However, it is also not uncommon for youth to hide the CM experience from others for lengthy if not indefinite time intervals for fear of negative outcomes. Given that retrospective reports of abuse are subject to recall bias and may yield different incidence rates than reports of ongoing abuse (e.g., Fergusson et al. 2000; Shaffer et al. 2008), this in an inherent limitation in the research as a whole that is not easily overcome. However, to progress in our knowledge in this area, it is imperative to find ways to move past these obstacles.

There also exists a clear need for longitudinal, prospective studies that compare large samples of youth with and without a CM history, to better understand developmental differences that may precipitate suicidal behavior. Large-scale longitudinal studies that employ validated measures of CM and/or suicidal ideation and behavior (e.g., Brezo et al. 2008; Johnson et al. 2002) represent the most methodologically sound work in this area to date. Going forward, longitudinal studies may yield particularly informative data if they assess and analyze potential mediators and moderators of the links between CM and suicidal ideation and suicide attempts in a longitudinal fashion. Moreover, to maximize the potential to detect relevant information, we recommend that researchers focus particularly on developmental time points characterized by significant biological, cognitive, and social shifts and reorganization. For example, the transition from childhood into adolescence may be a particularly vulnerable time period for maltreated youth given the widespread social, cognitive, and hormonal changes that take place simultaneously during this period (Blakemore 2008). More concrete developmental transition periods for children and adolescents include the transition from elementary to middle school, middle school to high school, and high school to college. These naturalistic, ecologically valid time points may

represent ideal times not only to study the emergence of suicidal behavior, but also to focus prevention efforts for vulnerable youth, such as those with a history of CM.

It should be noted that many researchers may avoid conducting research in the areas of CM and adolescent suicide. CM research is complicated by mandatory procedures that accompany detection of ongoing abuse and the potential aftermath, notably mandatory reporting, participant study withdrawal after abuse reports have been made, and potential changes in children's living situations. Interestingly, in review papers that explored these issues, it was concluded that very few individuals report feeling distressed or regret participating in research studies that include trauma-focused assessment (Becker-Blease and Freyd 2006) and that the factors that precipitate participant withdrawal from trauma-related research are surprisingly unclear (Legerski and Bunnell 2010). In suicide research, concerns often include complicated legal and ethical issues inherent in working with such a sample (for a detailed discussion see Fisher et al. 2002; Mishara and Weisstub 2005), such as the need to breach confidentiality for safety reasons and ensure appropriate clinical risk assessment. While these concerns are understandable, detection and reporting of both CM and suicide risk is both ethical and humanistic. Moreover, from a scientific perspective, studies of the long-term effects of CM remain valid regardless of whether the abuse is halted or the suicidal crisis resolved.

Mechanisms of Effects—As the association between CM and adolescent suicidal ideation/behavior is firmly established, there is a strong need to advance our understanding of how and why this link occurs, and what factors might mitigate this association. One clear potential mediator is psychological symptoms and/or disorders. CM has been associated with many negative psychological outcomes, such as depression, disruptive behavior, and substance abuse (Arata et al. 2007), and these same psychological outcomes, particularly depression, have been associated with both suicidal ideation and suicide attempts among adolescents (Evans et al. 2004). Therefore, it is possible that the relationship between CM and adolescent suicidal behavior may be accounted for by common variance shared with other psychological outcomes. However, this relationship remained significant in 8 out of 11 studies that controlled for co-occurring mental health problems such as depression and disruptive behavior (Brezo et al. 2008; Fergusson et al. 2003; Glowinski et al. 2001; Grilo et al. 1999; Johnson et al. 2002; Rew et al. 2001; Salzinger et al. 2007; Thompson et al. 2012) (cf. see Fergusson et al. 2000; Kaplan et al. 1999; Martin et al. 2004). This overall trend suggests that co-occurring mental health problems may not fully mediate the association between CM and adolescent suicidal ideation or behavior across various samples and study designs, but clearly warrants further investigation. Examining psychological symptoms and disorders as mediators or moderators, rather than statistically controlling for them, may yield a more complete picture.

The general interpersonal environment offers another area of potential focus with regard to mechanisms of the association between CM and adolescent suicidal ideation and suicide attempts. This area includes overall family and peer functioning, as well as perceived support. Though potentially important, few studies have examined whether interpersonal problems mediate the relation between CM and adolescent suicidal ideation and behavior. Of those studies that have controlled for family variables in study analyses, there is little evidence that family problems fully explain this association (Beautrais et al. 1996; Eisenberg et al. 2007; Fergusson et al. 2000; Johnson et al. 2002; Rew et al. 2001; Swanston et al. 1997; Thompson et al. 2012; Waldrop et al. 2007), but there is some preliminary evidence that quality of family and/or peer relationships serve as mediators (Johnson et al. 2002; cf. Rew et al. 2001; Salzinger et al. 2007). Further research of this type is needed before any firm conclusions can be drawn.

Though not yet studied, the role of physical health in the association between CM and suicidal behavior deserves attention. The incidence of CM-related hospital admissions for injury ranges from 1.1 to 1.3 per 10,000 children/adolescents (Forjuoh 2000; O'Donnell et al. 2010). The types of direct injury sustained vary by type of CM and may include bruises, burns, contusions, fractures, tears, sexually transmitted infections, unwanted pregnancy, neurological damage, and death (Briggs et al. 2011). Other less direct CM-related health consequences include stunted physical growth, chronic fatigue, poor immune functioning, hypertension, obesity, and other physical illnesses later in life (Hager and Runtz 2012; Springer et al. 2007; Talbot et al. 2009). In turn, preliminary research suggests that there is an association between physical illness in general, particularly chronic illness, and adolescent suicide risk (see Greydanus et al. 2010, for a review). More research has been conducted with adults and suggests that physical conditions (e.g., respiratory illness, hypertension, other physical disorders; MacLean et al. 2011), particularly those that are physically limiting (Kaplan et al. 2007), increase risk of suicidal behavior. Future research that explores physical health as a potential mediator of the association between CM and adolescent suicidal ideation and behavior may prove to be quite fruitful.

In addition to mediators, potential moderators of the association would also provide much needed information about the progression from CM experiences to suicidal ideation and suicide attempts during adolescence. Again, the literature currently has very few examples of such analyses. Factors related to the CM experience, such as chronicity and severity (e.g., number of perpetrators, relatedness to the perpetrator, type of contact, and degree of injury), may affect the adolescent's psychological outcome. Unfortunately, studies that have assessed abuse characteristics in relation to suicidal behavior are few and have utilized varying methods with mixed results (Baldry and Winkel 2003; Brezo et al. 2008; Eisenberg et al. 2007; Plunkett et al. 2001). Thus, no definitive conclusions about the potential effects of specific elements of the CM experience(s) can be made at this time.

Similarly, warm and supportive reactions following initial disclosure of a CM experience may minimize feelings of threat and have been associated with less negative appraisals of the abuse experience among adolescents (Johnson and Kenkel 1991; Spaccarelli 1994). Early emotional support provided by caregivers subsequent to disclosure of sexual abuse has also been associated with better adjustment (Bal et al. 2009; Rosenthal et al. 2003). Only one study has examined the manner in which reactions to disclosure affect the relationship between CM and adolescent suicidal behavior in particular. Plunkett et al. (2001) found that adolescents with legally substantiated cases of sexual abuse were at increased risk of a suicide attempt when their parent's denied the abuse occurrence. Moreover, among youth with more severe sexual abuse histories, greater versus lower perceived satisfaction with social supports has been associated with lower suicidal ideation (Esposito and Clum 2002). Given the importance of perceived social support and specific reactions to the initial self-disclosure of traumatic events (Bolton et al. 2003; Brewin et al. 2000; Lepore et al. 1996; Ozer et al. 2003), it will be important for future research to examine the manner in which these variables affect the relationship between CM and adolescent suicidal ideation and attempts.

Biological sex is perhaps the most well-studied moderator of the association between CM and adolescent suicidal behavior. There is some preliminary evidence that the associations between various types of CM and suicidal ideation/attempts may vary by sex. However, research to date suggests that the variation may not be the same for all types of CM, or for both suicidal ideation and suicide attempts. This type of knowledge would be very useful in the selection of individuals for targeted prevention programs. Thus, we strongly recommend that future research studies continue to examine sex differences in study analyses. Moreover,

it will be important to examine moderation by sex, rather than simply statistically controlling for sex, as moderation analyses can yield more useful knowledge.

Though not yet studied as moderators, other socio-demographic variables that deserve attention are culture, race, ethnicity, and sexual minority status. In a recent literature review, Elliott and Urquiza (2006) concluded that culture, race, and ethnicity affect incidence rates of CM, likelihood of youth disclosure, and reactions to disclosure of CM. They suggest that these differences may arise as a function of discrepant parenting styles, levels of acculturative stress, and exposure to risk factors associated with CM (e.g., low socioeconomic status, neighborhood disadvantage). Relatedly, incidence rates of suicidal ideation and behavior have also been shown to differ across cultural, racial, and ethnic groups, and it has been suggested that level of acculturative stress, exposure to risk factors such as socioeconomic disadvantage, and acceptability of help-seeking behaviors, may partially account for these differences (see Goldston et al. 2008 for a review). Therefore, it is likely that the association between CM and adolescent suicidal ideation/behavior may vary within and between various across cultural, racial, and ethnic groups. Also of interest would be to examine differences in pathways and/or risk and protective factors across these groups.

The manner in which sexual minority status affects the relation between CM and adolescent suicidal ideation and behavior also warrants study. Results from a recent meta-analysis suggest that sexual minority youth (including gay, lesbian, bisexual, and transgender individuals) are more likely to report a history of CM (Friedman et al. 2011), and prior research has demonstrated a link between sexual minority status and increased risk of suicidal ideation and/or attempts (Bryan and Rudd 2006). Surprisingly, no study to date has examined sexual minority status as a potential moderator of the relationship between CM and suicidal ideation and/or attempts, or unique processes whereby sexual minority youth develop suicidal ideation or behavior subsequent to CM.

Another promising line of research may be to examine whether cognitive distortions and coping skills moderate or mediate the association between CM and adolescent suicidal ideation and suicide attempts. To date, only perceptions of problem-solving confidence have been examined in this regard (Esposito and Clum 2002). Research suggests that coping strategies employed to manage with CM, such as avoidant coping and substance-related coping strategies, influence psychological outcomes later in adolescence (Bal et al. 2003; Shapiro and Levendosky 1999; Spaccarelli 1994). These same maladaptive coping strategies have also been associated with suicidal behavior among adolescents (Gould et al. 2004; Horwitz et al. 2011). Similarly, both CM (Teisl and Cicchetti 2008) and suicidal ideation and/or attempts (Brent et al. 1990; Dori and Overholser 1999; Stewart et al. 2005; Wagner 2000) have been associated with cognitive distortions (e.g., catastrophizing, overgeneralization, black-and-white thinking, hopelessness) in adolescents. Future examination of coping skills and cognitive processes associated with CM and adolescent suicidal ideation and suicide attempts may improve our understanding of the nature of this relationship.

Another emerging line of research that warrants further investigation is whether neurobiological/psychological factors moderate or mediate the association between CM and suicidal ideation and suicide attempts. Traumatic stress may lead to physiological changes in the neurological networks in the human body (Christopher 2004), which in turn may increase risk of mental health problems. For example, there is some evidence to suggest that there is an association between CM and low serotonin transporter binding in patients with major depressive disorder (Miller et al. 2009). A second study found that gene polymorphisms related to serotonergic functioning (i.e., serotonin transporter gene [5-HTTLPR]) moderate the association between CM and suicidality (Gibb et al. 2006).

Although in-depth discussion in this area is beyond the scope of this review, excellent reviews on the neurobiological effects of CM (see Cicchetti and Toth 2005; Wilson et al. 2011) and suicidal behavior (see Carballo et al. 2008; Currier and Mann 2008) are available for interested readers.

Overall, research that examines the association between CM and adolescent suicidal ideation and behavior has remained largely limited to basic associations, occasionally including statistical control for relevant covariates. To advance our knowledge, it is clear that more intensive study of these types of mechanisms of risk of adolescent suicidal behavior is needed. We will discover new mechanisms only if researchers undertake carefully thought out, theoretically reasoned, scientifically sound investigations. As the research literature in this area becomes more methodologically sophisticated, we believe that an important next step will be to conduct a meta-analysis to more thoroughly examine the association between CM and adolescent suicidal ideation and suicide attempts and draw firmer scientific conclusions. This meta-analysis should include analyses to examine whether results from unpublished work, not included in the present qualitative critical review, effect study conclusions.

Integration of Theory—There also exists a need to employ greater integration of theory into future work in this area. Such integration can further theory development and yield innovative testable pathways to help explain the association between CM and adolescent suicidal behavior. Though informative, to date, a plethora of data-driven research has been conducted to examine the correlation of these variables. The next step is to systematically integrate theory into this area of research to help guide the selection of testable mediators and moderators of this relationship. As suggested above, some potentially promising lines of research include an examination of the manner in which characteristics of CM, reactions to disclosure, interpersonal environment, cognitive processes, coping skills, psychiatric symptoms, physical health, and neurobiological factors may affect the relationship between CM and adolescent suicidal behavior. Statistical analyses should also be conducted to examine whether pathways from CM to adolescent suicidal behavior may differ by sex, race, ethnicity, or sexual minority status.

Research in this area may also be enhanced by integrating leading theories of suicide into study investigations. One potentially promising theoretical framework is Thomas Joiner's interpersonal–psychological theory of suicide (Joiner 2007). This theory posits that three primary factors lead to suicidal behavior in an individual: thwarted belongingness, perceived burdensomeness, and the ability to enact lethal self-injury. The notion of thwarted belongingness refers to a desire for social connection that is unfulfilled. Perceived burdensomeness refers to thoughts that one is highly ineffective and that this ineffectiveness negatively impacts others. Both thwarted belongingness and perceived burdensomeness have been linked empirically with the presence and lethality of suicide attempts and suicidal ideation in adults (see Van Orden et al. 2010). This theory suggests that the presence of these two interpersonal states contribute to an overall desire for death. This desire is analogous to the intent to die that Silverman et al. (2007) assert must be present for an act to be deemed suicidal.

From both a conceptual and empirical standpoint, the experience of childhood sexual abuse, physical abuse, emotional abuse, and neglect contribute to a sense of isolation or unwantedness (e.g., Riggs 2010), which could, in turn, lead to the experience of a sense of thwarted belongingness and, in some cases, burdensomeness. Stressors and psychological sequelae that often follow CM may strengthen these perceptions. For example, any subsequent legal involvement or court proceeding may yield significant financial and emotional costs for family members, which may increase perceptions of burdensomeness.

The development of youth mental health symptoms, such as depression, conduct problems, and substance abuse, all of which have been associated with CM (e.g., Arata et al. 2007; Green et al. 1999; Moran et al. 2004; Wolfe et al. 2001), may also place a significant burden on families. Relatedly, the experience of sexual abuse may shatter an adolescent's perceptions of belongingness within peer circles. It is not uncommon for victims of sexual abuse to feel different from others as well as spoiled, dirty, embarrassed, and potentially shameful (Finkelhor and Browne 1985). Their priorities may shift from a focus on typical adolescent behaviors (e.g., dating, parties, etc.) to the maintenance of safety (e.g., spending time alone, avoiding parties), which may create distance between the adolescent and his/her peers. Such an effect is consistent with the Johnson et al. (2002) finding that interpersonal problems during middle childhood mediated the link between childhood sexual abuse and adolescent suicidal ideation and suicide attempts. A history of CM has also been shown to increase risk of peer victimization and dating violence (e.g., Tyler et al. 2008; Wekerle et al. 2009), which may also further feelings of thwarted belongingness within peer circles.

The third factor in this model of suicide is the ability to enact lethal self-injury. Joiner (2007) stresses that, because self-preservation is such a strong, innate instinct, a capacity to engage in lethal self-injury must be acquired over time. This acquisition is posited to begin through the experience of extreme injury and pain (or threat thereof), which over time can lead people to lose their innate fear of pain, thus allowing them to engage in lethal self-injurious acts. In the context of this theory, the capacity for lethal self-injury is the most difficult and slowest component to develop and is the least amenable to prevention efforts once established.

As Van Orden et al. (2010) hypothesize, the experience of CM that is physically painful or associated with physical injury may be uniquely connected with habituation to pain, and thus, an acquired capacity for lethal behavior. Indeed, Fergusson et al. (1996) found that adolescents who had more invasive sexual abuse experiences that involved sexual contact or intercourse were more likely to have a history of a suicide attempt than those who did not experience contact in the context of the abusive experience and those who were not sexually abused. Further, as research suggests that boys may be more likely than girls to experience severe pain and injury in the context of sexual abuse (Holmes and Slap 1998), this may help explain the apparently stronger link between childhood sexual abuse and suicide attempts (but not suicidal ideation) in boys as compared to girls. Additionally, given that the threat of harm or pain is also a potential mechanism whereby individuals acquire the capability for suicide (Joiner 2007), CM that includes threats of harm in a verbal form may be related to subsequent suicidal behavior. Consistent with this notion, perpetrators of sexual abuse often directly threaten youth if this information is shared, leaving youth in a state of isolation, extreme fear, and in a position to be re-victimized (Riggs 2010). This theory may also help explain the association between emotional abuse and suicide attempts, as it often involves threatening, demeaning, terrorizing, or humiliating remarks or behavior directed at the child (Glaser 2002).

Overall, Joiner's (2007) interpersonal–psychological theory of suicide may provide a useful framework for understanding and explaining the link between CM and adolescent suicidal ideation and behavior, but requires empirical investigation with adolescent populations. Other leading theories of suicide, particularly those developed for adolescents, may offer similar promise in this regard, such as the cognitive-behavioral theory of adolescent suicide (Spirito et al. 2012). In short, this theory suggests that significant stressors trigger maladaptive cognitive, behavioral, and affective responses among predisposed adolescents (e.g., those with a CM history, psychiatric diagnosis, etc.), which can lead to suicidal ideation, and eventually suicidal behavior, as a means to reduce psychological distress in the absence of intervention. Other theories with an interpersonal focus, such as Linehan's

(1993) biosocial theory of self-harm, may also be readily applied to research in this area. According to this theory, invalidating family environments facilitate emotional dys-regulation among biologically vulnerable individuals, which in turn, gives rise to self-harm behavior as a means to reduce distress. Such theories may help guide the selection of mediators and moderators to include in future investigations. Additional study along these lines may further theory, advance our understanding of the relationship between CM and adolescent suicidal behavior, and inform intervention work in this area.

Clinical Recommendations

Though there is a great deal of important research yet to be conducted on the association between CM and adolescent suicidal behavior, the results of existing research yield relevant and useful information for clinical practice. Given the clear relationship between CM and adolescent suicide ideation and behavior, it is of utmost importance for clinicians to assess current and past suicidal ideation and behavior in youth with a history of CM. Past suicidal behavior is the strongest predictor of future suicidal behavior (Goldston et al. 2009; Prinstein et al. 2008). Thus, an assessment for a history of suicide attempts is particularly important. The converse is also true. Youth who present to treatment with suicidal ideation or behavior should be assessed for a history of CM. Although it should never be assumed that youth have such a history, information obtained from such an assessment may inform the treatment plan.

When assessing for these problem areas, the most reliable and valid information will likely be obtained through the use of multiple methods of assessment (i.e., self-report questionnaires and interviews) and multiple informants (Goldston and Compton 2007; Prinstein et al. 2001; Spirito et al. 2012). Based on our review, we also recommend the use of empirically validated instruments that incorporate current definitions of CM and suicidal ideation and attempts. For example, when assessing for a history of suicidal behavior, it is important to obtain information about whether any suicidal intent was present in the self-injurious act to accurately gauge future suicide risk and develop an appropriate treatment plan. One promising evidence-based approach to suicide risk assessment and management is offered through the Collaborative Assessment and Management of Suicidality (CAMS) program. CAMS employs a therapeutic framework that emphasizes the importance of a collaborative assessment and treatment planning process between the suicidal client and treating clinician (Jobes 2012). The clinician uses a semi-structured interview (Suicide Status Form) to gather in-depth information about suicide risk and record treatment plans, as well as track and monitoring progress.

Finally, to obtain the most thorough understanding of the impact of the CM experience and degree of suicide risk, we recommend obtaining some level of detail surrounding both of these experiences. An adolescent who reports a greater number of abuse experiences, a closer relationship to perpetrators, more invasive or physically painful experiences, a greater degree of physical injury, and a lack of support surrounding disclosure, may require more intensive treatment and be at greater risk of future suicidal behavior than an adolescents with a less chronic and severe abuse history. The same is true for an adolescent who reports frequent suicidal ideation, multiple suicide attempts, and high suicidal intent. It is equally important to assess for factors that may moderate or mediate the association between CM and suicidal behavior, such as existing social supports, perceived problem-solving ability, and co-occurring psychiatric diagnosis, which may affect the risk of suicidal behavior.

Research suggests that earlier intervention from professionals following a CM experience is associated with a lower rate of lifetime suicide attempts among youth (Plunkett et al. 2001). Therefore, intervention with maltreated youth should begin as early as possible. Intervention work may also be most successful if it helps the adolescent build strong social support

networks and adaptive coping skills, as well as attends to co-occurring conditions that could negatively impact treatment outcome. Additionally, a focus on fostering feelings of peer connectedness may be particularly important for the prevention of suicidal behavior as youth transition from school settings and attempt to establish new peer relationships.

To date, interventions have not been developed that integrate treatment of CM and suicidal behavior. However, there are interventions with demonstrated efficacy for the treatment of childhood abuse (see reviews by Allin et al. 2005; Chaffin and Friedrich 2004; Silverman et al. 2007) as well as adolescent suicidal behavior (see reviews by Esposito-Smythers et al. 2012; Spirito et al. 2012). Most of these efficacious interventions are cognitive behavioral in orientation, which may offer a particularly promising treatment approach for youth with a history of CM and co-occurring suicidal behavior. Cognitive-behavioral therapy can be used to rework distorted cognitive processes and maladaptive behavior patterns that result from CM experiences and precipitate the onset of suicidal behavior. It can also be delivered in individual, group, parent training, and family formats depending on the treatment needs of each individual adolescent. Though various therapeutic approaches such as cognitive-behavioral therapy hold promise for the treatment of *both* CM and adolescent suicidal behavior, testing of such integrated protocols in clinical trials is needed before firm conclusions can be drawn. Testing of such evidence-based protocols may move the field forward and yield optimal clinical care to a subpopulation of youth in great clinical need.

Acknowledgments

References

Achenbach, TM. Integrative guide for the 1991 CBCL/4-18, YSR, and TRF profiles. Department of Psychiatry, University of Vermont Burlington; 1991.

Allin H, Wathen CN, MacMillan H. Treatment of child neglect: A systematic review. Canadian Journal of Psychiatry. 2005; 50(8):497.

Anteghini M, Fonseca H, Ireland M, Blum RW. Health risk behaviors and associated risk and protective factors among Brazilian adolescents in Santos. Brazil Journal of Adolescent Health. 2001; 28(4):295–302.

Arata CM, Langhinrichsen-Rohling J, Bowers D, O'Brien N. Differential correlates of multi-type maltreatment among urban youth. Child Abuse and Neglect. 2007; 31(4):393–415. [PubMed: 17412420]

Bagley C, Bolitho F, Bertrand L. Mental health profiles, suicidal behavior, and community sexual assault in 2112 Canadian adolescents. Crisis: The Journal of Crisis Intervention and Suicide Prevention. 1995; 16(3):126.

Bal S, Crombez G, De Bourdeaudhuij I, Van Oost P. Symptomatology in adolescents following initial disclosure of sexual abuse: The roles of crisis support, appraisals and coping. Child Abuse & Neglect: The International Journal. 2009; 33(10):717–727.

Bal S, Crombez G, Van Oost P, Debourdeaudhuij I. The role of social support in well-being and coping with self-reported stressful events in adolescents. Child Abuse and Neglect. 2003; 27(12): 1377–1395. [PubMed: 14644056]

Baldry AC, Winkel FW. Direct and vicarious victimization at school and at home as risk factors for suicidal cognition among Italian adolescents. Journal of Adolescence. 2003; 26(6):703–716. [PubMed: 14643741]

Barnett D, Manly JT, Cicchetti D. Defining child maltreatment: The interface between policy and research. Child Abuse, Child Development, and Social Policy. 1993; 8:7–73.

Beautrais AL, Joyce PR, Mulder RT. Risk factors for serious suicide attempts among youths aged 13 through 24 years. Journal of the American Academy of Child and Adolescent Psychiatry. 1996; 35(9):1174–1182. [PubMed: 8824061]

Beck, AT.; Steer, RA. Manual for the Beck scale for suicide ideation. San Antonio, TX: Psychological Corporation; 1991.

Becker-Blease KA, Freyd JJ. Research participants telling the truth about their lives: The ethics of asking and not asking about abuse. American Psychologist. 2006; 61(3):218–226. [PubMed: 16594838]

Bensley LS, Van Eeenwyk J, Spieker SJ, Schoder J. Self-reported abuse history and adolescent problem behaviors. I. Antisocial and suicidal behaviors. Journal of Adolescent Health. 1999; 24:173–180. [PubMed: 10195800]

Bernstein, DP.; Fink, L. Childhood trauma questionnaire: A retrospective self-report: Manual. Psychological Corporation; 1998.

Blakemore SJ. Development of the social brain during adolescence. The Quarterly Journal of Experimental Psychology. 2008; 61(1):40–49. [PubMed: 18038337]

Bolton EE, Glenn DM, Orsillo S, Roemer L, Litz BT. The relationship between self-disclosure and symptoms of posttraumatic stress disorder in peacekeepers deployed to Somalia. Journal of Traumatic Stress. 2003; 16(3):203–210. [PubMed: 12816331]

Borowsky IW, Resnick MD, Ireland M, Blum RW. Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. Archives of Pediatrics and Adolescent Medicine. 1999; 153(6):573. [PubMed: 10357296]

Boxer P, Terranova AM. Effects of multiple maltreatment experiences among psychiatrically hospitalized youth. Child Abuse and Neglect. 2008; 32(6):637–647. [PubMed: 18582936]

Brand EF, King CA, Olson E, Ghaziuddin N, Naylor M. Depressed adolescents with a history of sexual abuse: Diagnostic comorbidity and suicidality. Journal of the American Academy of Child and Adolescent Psychiatry. 1996; 35(1):34–41. [PubMed: 8567608]

Brent D, Kolko DJ, Allan M, Brown RV. Suicidality in affectively disordered adolescent inpatients. Journal of the American Academy of Child and Adolescent Psychiatry. 1990; 29(4):586–593. [PubMed: 2387793]

Brent DA, Perper JA, Moritz G, Allman C, Friend A, Roth C, et al. Psychiatric risk factors for adolescent suicide: A case-control study. Journal of the American Academy of Child and Adolescent Psychiatry. 1993; 32(3):521–529. [PubMed: 8496115]

Brewin CR, Andrews B, Valentine JD. Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. Journal of Consulting and Clinical Psychology. 2000; 68(5):748. [PubMed: 11068961]

Brezo J, Paris J, Vitaro F, Hébert M, Tremblay RE, Turecki G. Predicting suicide attempts in young adults with histories of childhood abuse. The British Journal of Psychiatry. 2008; 193(2):134–139. [PubMed: 18669998]

Briggs, EC.; Thompson, R.; Ostrowski, S.; Lekwauwa, R. Psychological, health, behavioral, and economic impact of child maltreatment. In: White, JW.; Koss, MP.; Kazdin, AE., editors. Violence against women and children, Vol 1: Mapping the terrain. Vol. 1. Washington, DC: American Psychological Association; 2011. p. 77-97.

Brown J, Cohen P, Johnson JG, Smailes EM. Childhood abuse and neglect: Specificity of effects on adolescent and young adult depression and suicidality. Journal of the American Academy of Child and Adolescent Psychiatry. 1999; 38(12):1490–1496. [PubMed: 10596248]

Brown MZ, Comtois KA, Linehan MM. Reasons for suicide attempts and nonsuicidal self-injury in women with borderline personality disorder. Journal of Abnormal Psychology. 2002; 111(1):198. [PubMed: 11866174]

Bryan CJ, Rudd MD. Advances in the assessment of suicide risk. Journal of Clinical Psychology. 2006; 62(2):185–200. [PubMed: 16342288]

Buddeberg C, Buddeberg-Fischer B, Gnam G, Schmid J, Christen S. Suicidal behavior in Swiss students: An 18-month follow-up survey. Crisis: The Journal of Crisis Intervention and Suicide Prevention. 1996; 17(2):78–86.

Carballo JJ, Akamnonu CP, Oquendo MA. Neurobiology of suicidal behavior. An integration of biological and clinical findings. Archives of Suicide Research. 2008; 12(2):93–110. [PubMed: 18340592]

CDC. Web-based injury statistics query and reporting system (WISQARS). National Center for Injury Prevention and Control; 2010.

Chaffin M, Friedrich B. Evidence-based treatments in child abuse and neglect. Children and Youth Services Review. 2004; 26(11):1097–1113.

Chandy JM, Blum RW, Resnick MD. History of sexual abuse and parental alcohol misuse: Risk, outcomes and protective factors in adolescents. Child and Adolescent Social Work Journal. 1996; 13(5):411–432.

Christopher M. A broader view of trauma: A biopsychosocial-evolutionary view of the role of the traumatic stress response in the emergence of pathology and/or growth. Clinical Psychology Review. 2004; 24(1):75–98. [PubMed: 14992807]

Cicchetti D, Toth SL. Child maltreatment. Annual Review of Clinical Psychology. 2005; 1(1):409–438.

Crouch JL, Milner JS. Effects of child neglect on children. Criminal Justice and Behavior. 1993; 20(1):49–65.

Currier D, Mann JJ. Stress, genes and the biology of suicidal behavior. Psychiatric Clinics of North America. 2008; 31(2):247–269. [PubMed: 18439448]

Darves-Bornoz JM, Choquet M, Ledoux S, Gasquet I, Manfredi R. Gender differences in symptoms of adolescents reporting sexual assault. Social Psychiatry and Psychiatric Epidemiology. 1998; 33(3):111–117. [PubMed: 9540385]

Deykin EY, Buka SL. Suicidal ideation and attempts among chemically dependent adolescents. American Journal of Public Health. 1994; 84(4):634–639. [PubMed: 8154569]

Dori GA, Overholser JC. Depression, hopelessness, and self-esteem: Accounting for suicidality in adolescent psychiatric inpatients. Suicide and Life-Threatening Behavior. 1999; 29(4):309–318. [PubMed: 10636325]

Eaton DK, Kann L, Kinchen S, Shanklin S, Flint KH, Hawkins J, et al. Youth risk behavior surveillance-United States, 2011. MMWR Surveill Summ. 2012; 61(4):1–162. [PubMed: 22673000]

Eisenberg ME, Ackard DM, Resnick MD. Protective factors and suicide risk in adolescents with a history of sexual abuse. The Journal of Pediatrics. 2007; 151(5):482–487. [PubMed: 17961690]

Elliott K, Urquiza A. Ethnicity, culture, and child maltreatment. Journal of Social Issues. 2006; 62(4):787–809.

Esposito CL, Clum GA. Social support and problem-solving as moderators of the relationship between childhood abuse and suicidality: Applications to a delinquent population. Journal of Traumatic Stress. 2002; 15(2):137–146. [PubMed: 12013065]

Esposito-Smythers, C.; Weismoore, JT.; Zimmermann, RP.; Spirito, A. Suicidal behaviors among children and adolescents. In: Nock, MK., editor. Oxford handbook of suicide and self-injury. New York, NY: Oxford University Press, Inc; 2012.

Evans E, Hawton K, Rodham K. Factors associated with suicidal phenomena in adolescents: A systematic review of population-based studies. Clinical Psychology Review. 2004; 24(8):957–979. [PubMed: 15533280]

Fergusson DM, Beautrais AL, Horwood LJ. Vulnerability and resiliency to suicidal behaviours in young people. Psychological Medicine. 2003; 33(01):61–73. [PubMed: 12537037]

Fergusson DM, Horwood L, Lynskey MT. Childhood sexual abuse and psychiatric disorder in young adulthood: II. Psychiatric outcomes of childhood sexual abuse. Journal of the American Academy of Child and Adolescent Psychiatry. 1996; 35(10):1365–1374. [PubMed: 8885591]

Fergusson DM, Woodward LJ, Horwood LJ. Risk factors and life processes associated with the onset of suicidal behaviour during adolescence and early adulthood. Psychological Medicine. 2000; 30(01):23–39. [PubMed: 10722173]

Finkelhor D. Current information on the scope and nature of child sexual abuse. The Future of Children. 1994; 4:31–53. [PubMed: 7804768]

Finkelhor D, Browne A. The traumatic impact of child sexual abuse: A conceptualization. American Journal of Orthopsychiatry. 1985; 55(4):530–541. [PubMed: 4073225]

Finkelhor D, Ormrod RK, Turner HA. Poly-victimization: A neglected component in child victimization. Child Abuse and Neglect. 2007; 31(1):7–26. [PubMed: 17224181]

Fisher CB, Pearson JL, Kim S, Reynolds CF. Ethical issues in including suicidal individuals in clinical research. IRB: Ethics and Human Research. 2002; 24(5):9. [PubMed: 12737170]

Forjuoh SN. Child maltreatment related injuries: Incidence, hospital charges, and correlates of hospitalization. Child Abuse and Neglect. 2000; 24(8):1019–1025. [PubMed: 10983812]

Fortune S, Seymour F, Lambie I. Suicide behaviour in a clinical sample of children and adolescents in New Zealand. New Zealand Journal of Psychology. 2005; 34(3):164.

Friedman MS, Marshal MP, Guadamuz TE, Wei C, Wong CF, Saewyc EM, et al. A meta-analysis of disparities in childhood sexual abuse, parental physical abuse, and peer victimization among sexual minority and sexual nonminority individuals. American Journal of Public Health. 2011; 101(8):1481–1494. [PubMed: 21680921]

Garnefski N, Arends E. Sexual abuse and adolescent maladjustment: Differences between male and female victims. Journal of Adolescence. 1998; 21(1):99–107. [PubMed: 9503078]

Gex CR, Narring F, Ferron C, Michaud P-A. Suicide attempts among adolescents in Switzerland: prevalence, associated factors and comorbidity. Acta Psychiatrica Scandinavica. 1998; 98(1):28–33. [PubMed: 9696511]

Gibb BE, McGeary JE, Beevers CG, Miller IW. Serotonin transporter (5-HTTLPR) genotype, childhood abuse, and suicide attempts in adult psychiatric inpatients. Suicide and Life-Threatening Behavior. 2006; 36(6):687–693. [PubMed: 17250473]

Glaser D. Emotional abuse and neglect (psychological maltreatment): A conceptual framework. Child Abuse and Neglect. 2002; 26(6):697–714. [PubMed: 12201163]

Glowinski AL, Bucholz KK, Nelson EC, Fu Q, Madden PAF, Reich W, et al. Suicide attempts in an adolescent female twin sample. Journal of the American Academy of Child and Adolescent Psychiatry. 2001; 40(11):1300–1307. [PubMed: 11699804]

Goldston, DB. Self-report inventories and behavior checklists. In: Goldston, DB., editor. Measuring suicidal behavior and risk in children and adolescents. Vol. xi. Washington, DC: American Psychological Association; 2003. p. 87-121.

Goldston, DB.; Compton, JS. Adolescent suicidal and nonsuicidal self-harm behaviors and risk. In: Mash, EJ.; Barkley, RA., editors. Assessment of childhood disorders. 4. Vol. xii. New York, NY: Guilford Press; 2007. p. 305-343.

Goldston DB, Daniel SS, Erkanli A, Reboussin BA, Mayfield A, Frazier PH, et al. Psychiatric diagnoses as contemporaneous risk factors for suicide attempts among adolescents and young adults: Developmental changes. Journal of Consulting and Clinical Psychology. 2009; 77(2):281–290. [PubMed: 19309187]

Goldston DB, Molock SD, Whitbeck LB, Murakami JL, Zayas LH, Hall GCN. Cultural considerations in adolescent suicide prevention and psychosocial treatment. American Psychologist. 2008; 63(1):14–31. [PubMed: 18193978]

Gould MS, Velting D, Kleinman M, Lucas C, Thomas JG, Chung M. Teenagers' attitudes about coping strategies and help-seeking behavior for suicidality. Journal of the American Academy of Child and Adolescent Psychiatry. 2004; 43(9):1124–1133. [PubMed: 15322416]

Green SM, Russo MF, Navratil JL, Loeber R. Sexual and physical abuse among adolescent girls with disruptive behavior problems. Journal of Child and Family Studies. 1999; 8(2):151–168.

Greydanus D, Patel D, Pratt H. Suicide risk in adolescents with chronic illness: Implications for primary care and specialty pediatric practice: A review. Developmental Medicine and Child Neurology. 2010; 52(12):1083–1087. [PubMed: 20813018]

Grilo CM, Sanislow CA, Fehon DC, Martino S, McGlashan TH. Psychological and behavioral functioning in adolescent psychiatric inpatients who report histories of childhood abuse. American Journal of Psychiatry. 1999; 156(4):538–543. [PubMed: 10200731]

Grossman DC, Milligan BC, Deyo RA. Risk factors for suicide attempts among Navajo adolescents. American Journal of Public Health. 1991; 81(7):870–874. [PubMed: 2053663]

Hacker KA, Suglia SF, Fried LE, Rappaport N, Cabral H. Developmental differences in risk factors for suicide attempts between ninth and eleventh graders. Suicide and Life-Threatening Behavior. 2006; 36(2):154–166. [PubMed: 16704321]

Hager AD, Runtz MG. Physical and psychological maltreatment in childhood and later health problems in women: An exploratory investigation of the roles of perceived stress and coping strategies. Child Abuse and Neglect. 2012; 36(5):393–403. [PubMed: 22609072]

Harrison PA, Hoffmann NG, Edwall GE. Sexual abuse correlates similarities between male and female adolescents in chemical dependency treatment. Journal of Adolescent Research. 1989; 4(3):385–399.

Higgins DJ, McCabe MP. Multiple forms of child abuse and neglect: Adult retrospective reports. Aggression and Violent Behavior. 2001; 6(6):547–578.

Holmes WC, Slap GB. Sexual abuse of boys. JAMA: The Journal of the American Medical Association. 1998; 280(21):1855–1862. [PubMed: 9846781]

Horwitz AG, Hill RM, King CA. Specific coping behaviors in relation to adolescent depression and suicidal ideation. Journal of Adolescence. 2011; 34(5):1077–1085. [PubMed: 21074841]

Hoyert DL, Xu J. Deaths: Preliminary data for 2011. National Vital Statistics Reports. 2012; 61(6):1–51.

Hussey JM, Marshall JM, English DJ, Knight ED, Lau AS, Dubowitz H, et al. Defining maltreatment according to substantiation: distinction without a difference? Child Abuse and Neglect. 2005; 29(5):479–492. [PubMed: 15970321]

Jobes DA. The collaborative assessment and management of suicidality (CAMS): An evolving evidence-based clinical approach to suicidal risk. Suicide & Life-Threatening Behavior. 2012; 42(6):640–653. [PubMed: 22971238]

Johnson JG, Cohen P, Gould MS, Kasen S, Brown J, Brook JS. Childhood adversities, interpersonal difficulties, and risk for suicide attempts during late adolescence and early adulthood. Archives of General Psychiatry. 2002; 59(8):741. [PubMed: 12150651]

Johnson BK, Kenkel MB. Stress, coping, and adjustment in female adolescent incest victims. Child Abuse and Neglect. 1991; 15(3):293–305. [PubMed: 2043980]

Joiner, T. Why people die by suicide. Cambridge: Harvard University Press; 2007.

Kaplan MS, McFarland BH, Huguet N, Newsom JT. Physical illness, functional limitations, and suicide risk: A population-based study. American Journal of Orthopsychiatry. 2007; 77(1):56–60. [PubMed: 17352585]

Kaplan SJ, Pelcovitz D, Salzinger S, Mandel F, Weiner M, Labruna V. Adolescent physical abuse and risk for suicidal behaviors. Journal of Interpersonal Violence. 1999; 14(9):976–988.

Kessler RC, Borges G, Walters EE. Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. Archives of General Psychiatry. 1999; 56(7):617. [PubMed: 10401507]

Kinard E. Methodological issues and practical problems in conducting research on maltreated children. Child Abuse and Neglect. 1994; 18(8):645–656. [PubMed: 7953904]

Kinard EM. Methodological issues in assessing the effects of maltreatment characteristics on behavioral adjustment in maltreated children. Journal of Family Violence. 2004; 19(5):303–318.

Kisiel CL, Lyons JS. Dissociation as a mediator of psychopathology among sexually abused children and adolescents. American Journal of Psychiatry. 2001; 158(7):1034–1039. [PubMed: 11431224]

Kurtz PD, Kurtz GL, Jarvis SV. Problems of maltreated runaway youth. Adolescence. 1991; 36:309–314.

Laederach J, Fischer W, Bowen P, Ladame F. Common risk factors in adolescent suicide attempters revisited. Crisis: The Journal of Crisis Intervention and Suicide Prevention. 1999; 20(1):15–22.

Lau AS, Leeb RT, English D, Graham JC, Briggs EC, Brody KE, et al. What's in a name? A comparison of methods for classifying predominant type of maltreatment. Child Abuse and Neglect. 2005; 29(5):533–551. [PubMed: 15970324]

Legerski JP, Bunnell SL. The risks, benefits, and ethics of trauma-focused research participation. Ethics and Behavior. 2010; 20(6):429–442.

Lepore SJ, Silver RC, Wortman CB, Wayment HA. Social constraints, intrusive thoughts, and depressive symptoms among bereaved mothers. Journal of Personality and Social Psychology. 1996; 70(2):271. [PubMed: 8636882]

Linehan, M. Cognitive-behavioral treatment of borderline personality disorder. New York: Guilford Press; 1993.

Locke TF, Newcomb MD. Psychosocial predictors and correlates of suicidality in teenage Latino males. Hispanic Journal of Behavioral Sciences. 2005; 27(3):319–336.

Lynskey MT, Fergusson DM. Factors protecting against the development of adjustment difficulties in young adults exposed to childhood sexual abuse. Child Abuse and Neglect. 1997; 21(12):1177–1190. [PubMed: 9429770]

Lyon ME, Benoit M, O'Donnell RM, Getson PR, Silber T, Walsh T. Assessing African American adolescents' risk for suicide attempts: Attachment theory. Adolescence. 2000; 35:121–134. [PubMed: 10841301]

MacLean J, Jolene D, Jacobi F, Bolton JM, Sareen J. The relationship between physical conditions and suicidal behavior among those with mood disorders. Journal of Affective Disorders. 2011; 130(1–2):245–250. [PubMed: 21078525]

Malinosky-Rummell R, Hansen DJ. Long-term consequences of childhood physical abuse. Psychological Bulletin. 1993; 114(1):68. [PubMed: 8346329]

Manly JT, Cicchetti D, Barnett D. The impact of subtype, frequency, chronicity, and severity of child maltreatment on social competence and behavior problems. Development and Psychopathology. 1994; 6(1):121–143.

Martin G, Bergen HA, Richardson AS, Roeger L, Allison S, et al. Sexual abuse and suicidality: Gender differences in a large community sample of adolescents. Child Abuse and Neglect. 2004; 28(5):491–503. [PubMed: 15159067]

Matsumoto T, Tsutsumi A, Izutsu T, Imamura F, Chiba Y, Takeshima T. Comparative study of the prevalence of suicidal behavior and sexual abuse history in delinquent and non-delinquent adolescents. Psychiatry and Clinical Neurosciences. 2009; 63(2):238–240. [PubMed: 19335395]

McGee RA, Wolfe DA, Yuen SA, Wilson SK, Carnochan J. The measurement of maltreatment: A comparison of approaches. Child Abuse and Neglect. 1995; 19(2):233–249. [PubMed: 7780784]

Miller JM, Kinnally EL, Ogden RT, Oquendo MA, Mann JJ, Parsey RV. Reported childhood abuse is associated with low serotonin transporter binding in vivo in major depressive disorder. Synapse (New York). 2009; 63(7):565–573.

Mishara BL, Weisstub DN. Ethical and legal issues in suicide research. International Journal of Law and Psychiatry. 2005; 28(1):23–41. [PubMed: 15710447]

Molnar BE, Shade SB, Kral AH, Booth RE, Watters JK. Suicidal behavior and sexual/physical abuse among street youth. Child Abuse and Neglect. 1998; 22(3):213–222. [PubMed: 9589175]

Moran PB, Vuchinich S, Hall NK. Associations between types of maltreatment and substance use during adolescence. Child Abuse and Neglect. 2004; 28(5):565–574. [PubMed: 15159070]

Nock, MK.; Favazza, AR. Nonsuicidal self-injury: Definition and classification. In: Nock, MK., editor. Understanding nonsuicidal self-injury: Origins, assessment, and treatment. Vol. xiii. Washington, DC: American Psychological Association; 2009. p. 9-18.

Nock MK, Holmberg EB, Photos VI, Michel BD. Self-injurious thoughts and behaviors interview: Development, reliability, and validity in an adolescent sample. Psychological Assessment. 2007; 19(3):309–317. [PubMed: 17845122]

O'Carroll PW, Berman AL, Maris RW, Moscicki EK, Tanney BL, Silverman MM. Beyond the tower of babel: A nomenclature for suicidology. Suicide and Life-Threatening Behavior. 1996; 26(3): 237–252. [PubMed: 8897663]

O'Donnell M, Nassar N, Leonard H, Mathews R, Patterson Y, Stanley F. Monitoring child abuse and neglect at a population level: Patterns of hospital admissions for maltreatment and assault. Child Abuse and Neglect. 2010; 34(11):823–832. [PubMed: 20888637]

Ozer EJ, Best SR, Lipsey TL, Weiss DS. Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. Psychological Bulletin. 2003; 129(1):52. [PubMed: 12555794]

Plunkett A, O'Toole B, Swanston H, Oates RK, Shrimpton S, Parkinson P. Suicide risk following child sexual abuse. Ambulatory Pediatrics. 2001; 1(5):262–266. [PubMed: 11888413]

Posner K, Oquendo M, Gould M, Stanley B, Davies M. Columbia classification algorithm of suicide assessment (C-CASA): Classification of suicidal events in the FDA's pediatric suicidal risk analysis of antidepressants. American Journal of Psychiatry. 2007; 164(7):1035–1043. [PubMed: 17606655]

Prinstein MJ, Boergers J, Vernberg EM. Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. Journal of Clinical Child Psychology. 2001; 30(4):479–491. [PubMed: 11708236]

Prinstein MJ, Nock MK, Simon V, Aikins JW, Cheah CS, Spirito A. Longitudinal trajectories and predictors of adolescent suicidal ideation and attempts following inpatient hospitalization. Journal of Consulting and Clinical Psychology. 2008; 76(1):92. [PubMed: 18229987]

Rew L, Thomas N, Horner SD, Resnick MD, Beuhring T. Correlates of recent suicide attempts in a triethnic group of adolescents. Journal of Nursing Scholarship. 2001; 33(4):361–367. [PubMed: 11775307]

Reynolds, WM. Suicidal ideation questionnaire: Professional manual. Odessa, FL: Psychological Assessment Resources; 1988.

Riggs SA. Childhood emotional abuse and the attachment system across the life cycle: What theory and research tell us. Journal of Aggression, Maltreatment & Trauma. 2010; 19(1):5–51.

Riggs S, Alario AJ, McHorney C. Health risk behaviors and attempted suicide in adolescents who report prior maltreatment. The Journal of Pediatrics. 1990; 116(5):815–821. [PubMed: 2329431]

Robinson J, Cotton S, Conus P, Schimmelmann BG, McGorry P, Lambert M. Prevalence and predictors of suicide attempt in an incidence cohort of 661 young people with first-episode psychosis. The Australian and New Zealand journal of psychiatry. 2009; 43(2):149–157. [PubMed: 19153923]

Rosenberg HJ, Jankowski MK, Sengupta A, Wolfe RS, Wolford GL II, Rosenberg SD. Single and multiple suicide attempts and associated health risk factors in New Hampshire adolescents. Suicide and Life-Threatening Behavior. 2005; 35(5):547–557. [PubMed: 16268771]

Rosenthal S, Feiring C, Taska L. Emotional support and adjustment over a year's time following sexual abuse discovery. Child Abuse and Neglect. 2003; 27(6):641–661. [PubMed: 12818612]

Ryan KD, Kilmer RP, Cauce AM, Watanabe H, Hoyt DR. Psychological consequences of child maltreatment in homeless adolescents: Untangling the unique effects of maltreatment and family environment. Child Abuse and Neglect. 2000; 24(3):333–352. [PubMed: 10739077]

Salzinger S, Rosario M, Feldman RS, Ng-Mak DS. Adolescent suicidal behavior: Associations with preadolescent physical abuse and selected risk and protective factors. Journal of the American Academy of Child and Adolescent Psychiatry. 2007; 46(7):859–866. [PubMed: 17581450]

Shaffer A, Huston L, Egeland B. Identification of child maltreatment using prospective and self-report methodologies: A comparison of maltreatment incidence and relation to later psychopathology. Child Abuse and Neglect. 2008; 32(7):682. [PubMed: 18638626]

Shaffer D, Pfeffer CR. Practice parameter for the assessment and treatment of children and adolescents with suicidal behavior. Child and Adolescent Psychiatry. 2001; 40(7):28.

Shapiro DL, Levendosky AA. Adolescent survivors of childhood sexual abuse: The mediating role of attachment style and coping in psychological and interpersonal functioning. Child Abuse and Neglect. 1999; 23(11):1175–1191. [PubMed: 10604070]

Shaunesey K, Cohen JL, Plummer B, Berman A. Suicidality in hospitalized adolescents: Relationship to prior abuse. American Journal of Orthopsychiatry. 1993; 63(1):113–119. [PubMed: 8427301]

Silverman MM, Berman AL, Sanddal ND, O'Carroll PW, Joiner TE Jr. Rebuilding the tower of babel: A revised nomenclature for the study of suicide and suicidal behaviors Part 1: Background, rationale, and methodology. Suicide and Life-Threatening Behavior. 2007; 37(3):248–263. [PubMed: 17579538]

Silverman AB, Reinherz HZ, Giaconia RM. The long-term sequelae of child and adolescent abuse: A longitudinal community study. Child Abuse and Neglect. 1996; 20(8):709–723. [PubMed: 8866117]

Spaccarelli S. Stress, appraisal, and coping in child sexual abuse: A theoretical and empirical review. Psychological Bulletin. 1994; 116(2):340. [PubMed: 7972595]

Spirito, A.; Esposito-Smythers, C.; Weismoore, J.; Miller, A. Child and adolescent therapy: Cognitive-behavioral procedures. 4. New York, NY, US: Guilford Press; 2012. Adolescent suicidal behavior; p. 234-256.

Springer KW, Sheridan J, Kuo D, Carnes M. Long-term physical and mental health consequences of childhood physical abuse: Results from a large population-based sample of men and women. Child Abuse and Neglect. 2007; 31(5):517–530. [PubMed: 17532465]

Stewart SM, Kennard BD, Lee PWH, Mayes T, Hughes C, Emslie G. Hopelessness and suicidal ideation among adolescents in two cultures. Journal of Child Psychology and Psychiatry. 2005; 46(4):364–372. [PubMed: 15819645]

Swanston HY, Tebbutt JS, O'Toole BI, Oates RK. Sexually abused children 5 years after presentation: a case-control study. Pediatrics. 1997; 100(4):600–608. [PubMed: 9310512]

Talbot NL, Chapman B, Conwell Y, McCollumn K, Franus N, Cotescu S, et al. Childhood sexual abuse is associated with physical illness burden and functioning in psychiatric patients 50 years of age and older. Psychosomatic Medicine. 2009; 71(4):417–422. [PubMed: 19251869]

Teisl M, Cicchetti D. Physical abuse, cognitive and emotional processes, and aggressive/disruptive behavior problems. Social Development. 2008; 17(1):1–23.

Thompson R, Proctor LJ, English DJ, Dubowitz H, Narasimhan S, Everson MD. Suicidal ideation in adolescence: Examining the role of recent adverse experiences. Journal of Adolescence. 2012; 35(1):175–186. [PubMed: 21481447]

Trickett PK. Multiple maltreatment and the development of self and emotion regulation. Journal of Aggression, Maltreatment & Trauma. 1998; 2(1):171–187.

Tyler KA, Johnson KA, Brownridge DA. A longitudinal study of the effects of child maltreatment on later outcomes among high-risk adolescents. Journal of Youth and Adolescence. 2008; 37(5): 506–521.

Van Orden KA, Witte TK, Cukrowicz KC, Braithwaite SR, Selby EA, Joiner TE Jr. The interpersonal theory of suicide. Psychological Review. 2010; 117(2):575. [PubMed: 20438238]

Wagner KD. Cognitive factors related to suicidal ideation and resolution in psychiatrically hospitalized children and adolescents. American Journal of Psychiatry. 2000; 157(12):2017–2021. [PubMed: 11097969]

Waldrop AE, Hanson RF, Resnick HS, Kilpatrick DG, Naugle AE, Saunders BE. Risk factors for suicidal behavior among a national sample of adolescents: Implications for prevention. Journal of Traumatic Stress. 2007; 20(5):869–879. [PubMed: 17955525]

Wekerle C, Leung E, Wall AM, MacMillan H, Boyle M, Trocme N, et al. The contribution of childhood emotional abuse to teen dating violence among child protective services-involved youth. Child Abuse and Neglect. 2009; 33(1):45–58. [PubMed: 19167066]

Wilson KR, Hansen DJ, Li M. The traumatic stress response in child maltreatment and resultant neuropsychological effects. Aggression and Violent Behavior. 2011; 16(2):87–97.

Wolfe DA, Scott K, Wekerle C, Pittman AL, et al. Child maltreatment: Risk of adjustment problems and dating violence in adolescence. Journal of the American Academy of Child and Adolescent Psychiatry. 2001; 40(3):282–289. [PubMed: 11288769]

Yoder KA. Comparing suicide attempters, suicide ideators, and nonsuicidal homeless and runaway adolescents. Suicide and Life-Threatening Behavior. 1999; 29(1):25–36. [PubMed: 10322618]

Zoroglu SS, Tuzun U, Sar V, Tutkun H, Savaçs HA, Ozturk M, et al. Suicide attempt and self-mutilation among Turkish high school students in relation with abuse, neglect and dissociation. Psychiatry and Clinical Neurosciences. 2003; 57(1):119–126. [PubMed: 12519464]

Table 1

Studies of child maltreatment and suicide ideation, grouped by methodology and sample type

Study	Sample (% female)	Suicide measures	Abuse measures	Covariates
Cross-sectional, community samples				
Anteghini et al. (2001)	2,059 (55.3); ages 13–17 from Brazil	Drawn from various national health surveys	SxA: drawn from various national health surveys	Not specified
Arata et al. (2007)	1,452 (53.3); ages 13–18 from Alabama	Composite measure of thoughts about death and suicide-related behaviors	SxA, PhA, EmA, and N: CTQ	Sex
Bagley et al. (1995)	2,112 (49.8); ages 12–18 from Canada	Single question for frequency of SI and SB (SA and SG)	SxA: single question about frequency	Not specified
Baldry and Winkel (2003)	998 (43.1); ages 14–19; from ten middle and high schools in Rome, Italy	Created a SI variable by summing responses to two SI items	PhA: single question about frequency of physical harm from parents	Witnessing domestic violence
Bensley et al. (1999)	4,790, 8th, 10th, and 12th graders from Washington State public schools	Questions for SI and SA used from YRBS	SxA: 1 question about unwanted sexual contact. PhA: 1 question about being abused or mistreated	Age and grade
Buddeberg et al. (1996)	1,937 (57.4) Swiss Ad aged 14–19	Seven questions for assessing SI and SA adapted from MMPI-2; classified kids as NS, SI, SA	SxA: not specified	None
Chandy et al. (1996)	1,959 (50.6) Ad, 7–12 grade from Add Health Survey conducted in Minnesota (1986–1987)	Single question for SI and SA; created SR score by summing responses to SI and SA	SxA: single question for history	Intercorrelations among study variables
Eisenberg et al. (2007)	83,731 (50.5) 6th, 9th, and 12th graders from 2004 Minnesota Student Survey	Single question for history of SI and SA	SxA: single question for history of abuse by caregiver and single question for abuse by stranger	Grade, race, family structure
Fergusson et al. (2003)	1063 (49.8) New Zealand birth cohort, Christchurch Health and Development Study, ages 14–21 years	Developed questions for frequency and severity of SI and SA	SxA, PhA: single question assessed severity of past SxA; single question assessed severity of PhA	Depression
Fortune et al. (2005)	100 (55) child and adolescent files	Coded as present or absent from clinical files	SxA: coded present or absent from clinical files	None
Garnefski and Arends (1998)	1,490 (80) Ad, ages 12–19, secondary schools in the Netherlands	Single question for frequency of SI and SA	SxA: single question for history	None
Kaplan et al. (1999)	99 (50) physically abused Ad, community sample of 99 (50) non-abused Ad, ages 12–18	Subscale from SPS measuring current SI	PhA: substantiated reports	Not specified
Kinard (2004)	171 (51) elementary school-aged maltreated children, 6–12 years old, and mothers	SI scale of the harter dimensions of depression profile for children	SxA, PxA, N: substantiated reports	None
Kisiel and Lyons (2001)	114 (52) children and Ad, ages 10–18	YSR	SxA, PhA: HAF	Dissociation
Locke and Newcomb (2005)	349 (0) young Latino ms, ages 13–30 (mean 19 years)	Developed 6 questions measuring history of SI and SA	SxA, PhA, EmA, and N: CTQ	Other study variables

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Study	Sample (% female)	Suicide measures	Abuse measures	Covariates
Martin et al. (2004)	2,485 (44.5) South Australian Ad, mean age 14	Single question for history SI and frequency of SA	SxA: developed question assessing history	Depressive symptoms, hopelessness, and family functioning
Thompson et al. (2012)	740 (47.4), at risk of or already maltreated youth, age 16	SI-1 item from YRBS	SxA, PhA, EmA, and N: substantiated cases and MMCS	Sex, race, previous SI and psychological distress, parent demographics, drug use problems
Waldrop et al. (2007)	3,906 (48.7) Ad ages 12–17, household probability sample via telephone	Single question for SI and SA	SxA, PhA: Developed questions	Race, age, sex, socioeconomic status, family alcohol and drug use problems
Longitudinal, community samples				
Brezo et al. (2008)	1,631 (47.5) French Canadian school-based cohort, followed from childhood to young adulthood, followed for approx. 13 years	Single question for history of SI; SA assessed by DISC-2	SxA: CSAS PhA: CTS-R	Disruptive behavior, sex, and SB
Cross-sectional, clinical/high-risk samples				
Brand et al. (1996)	24 (100) depressed, sexually abused, 24 control inpatient Ad, ages 13–17	SIQ-Jr; SSB	SxA: adapted questions from WHI	Not specified
Esposito and Clum (2002)	200 (29.5) delinquent youth, ages 12–17	MSSI; SSB	SxA, PhA: CAS	Sex
Fortune et al. (2005)	100 (35) child and adolescent clinical files	Clinical chart files	SxA: clinical chart files	None
Grilo et al. (1999)	322 (57.5) nearly consecutive adolescent inpatients, ages 13–19 years	SRS	SxA, PhA: childhood abuse scale of the MACI	BDI scores, age
Harrison et al. (1989)	1,415 (31.4) substance abusing Ad, mean age 15.9	Not specified	SxA: single question for history of SxA	Not specified
Kurtz et al. (1991)	2,019 runaway youth, from the southeast US	SI, SA: clinical information database	SxA, PhA: clinical information database	Not specified
Matsumoto et al. (2009)	135 delinquent youth ages, 15–17 (control group of 316 non-delinquent high school students) (16.3)	Single question for SI and SA	SxA: single question for SxA	None
Shaunesey et al. (1993)	62 non-abused, 55 abused Ad(56.4) ages, 13–18 consecutively admitted to hospital	SA—clinical intake chart SI—SIQ, SIS	SxA, PhA: clinical intake charts, low- and high-frequency groups	Not specified
Yoder (1999)	527 (60) runaway and homeless Ad from Midwestern states, ages 2–21	Did not specify questions used during an interview to assess SI and SA	SxA, PhA: CTS-R	Not specified
Longitudinal, clinical/high-risk sample				
Brent et al. (1993)	133 (35) psychiatric inpatients, ages 13–18, followed for 6 months.	SCS	SxA, PhA: K-SADS, LES	Not specified

SI suicidal ideation, *SA* suicide attempt, *SB* suicidal behaviors (author does not differentiate specific thoughts/behaviors), *SxA* sexual abuse, *PhA* physical abuse, *N* neglect, *EmA* emotional abuse, *Ad* adolescents, *YRBS* Youth Risk Behavior Survey, *MMPI-2* Minnesota Multiphasic Personality Inventory-2, *SPS* Suicide Probability Scale, *YSR* Youth Self-Report, *DISC* Diagnostic Interview Schedule for Children, *SIQ* Suicidal Ideation Questionnaire, *SSB* Scale of Suicidal Behavior, *MSSI* Modified Scale for Suicidal Ideation, *SRS* Suicide Risk Scale, *SIS* Suicide Intent Scale, *SCS* Suicide Circumstances Schedule, *CTQ* Childhood Trauma Questionnaire, *HAF* History of Abuse Form, *MMCS* Modified Maltreatment Classification System (LONGSCAN), *CSAS* Child Sexual Abuse Scale, *CTS-R* Conflict Tactics Scale-Revised, *WSHI* Wyatt Sexual History Interview, *CAS* suicide risk (author uses a measure of cumulative risk and does not differentiate actual attempt from non-suicidal self-harm), *SR* suicide risk (author does not differentiate actual attempt from non-suicidal self-harm)

Child Abuse Survey, *MACI* Millon Adolescent Clinical Inventory, *K-SADS* Kiddie Schedule for Affective Disorders and Schizophrenia, *LES* Life Events Scale, *BDI* Beck Depression Inventory, *Not specified* authors did not specify which (if any) variables in multivariate analyses were included as covariates

Table 2

Studies of child maltreatment and suicide attempts grouped by methodology and sample type

Study	Sample (%f)	Suicide measures	Abuse measures	Covariates
Cross-sectional, community samples				
Anteghini et al. (2001)	2,059 (55.3) Ad, ages 13–17 from Brazil	Drawn from various national health surveys	SxA: drawn from various national health surveys	Not specified
Bagley et al. (1995)	2,112 (49.8) Canadian middle-high school students, grades 7–12, ages 12–18	Single question for frequency of SI and SB (SA and SG)	SxA: single question about frequency of SxA	Not specified
Bensley et al. (1999)	4,790, 8th, 10th, and 12th graders from Washington State public schools	Questions for SI and SA used from YRBS	SxA: 1 question about unwanted sexual contact. PhA: 1 question about being abused or mistreated	Age and grade
Buddeberg et al. (1996)	1,937 (57.4) Swiss Ad aged 14–19.	Seven questions for assessing SI and SA adapted from MMPI-2; classified kids as NS, SI, SA	SxA: not specified	None
Chandy et al. (1996)	1,959 (50.6) Ad, 7–12 grade from Ad health survey conducted in Minnesota (1986–1987)	Single question for SI and SA; created SR score by summing responses to SI and SA	SxA: single question for history of SxA	Intercorrelations among study variables
Darves-Bornoz et al. (1998)	465 (74) SxA Ad from a larger school-based cohort in France, mean age 15.4	Not specified	SxA: single question for frequency of SxA	Behavior symptoms
Eisenberg et al. (2007)	83,731 (50.5) 6th, 9th, and 12th graders from 2004 Minnesota student survey	Single question for history of SI and SA	SxA: Single question for history of SxA by caregiver and single question for history of SxA for stranger	Grade, race, family structure
Fergusson et al. (1996)	1,019 (NS), New Zealand birth Cohort, Christchurch Health and Development Study, ages 18	Developed questions for frequency and severity of SI and SA	SxA: Single question assessed severity SxA	Family socio-demographic variables, family stability, parent–child relationships, parental adjustment
Fergusson et al. (2003)	1,063 (49.8) New Zealand birth cohort, Christchurch Health and Development Study, ages 14–21 years	Developed questions for frequency and severity of SI and SA	SxA, PhA: Single question assessed severity SxA; Single question assessed severity of PhA	Depression
Garnefski and Arends (1998)	1,490 (80) Ad, ages 12–19, secondary schools in the Netherlands	Single question for frequency of SI and SA	SxA: single question for history	None
Glowinski et al. (2001)	3,416 (100) f twins, ages 13, 15, 16, and 19 from the Missouri Ad F Twin Study	Suicidal thoughts and behaviors section of the MOAFTS	SxA, PhA: single question for each	Psychiatric diagnoses
Grossman et al. (1991)	7,241 (51) Ad, median age 14.4	Single question for history of SA	SxA, PhA: Single question for history of each	Age and sex
Hacker et al. (2006)	1,192 ninth graders; 1,055 11th graders	Single question from YRBS for frequency of SA in the past 12 months	SxA, PhA, EmA: single question from YRBS for history of each	Grade, age, and sex
Kaplan et al. (1999)	99 (50) physically abused Ad, community sample of 99 (50) non-abused Ad, ages 12–18	Subscale from SPS measuring current SI	PhA: substantiated reports	Not specified

Study	Sample (%f)	Suicide measures	Abuse measures	Covariates
Kisiel and Lyons (2001)	114 (52) children and Ad, ages 10–18	YSR	SxA, PhA: HAF	Dissociation
Locke and Newcomb (2005)	349 (0) young Latino Ms, ages 13–30 (mean 19 years)	Developed 6 questions measuring history of SI and SA	SxA, PhA, EmA, and N: CTQ	None
Lynskey and Fergusson (1997)	Birth cohort of 1,025 New Zealand Children, aged 18 years, Christ Church Health and Development Study	CIDI: asked questions about SA from age 16–18	SxA: developed interview to assess SxA before age 16	Not specified
Martin et al. (2004)	2,485 (44.5) South Australian Ad, mean age 14	Single question for history SI and frequency of SA	SxA: Developed question assessing history	Depressive symptoms, hopelessness, and family functioning
Rew et al. (2001)	10,059 (64.5) middle/high school age 12–18	Single question from MAHS for SA in the last 12 months	SxA, PhA: Single question for each from the MAHS	Sex
Gex et al. (1998)	9,268 (43), 15–20 year olds from Switzerland	SA: question from the YRBS	SxA: not specified	Not specified
Riggs et al. (1990)	600 (52) Ad, grades 9–12	Single question for history of SA	SxA, PhA: single question for history of each	Not specified
Rosenberg et al. (2005)	16,644 (51) Ad from community sample, part of YRBS, ages 13–18	Single question from YRBS for SI and SA in the past 12 months	SxA, PhA: single questions from the YRBS for each	Sex
Borowsky et al. (1999)	11,666 (52.1), 7th–12th grade American Indian and Alaska native youth	SA: 1 question from NAIAHS	SxA, PhA: 1 item each from NAIAHS	Age
Waldrop et al. (2007)	3,906 (48.7) Ad ages 12–17, household probability sample via telephone	Single question for SI and SA	SxA, PhA: Several questions developed for each	Race, age, sex, socioeconomic status, family alcohol, and drug use problems
Zoroglu et al. (2003)	839 (61.1) Ad in early high school	Non specified questions for SA	SxA, PhA, EmA, N: CANQ	Not specified
Longitudinal, community samples				
Brezo et al. (2008)	1631 (47.5) French Canadian school-based cohort, followed from childhood to young adulthood for approx. 13 years	Single question for history of SI; SA assessed by DISC-2	SxA: CSAS. PhA: CTS-R	Disruptive behavior and sex
Brown et al. (1999)	639 (47.7) randomly selected from 776 families in upstate NY counties (children), followed 17 years	DISC	SxA, PhA, N: substantiated cases	Sex, ethnicity, IQ, temperament, serious mental illness, anger, dissatisfaction, external locus of control, sociopathy, low religious participation, teenage pregnancy, single parenthood, welfare support, low family income, large family size, maternal factors (education, low self-esteem, low involvement), paternal factors (low involvement and low warmth), and poor marital quality of parents
Fergusson et al. (2000)	965 (49.8) New Zealand birth cohort, Christchurch Health and Development Study, 15–21 years, followed for 21 years	Single question for SA asked at age 15, 16, 18, 21; Several questions for nature, frequency, and reasons for SI	SxA, PhA: developed several questions for PhA by caregiver and nature and frequency of SxA	Mental health and life events

Study	Sample (%f)	Suicide measures	Abuse measures	Covariates
Johnson et al. (2002)	659 families from Children in the Community Study (New York), followed for 28 years	DISC	SxA, PhA: substantiated cases	Age, sex, psychiatric symptoms during childhood and early adolescence, and parental psychiatric symptoms
Plunkett et al. (2001)	183, 4–15 years, presented at two Child Protection units, followed for 9 years	Unspecified self-report questionnaire measured SI and SA; death records for SC	SxA: substantiated cases	Not specified
Salzinger et al. (2007)	100 (35) physically abused, 100 non-abused classmates, mean age 10.56 years (followed up 6 years later: 78 abused, 75 non-abused)	Questions from the YRBS for SI and SA	PhA: substantiated yes or no history	Sex
Silverman et al. (1996)	375 (49.9) registered kindergartners in US public school located in working class community, followed for 17 years	2 items from CDI for SI; 2 questions from DIS-III-R for SA	SxA, PhA: single question for each	None
Swanston et al. (1997)	84 (76.2) sexually abused, 84 matched controls, ages 5–15 (68 SxA; 75 controls at follow-up), followed for 5 years	Developed questions for SI and SA	SxA: substantiated cases	Age, sex, follow-up lag time, socioeconomic status, number of parent changes, family functioning, mother's mental health, and number of negative life events
Clinical/high-risk, cross-sectional samples				
Beautrais et al. (1996)	129 (54.3) medically serious SA and 153 controls, consecutively admitted to Christchurch Hospital, ages 13–24	Did not specify questions used to assess history of SA	SxA, PhA: developed questions to assess for history of each	Adverse childhood experiences
Brand et al. (1996)	24 (100) depressed, sexually abused, 24 control inpatient Ad, ages 13–17	SIQ: SSB	SxA: adapted questions from WSHI	Not specified
Deykin and Buka (1994)	300 (25.3) Ad receiving treatment for dependence on alcohol or other drugs, ages 15–19	DIS-III-R	SxA, PhA: single question for history	Sex
Esposito and Clum (2002)	200 (29.5) delinquent youth, ages 12–17	MSSI; SSB	SxA, PhA: CAS	Sex
Grilo et al. (1999)	322 (57.5) nearly consecutive adolescent inpatients, ages 13–19 years	SRS	SxA, PhA: childhood abuse scale of the MACI	BDI scores and age
Harrison et al. (1989)	1,415 (31.4) substance abusing Ad, mean age 15.9	Not specified	SxA: single question for history	Not specified
Kurtz et al. (1991)	2,019 runaway youth, from the southeast US	Clinical information database	SxA, PhA: clinical information database	Not specified
Laederach et al. (1999)	148 (80) SA Ad, ages 15–19, emergency unit of University Hospital	SCID	SxA: SCID	Sex
Lyon et al. (2000)	38 (82.2) African-American adolescent suicide attempters and 76 controls, ages 12–18, inner-city hospital inpatients	PCC	SxA, PhA, N: PCC	Not specified
Matsumoto et al. (2009)	135 delinquent youth ages, 15–17 (control group of 316 non-delinquent HS students) (16.3)	Single question for SI and SA	SxA: single question	None

Study	Sample (%f)	Suicide measures	Abuse measures	Covariates
Molnar et al. (1998)	775 (35) Street youth, ages 12–19 from NYC, Denver, and SF	Single question for SI; several questions for history of SA	SxA, PhA: single question for each	Recruitment site differences and ethnicity
Robinson et al. (2009)	661 (65.7) inpatients receiving Tx for psychosis	SCID	SxA: PAS	Length of time in treatment
Ryan et al. (2000)	329 (42) homeless Ad; mean age 16.44	DISC	SxA, PhA: developed questions to assess for history of each	Care from mother and emotional support
Shaunesey et al. (1993)	62 non-abused, 55 abused Ad (56.4) ages, 13–18 consecutively admitted to hospital inpatient	SA—clinical intake chart. SI—SIQ, SIS	SxA, PhA: clinical intake charts, low- and high-frequency groups	Not specified
Yoder (1999)	527 (60) runaway and homeless Ad from Midwestern states, ages 2–21	Did not specify questions used during an interview to assess SI and SA	SxA, PhA: CTS-R	Not specified
Clinical, longitudinal sample				
Brent et al. (1993)	133 (35) psychiatric inpatients, ages 13–18	SCS	SxA, PhA: K-SADS, LES	Not specified

SI suicidal ideation, *SA* suicide attempt, *SB* suicidal behaviors (author does not differentiate specific thoughts/behaviors), *SxA* sexual abuse, *PhA* physical abuse, *N* neglect, *EmA* emotional abuse, *Ad* adolescents, *YRBS* Youth Risk Behavior Survey, *MMPI-2* Minnesota Multiphasic Personality Inventory-2, *MOAFTS* Missouri Adolescent Female Twin Study, *SPS* Suicide Probability Scale, *YSR* Youth Self-Report, *CIDI* Composite International Diagnostic Interview, *MAHS* Minnesota Adolescent Health Survey, *NAIAHS* National American Indian Adolescent Health Survey, *DISC* Diagnostic Interview Schedule for Children, *CDI* Child's Depression Inventory, *DIS-III-R* NIMH Diagnostic Interview Schedule, Version IIIR, *SIQ* Suicidal Ideation Questionnaire, *SSB* Scale of Suicidal Behavior, *MSSI* Modified Scale for Suicidal Ideation, *SRS* Suicide Risk Scale, *SCID* Structured Clinical Interview (DSM-III-R or DSM-IV), *PCC* Psychiatric Consultation Checklist, *SIS* Suicide Intent Scale, *SCS* Suicide Circumstances Schedule, *HAF* History of Abuse Form, *CTQ* Childhood Trauma Questionnaire, *CANQ* Childhood Abuse and Neglect Questionnaire, *CSAS* Child Sexual Abuse Scale, *CTS-R* Conflict Tactics Scale-Revised, *WSHI* Wyatt Sexual History Interview, *CAS* Child Abuse Survey, *MACI* Millon Adolescent Clinical Inventory, *PAS* Pre-morbid Adjustment Scale, *K-SADS* Kiddie Schedule for Affective Disorders and Schizophrenia, *LES* Life Events Scale, *BDI* Beck Depression Inventory, *Not specified* authors did not specify which (if any) variables in multivariate analyses were included as covariates