Published in final edited form as:

J Trauma Stress. 2012 April ; 25(2): 157–163. doi:10.1002/jts.21674.

Behavioral Markers of Coping and Psychiatric Symptoms Among Sexually Abused Children

Danielle N. Shapiro¹, Julie B. Kaplow², Lisa Amaya-Jackson³, and Kenneth A. Dodge⁴

¹Department of Psychology, University of Michigan, Medical School, Ann Arbor, Michigan, USA

²Department of Psychiatry, University of Michigan, Ann Arbor, Michigan, USA

³Department of Psychiatry and Behavioral Science, Duke University, Durham, North Carolina, USA

⁴Center for Child and Family Policy, Duke University, Durham, North Carolina, USA

Abstract

The current study examined coping and psychiatric symptoms in a longitudinal sample of sexually abused children. Coping was behaviorally coded from children's forensic interviews in the aftermath of sexual abuse. Using principal components analysis, coping behaviors were found to cluster into 3 categories: avoidant, expressive, and positive affective coping. Avoidant coping had predictive utility for a range of psychiatric symptoms, including depressive, posttraumatic stress, anxiety, and dissociative symptoms as well as aggression and attention problems measured 8–36 months following the forensic interview. Specific behaviors, namely fidgetiness and distractibility, were also found to be associated with future symptoms. These findings suggest the predictive utility of avoidant behaviors in general, and fidgetiness and distractibility in particular, among sexually abused children.

Approximately 6% of children suffer some form of sexual abuse each year (Finkelhor, Turner, Ormrod, & Hamby, 2009). Child sexual abuse is associated with a range of psychological problems (Fergusson & Mullen, 1999) including posttraumatic stress disorder (PTSD; e.g., Kaplow, Dodge, Amaya-Jackson, & Saxe, 2005; Ullman, 2007), generalized anxiety (Fergusson, Horwood, & Lynskey, 1996), depression (Finkelhor, 1990; Maniglio, 2010), dissociation (Kaplow et al., 2005), attention problems (Kaplow, Hall, Koenen, Dodge, & Amaya-Jackson, 2008), aggressive behaviors and conduct problems, and even suicidal behaviors and substance abuse (Fergusson et al., 1996). The consequences of sexual abuse affect children not only in the immediate aftermath of abuse, but also often extend into adulthood (Hill et al., 2001; Hillberg, Hamilton-Giachritsis, & Dixon, 2011), with symptom presentation in childhood leading to more severe problems in adulthood (Epstein, Saunders, Kilpatrick, & Resnick, 1998).

The associations among child sexual abuse, psychiatric symptoms in childhood, and long-term consequences suggest that identifying the children most at risk for the development of psychological problems in the early aftermath of sexual abuse is an important clinical and empirical objective, not only for children's functioning in the short term, but also over the lifespan. Individual coping may be one important early indicator of later dysfunction, as coping is associated with various mental health outcomes among both abused (Chaffin,

Wherry, & Dykman, 1997; Spaccarelli, 1994) and nonabused (Gomez & McLaren, 2006) children. This study aimed to explore the utility of an observational measure of children's coping as a means of identifying and describing the behavioral markers of coping that are associated with future (8–36 months after the initial forensic interview) psychiatric symptoms in sexually abused children. Our ability to identify those children most at risk for psychiatric symptoms through observed coping behaviors may help to prevent the development and maintenance of symptoms in sexually abused children.

Avoidant coping, or the suppression and avoidance of thoughts and/or feelings related to sexual abuse, may be particularly influential in determining the severity and course of psychiatric symptoms (Seiffge-Krenke, 2000; Spaccarelli, 1994). Most empirical studies (for an exception, see Chaffin et al., 1997) suggest that the use of this particular coping strategy puts children at greater risk for psychological dysfunction (Kaplow et al., 2005; Simon, Feiring, & Kobielski McElroy, 2010), mirroring research in nonabused populations that suggests that avoiding and suppressing emotional experiences can be harmful to mental health (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Pineles, Mostoufi, Ready, Street, Griffin, & Resick, 2011). The use of avoidant coping may also help to explain why, and how, the psychiatric symptoms of victims of child sexual abuse continue into adulthood. Lifetime use of avoidant coping has been implicated in adult PTSD symptoms and puts adult survivors of child sexual abuse at an increased risk for revictimization (Fortier et al., 2009). Similarly, children's alexithymia (an inability to identify and articulate emotions that is often associated with a more avoidant coping style in general) after sexual abuse has been linked to depression in adulthood (Thomas, DiLillio, Walsh, & Polusny, 2011).

In contrast to avoidant coping, other coping strategies, such as expressing emotions related to negative life events, have been inconsistently associated with psychological functioning. Expressiveness and emotional openness, for example, have been identified as potential protective factors in general (Gutner, Rizvi, Monson, & Resick, 2006; Pennebaker, 1985) and among sexually abused children (Chaffin et al., 1997). The usefulness of these strategies, however, may depend on the context in which they are used and the manner in which they are applied. For example, recent findings in social psychology (e.g., Ayduk & Kross, 2008, 2010; Gross & John, 2003) have demonstrated that only certain forms of expressing and analyzing emotional experiences (e.g., self-distancing and reappraisal) effectively reduce the psychiatric and physiological symptoms related to negative life events, whereas others (e.g., rumination) actually increase the severity of symptoms. Similarly, emotional dysregulation, or the unchecked expression and experience of emotion, is associated with a range of psychological problems (e.g., Hannesdottir & Ollendick, 2007; Selby & Joiner, 2009). Among sexually abused children in particular, some studies have identified the disclosure and discussion of abuse as beneficial to children (Spaccarelli, 1994), whereas others have not (Cantón-Cortés & Cantón, 2010). Full, detailed disclosure may create more distress in certain contexts such as during a forensic interview with an unknown adult (Elliott & Briere, 1994).

The objective of a forensic interview is to draw accurate information from child sexual abuse victims (Herman, 2009), as opposed to a clinical interview in which primary goals often involve establishing rapport and helping children cope with their abuse experiences. Because forensic interviewers do not attempt to intervene with children's coping efficacy and style, forensic interviews represent a particularly useful environment in which to observe coping and other psychological variables. Because of their unique set of objectives, children may experience forensic interviews differently (e.g., more stressful) than they experience other forms of interaction about their abuse, such as therapeutic interviews. Observing children in stressful or novel situations is thought to elicit behaviors that reflect children's functioning more broadly (e.g., Ainsworth, Blehar, Waters, & Wall, 1978;

Compas, 1987). In addition, because the forensic interview often serves as the primary point of intervention for sexually abused children, behaviors observed during this time that are associated with risk for psychopathology are especially critical to assess.

Evidence seems to suggest that avoidant coping may be particularly detrimental with regard to the development of future psychiatric symptoms in sexually abused children, and at least in contexts that encourage consolidation and reappraisal, expressive and emotional coping styles may buffer against symptom expression. No studies to date, to our knowledge, have examined behavioral markers of coping among sexually abused children, whether in the forensic interview or otherwise. Instead, existing research focuses on child self-report or parent-report measures of coping style. Although these measures can be useful, they are limited by reporting biases (Stone & Shiffman, 2002). Given the limitations of self- and parent-report measures of coping, directly observing behavioral markers in the recent aftermath of child sexual abuse may offer unique insights into the types of coping behaviors actually employed by sexually abused children. To this end, this study examined the utility of a behavioral coding protocol to assess coping strategies used by sexually abused children. This study also aimed to identify whether children's coping behaviors comprise interpretable factors representing broader coping styles and whether these factors, and/or individual coping behaviors, are associated with longer-term psychiatric symptoms, specifically depression, anxiety, PTSD, dissociation, aggression, and attention problems. Few, if any, objective behavioral measures of coping among sexually abused children exist and we know very little about how to evaluate which sexually abused children are at the greatest risk for developing psychiatric symptoms.

Method

Participants

The children who participated in the current study were contacted through a treatment facility that provides services to child victims of sexual abuse. Each participant had been medically examined, interviewed, and videotaped for forensic purposes. The inclusion criteria for the current study were (a) the interviewers' conclusions regarding the abuse allegations could not be rated as "unknown" or "no evidence," (b) the child was between the ages of 8 and 13 years old at the time of the interview, and (c) the child was from one of three counties in North Carolina. Of the 1,550 possible participants at the center, 156 met these criteria and were eligible to participate in the study. These 156 children were comprised of 27 boys and 129 girls (83% female), with an overall mean age of 10.7 years ($SD = 1.8$). The sample was 56% African American, 23% Caucasian, 12% Native American, 5% biracial, and 4% Hispanic.

Procedures

Time 1 information was garnered from videotaped forensic interviews and written reports associated with each child's forensic interview. Forensic interviews were conducted with the purpose of initiating a criminal investigation into the sexual abuse allegations and were conducted by skilled personnel trained in evaluating cases of child sexual abuse. The interviews covered a wide range of questions concerning the context of the abuse (e.g., duration, severity, relationship to perpetrator) as well as the child's thoughts and feelings about the abuse. Further data was collected at a Time 2 follow-up conducted 8–36 months after the forensic interview. This follow-up was initiated through a letter sent to the children's families explaining the purpose of the study. Of the 156 children comprising the Time 1 sample, only 74 could be located and contacted for the follow-up. Of those who were contacted, 56 consented to participate, resulting in a 76% consent rate. Prior to participating in the study, families provided their informed consent (parents) and assent

(children). Families were compensated monetarily (\$40) for their completion of questionnaires. These procedures were approved by the institutional review board at Duke University.

Preliminary analyses indicated that these 56 children did not significantly differ from the 100 children who only participated in the Time 1 interview with regard to demographic and abuse-related variables. Specifically, children who completed the Time 2 interview were approximately the same age at the time of the first interview ($M = 10.6$ years, $SD = 1.80$) as those who only completed the initial interview. The Time 2 sample also had a similar distribution of gender (79% female) and race (66% Black, 16% White, 13% Native American, and 3% biracial).

Measures

Several child- and parent-report measures were administered as a part of a larger project, but only those relevant to the current study are discussed here (see, Kaplow et al., 2005 for a more detailed description of the procedure and measures). All mental health outcomes were assessed during the Time 2 data collection using reliable and valid measures of child psychiatric symptoms.

Demographic and abuse-related variables—Demographic and abuse-related information was obtained from written reports of forensic interviews conducted at Time 1. These reports were coded by two independent coders and demonstrated good interrater reliability as indicated by Pearson correlation coefficients for continuous variables (r ranging from .87 to .88) and coefficient kappas ranging from .86 to .90 for categorical variables. Age at onset of the abuse occurred at the mean age of 8 years ($SD = 2.7$) and ranged from 2 to 13 years of age. The severity of abuse was identified using the most severe act that occurred (0 = *Exposure*, 1 = *Fondling*, 2 = *Digital penetration*, 3 = *Oral, anal, or vaginal intercourse*) using a system similar that proposed by Wolfe, Sas, and Wekerle (1994). Most children (64.8%) experienced oral, anal, or vaginal intercourse, whereas 22.7% experienced fondling, 10.9% experienced digital penetration, and 1.6% experienced exposure. The child's relationship to the perpetrator of the sexual abuse was coded dichotomously as extrafamilial or intrafamilial. The majority of the children (63%) were abused by a family member.

Behavioral observation of coping—A global coding system was used to evaluate children's behavioral coping strategies during videotaped forensic interviews. The 14 behavioral items (the content of which are described below and summarized in Table 1), were derived from theoretical and available empirical literature on behavioral reactions to trauma and their psychological correlates (Elliot & Briere, 1994; Gomes-Schwartz, Horowitz, Cardarelli, & Sauzier, 1990; Pynoos & Eth, 1986) with the intention of including items that would reflect common and relevant coping mechanisms, such as avoidance. With the exception of three dichotomous yes or no response items, behaviors were coded using a 4-point scale from 0 = *Never* to 3 = *Most of the time*. Prior to using the system to code the study sample, research assistants were involved in a 2-month training period until a required minimum level of 70% agreement with the criterion observer (J.K.) was reached. Participants' videos were randomly selected at intermittent points throughout the coding process to be examined for interrater reliability resulting in the assessment of reliability for 40% of the participants. The reliability estimates were satisfactory; kappas ranged from .63 to .82 for categorical variables and single measure intraclass correlation coefficients ranged from .42 to .70 for continuous variables. Coding was then averaged across the coders to create a mean score for the purposes of analyses.

Depressive symptoms—Depressive symptoms were measured using the Short Mood and Feelings Questionnaire (SMFQ; Angold et al., 1996), a 13-item self-report measure of depressive symptoms ($\alpha = .89$ in the current sample). Each item is rated according to its frequency of occurrence throughout the previous 2 weeks using a 3-point scale with response options of *Not true*, *Sometimes true*, and *True*. Sample items include “I felt miserable or unhappy” and “I thought nobody really loved me.” Responses for each question were summed to create a continuous measure of depressive symptoms.

Dissociative symptoms, anxiety symptoms, aggression, attention problems, and PTSD symptoms—Dissociative ($\alpha = .64$), anxiety ($\alpha = .71$), and PTSD ($\alpha = .55$) symptoms as well as aggression ($\alpha = .95$) and attention problems ($\alpha = .84$) were all assessed using the Child Behavior Checklist (CBCL; Achenbach, 1991). The CBCL consists of 113 parent-report items designed to assess children's psychological and behavioral problems in a range of domains. Items are rated as being 0 = *Not at all true*, 1 = *Somewhat or sometimes true*, or 2 = *Very true or often true*.

Results

Reliability and Factor Reduction

Behavioral items assessed during the forensic interview (Time 1) were entered into a principal components analysis using a varimax rotation, the results of which are summarized in Table 1. Of the 156 children studied at Time 1, 127 had complete behavioral codes and were included in the factor analysis. Factors in the rotated solution with eigenvalues over 1.0 were included. Each item was included in the factor on which it had the highest loading and no item was allowed to load on more than one factor. The results suggested a 3-factor solution. The first factor, identified as Positive Affective Coping accounted for 22% of the variance and included the following five items: (a) Maintains eye contact with the interviewer, (b) level of engagement with the interviewer (e.g., friendliness and responsiveness), (c) appears happy throughout the interview, (d) appears comfortable throughout the interview (e.g., answers questions naturally), and (e) displays positive affect ($\alpha = .82$). The second factor accounted for 20% of the variance and was identified as Avoidant Coping. Items loading on this factor included (a) appears to distract interviewer, (b) appears avoidant (e.g., by not answering questions), (c) appears distracted, and (d) appears fidgety ($\alpha = 0.79$). The final factor was identified as Expressive Coping and accounted for 19% of the variance. Items that loaded on expressiveness included (a) spontaneity of disclosure (a dichotomous yes or no response to the question, “Does child spontaneously disclose abuse prior to interviewer asking directly?”), (b) degree of certainty on child's part that some form of abuse had actually occurred, c) disclosure to someone else other than interviewer (a dichotomous yes or no response to the question, “Does child state that he/she told anyone else what happened?”), (d) ability to reflect on feelings at time of abuse, and (e) degree of emotional expression in general ($\alpha = .74$). Items on each of the three factors were summed to create scores. Summed scores for Avoidant and Expressive Coping, $r(127) = -.26$, $p = .003$, and Positive Affective and Expressive Coping, $r(127) = .21$, $p = .02$, were significantly correlated. Positive affective coping and avoidant coping were not correlated, $r(127) = -.14$, $p = .12$.

Coping Strategies and Psychological Correlates

Means and standard deviations for all variables of interest can be found in Table 2. To examine the predictive utility of these factors among sexually abused children, we used partial correlations, partialling the other two factors to account for method variance, to identify the associations between each factor and a range of longer-term mental health outcomes. Missing data were excluded listwise for all analyses, resulting in a sample of 47

children from the 56 who completed the Time 2 interview. Each coping style (i.e., avoidance, positive affect, and expressiveness) was entered into a correlation matrix with Time 2 PTSD symptoms, attention problems, anxiety symptoms, aggression, depressive symptoms, and dissociative symptoms. Demographic variables, such as race, gender, and age of the child or the length of time between the first and second data collection points were not associated with any of the mental health variables examined here; therefore, they were excluded from further analyses. The only abuse-related variable that was associated with psychological symptoms was the child's relationship to his or her perpetrator: familial relationships were associated with more severe symptoms. Including this variable in the analyses did not meaningfully affect the direction or magnitude of results; therefore, it was excluded from further analyses.

Results indicated that of the three factors examined, only the Avoidant Coping factor was significantly correlated with longitudinal mental health outcomes. Specifically, Avoidant Coping during the forensic interview was significantly associated with future depressive symptoms, $r(42) = .30$, $p = .05$, dissociative symptoms, $r(42) = .34$, $p = .03$, and PTSD symptoms, $r(42) = .36$, $p = .02$. Avoidant Coping was marginally predictive of attention problems, $r(42) = .28$, $p = .07$, and aggression, $r(42) = .26$, $p = .08$, and was not significantly predictive of anxiety symptoms, $r(42) = .21$, $p = .16$.

Given that Avoidant Coping appeared to be the strongest behavioral marker of future psychopathology, post hoc correlations examined the relations between the individual avoidance items and the mental health outcomes identified above. Of the four items in the avoidance factor, fidgety behavior and distractibility were significantly or marginally significantly correlated with a range of mental health outcomes, including symptoms of PTSD, anxiety, depression, and dissociation and aggressiveness and attention problems. These results (described in Table 3) suggest that both the gestalt of avoidance and specific avoidant behaviors, namely fidgety and distractible behaviors, are associated with longitudinal symptom severity for a range of psychological problems and disorders.

Discussion

The findings of the current study suggest that behaviorally assessed coping may have predictive utility for psychological functioning following child sexual abuse. Specifically, this study assessed observed coping behaviors across three styles: avoidant, emotionally expressive, and positive affective. The behavioral signifiers of Avoidant Coping were associated with subsequent psychiatric symptoms. The relative significance of Avoidant Coping identified here mirrors other research, which has suggested that among victims of child sexual abuse and the general population alike, Avoidant Coping (Kaplow et al., 2005; Krause, Kaltman, Goodman, & Dutton, 2008) more so than other forms of coping, including expressive coping (Aldao et al., 2010; Cantón-Cortés & Cantón, 2010), is associated with psychiatric symptoms. In particular, fidgety behaviors and distractibility seem to be important in identifying the children who may go on to develop a range of mood, anxiety, and behavioral problems, including dissociative, posttraumatic stress, depressive and anxiety symptoms, as well as attention and aggression problems.

Although in the current study, the relations among coping and concurrent mental health were not examined, the association between coping and future psychiatric symptoms may provide important insights into the relevance of behaviorally expressed coping in predicting symptom expression over time, particularly when measured in the context of a forensic interview. Forensic interviews, which can be stressful for children (Sayfan, Mitchell, Goodman, Eisen, & Qin, 2008), may place unusually high demands on children's capacity for coping, and in particular may elicit more avoidant coping strategies. Because of these

demands, deficits in coping may be more obvious in this context than in less stressful and antagonistic settings, such as therapeutic interviews or conversations with trusted adults. In addition, because the child is required to reflect upon his or her abuse experiences during the forensic interview, it provides a window into how the child copes not only with the memories of the abuse experience, but also the accompanying physiological arousal and dysregulation that he or she may face when forced to recall the abuse. Therefore, this setting is a unique and particularly informative context in which to assess children's coping behaviors and their relation to future symptoms.

In particular, fidgetiness and distractibility expressed in the forensic interview may be valid and reliable tools for identifying children at risk for psychopathology. First, these two behaviors are easy to identify and code when compared to more abstract behavioral markers of avoidance. Second, these particular behaviors may point to broader and more problematic emotional struggles, namely emotional dysregulation, that put children at increased risk. Recent research into the emotional etiology of trauma-related pathology suggests that an inability to regulate emotions in adaptive ways, which is often expressed through dysregulated behaviors such as fidgeting or distractibility, can result in more severe symptom expression (Etkin & Wagner, 2007; Zeman, Shipman, & Suveg, 2002). In the current sample, fidgetiness and attempts at self-distraction may suggest that children are overwhelmed by distressing emotions and/or aversive physiological experiences and are unable to effectively manage this distress, although this link requires further investigation.

Physically and behaviorally expressed symptoms like these, along with other attention deficit-like symptoms, have also been identified as potential indicators of a developmental trauma disorder (DTD), a diagnosis that has been proposed for inclusion in the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; *DSM-5*; van der Kolk, 2005). According to the proposed diagnostic considerations for DTD, behavioral markers of emotional dysregulation may develop in the aftermath of continuous exposure to trauma during childhood due to children's inability to manage the emotions related to these events. In turn, children's inability to effectively regulate negative emotions may be associated with future, and more severe, psychiatric symptoms.

If replicated in future research, the findings presented here may have important implications for research and clinical practice. First, these findings suggest that coping style might be assessed, coded, and clustered using a behavioral measure, offering a less obtrusive and less biased alternative to self- and parent report. Second, this research may suggest that behavioral markers of avoidance, as measured in a forensic interview, have predictive utility for a range of psychological and behavioral problems, making them potentially important tools in clinical, research, and forensic settings. A behavioral coding system like the one proposed here may be useful as an early indicator of future dysfunction and allow for clinicians and researchers to identify children most in need of early intervention. Early intervention has been demonstrated to reduce risk for psychiatric symptom development after a traumatic event (Hobfoll et al., 2007; Litz, Gray, Bryant, & Adler, 2002), making the identification of children most in need of these services an important empirical, clinical, and public health issue. In particular, forensic interviewers and clinicians may consider referring for follow-up care children who demonstrate fidgety or distractible behaviors in the aftermath of sexual abuse as these may be especially relevant and reliable indicators of emotional distress.

Although this research provides a useful starting point in using a behavioral measure of coping style to identify children most at risk for psychiatric and behavioral symptoms in the aftermath of sexual abuse, it has several limitations worth noting. First, the current study assessed only children who were identified by the Department of Social Services as potential

victims of sexual abuse and cannot be generalized to the estimated 72% of abused children who are never identified as victims (Sedlak & Broadhurst, 1996). Second, although there were no significant differences between the children who completed both Time 1 and Time 2 interviews compared to those who were only assessed at Time 1, attrition could have contributed to bias in this research. We were also unable to account for time between the last occurrence of abuse and the forensic interview, which could contribute to coping and symptom expression. Third, the current study did not address children's psychopathology prior to the abuse or concurrently with coping and, as a result, the extent to which prior or concurrent psychiatric problems contributed to the relation between coping style and later symptoms remains unclear. Lastly, because this research was exploratory it leaves several questions in need of further research. This study did not compare behaviorally coded coping against existing theoretical models and measures of coping, leaving the possibility that items coded as indicative of coping style here could, in reality, reflect other psychological processes. Future research should work to address these distinctions and provide additional evidence for the validity and reliability of behavioral measures of coping. Future research should also examine the predictive utility of coping as measured in other settings, such as in discussions with caregivers, given the unique challenges that children may encounter when participating in a forensic interview.

Acknowledgments

We wish to thank Amber Diagre, Brian Maxey, Taeh Ward, Jeanne Arnts, and Donna Potter for their assistance with the study. This research was supported in part by NIMH grant K08 MH076078 (PI: Kaplow).

References

- Achenbach, TM. Manual for the child behavior checklist/ 4–18 and 1991 profile. University of Vermont; Department of Psychiatry; Burlington, VT: 1991.
- Ainsworth, MDS.; Blehar, MC.; Waters, E.; Wall, E. Patterns of attachment: A psychological study of the strange situation. Erlbaum; Hillsdale, NJ: 1978.
- Aldao A, Nolen-Hoeksema S, Schweizer S. Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*. 2010; 30:217–237. doi:10.1016/j.cpr.2009.11.004. [PubMed: 20015584]
- Angold A, Costello EJ, Messer SC, Pickles A, Winder F, Silver D. Development of a short questionnaire for use in epidemiological studies of depression in children and adolescents. *International Journal of Methods in Psychiatric Research*. 1996; 5:237–249.
- Ayduk Ö, Kross E. Enhancing the pace of recovery: Self-distanced analysis of Negative experiences reduces blood pressure reactivity. *Psychological Science*. 2008; 19:229–231. doi:10.1111/j.1467-9280.2008.02073.x. [PubMed: 18315794]
- Ayduk Ö, Kross E. From a distance: Implications of spontaneous self-distancing for adaptive self-reflection. *Journal of Personality and Social Psychology*. 2010; 98:809–829. doi:10.1037/a0019205. [PubMed: 20438226]
- Cantón-Cortés D, Cantón J. Coping with child sexual abuse among college students and post-traumatic stress disorder: The role of continuity of abuse and relationship with the perpetrator. *Child Abuse & Neglect*. 2010; 34:496–506. doi:10.1016/j.chiabu.2009.11.004.
- Chaffin M, Wherry JN, Dykman R. School age children's coping with sexual abuse: Abuse stresses and symptoms associated with four coping strategies. *Child Abuse & Neglect*. 1997; 21:227–240. [PubMed: 9056102]
- Compas BE. Coping with stress during childhood and adolescence. *Psychological Bulletin*. 1987; 101:393–403. doi:10.1037//0033-2909.101.3.393. [PubMed: 3602247]
- Elliott DM, Briere J. Forensic sexual abuse evaluation of older children: Disclosure and symptomatology. *Behavioral Sciences & the Law*. 1994; 12:261–277. doi:10.1002/bsl.2370120306.

- Epstein JN, Saunders BE, Kilpatrick DG, Resnick HS. PTSD as a mediator between childhood rape and alcohol use in adult women. *Child Abuse & Neglect*. 1998; 22:223–234. doi:10.1016/S0145-2134(97)00133-6. [PubMed: 9589176]
- Etkin A, Wagner TD. Functional neuroimaging of anxiety: A meta-analysis of emotional processing in PTSD, social anxiety disorder, and specific phobia. *American Journal of Psychiatry*. 2007; 164:1476–1488. doi:10.1176/appi.ajp.2007.07030504. [PubMed: 17898336]
- Fergusson DM, Horwood LJ, 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 & Adolescent Psychiatry*. 1996; 35:1365–1374. doi: 10.1097/00004583-199610000-00024. [PubMed: 8885591]
- Fergusson, DM.; Mullen, P., editors. *Childhood sexual abuse: An evidence based perspective*. Sage; Thousand Oaks, CA: 1999.
- Finkelhor D. Early and long-term effects of child sexual abuse: An update. *Professional Psychology: Research and Practice*. 1990; 21:325–330. doi:10.1037/0735-7028.21.5.325.
- Finkelhor D, Turner H, Ormrod R, Hamby SL. Violence, abuse, and crime exposure in a national sample of children and youth. *Pediatrics*. 2009; 124:1411–1423. doi:10.1542/peds.2009-0467. [PubMed: 19805459]
- Fortier MA, DiLillo D, Messman-Moore TL, Peugh J, DeNardi KA, Gaffey KJ. Severity of child sexual abuse and revictimization: The mediating role of coping and trauma symptoms. *Psychology of Women Quarterly*. 2009; 33:308–320. doi:10.1111/j.1471-6402.2009.01503.x.
- Gomes-Schwartz, B.; Horowitz, JM.; Cardarelli, AP.; Sauzier, M. *Child sexual abuse: The initial effects*. Sage; Newbury Park, CA: 1990.
- Gomez R, McLaren S. The association of avoidance coping style, and perceived mother and father support with anxiety/ depression among late adolescents: Applicability of resiliency models. *Personality and Individual Differences*. 2006; 40:1165–1176. doi:10.1016/j.paid.2005.11.009.
- Gross JJ, John OP. Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*. 2003; 85:348–362. doi:10.1037/0022-3514.85.2.348. [PubMed: 12916575]
- Gutner CA, Rizvi SL, Monson CM, Resick PA. Changes in coping strategies, relationship to the perpetrator, and posttraumatic distress in female crime victims. *Journal of Traumatic Stress*. 2006; 19:813–823. doi:10.1002/jts.20158. [PubMed: 17195978]
- Hannesdottir DK, Ollendick TH. The role of emotion regulation in the treatment of child anxiety disorders. *Clinical Child and Family Psychology Review*. 2007; 10:275–293. doi:10.1007/s10567-007-0024-6. [PubMed: 17705098]
- Herman, S. Forensic child sexual abuse evaluations: Accuracy, ethics, and admissibility. In: Kuehnle, K.; Connell, M., editors. *The evaluation of child sexual abuse allegations: A comprehensive guide to assessment and testimony*. Wiley; Hoboken, NJ: 2009. p. 247-266.
- Hill J, Pickles A, Burnside E, Byatt M, Rollinson L, Davis R, Harvey K. Child sexual abuse, poor parental care and adult depression: Evidence for different mechanisms. *The British Journal of Psychiatry*. 2001; 179:104–109. doi:10.1192/bjp.179.2.104. [PubMed: 11483470]
- Hillberg T, Hamilton-Giachritsis C, Dixon L. Review of meta-analyses on the association between child sexual abuse and mental health difficulties: A systematic approach. *Trauma, Violence, & Abuse*. 2011; 12:38–49. doi:10.1177/1524838010386812.
- Hobfoll SE, Watson P, Bell CC, Bryant RA, Brymer MJ, Friedman MJ, Ursano RJ. Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry*. 2007; 70:283–315. doi:10.1521/psyc.2007.70.4.283. [PubMed: 18181708]
- Kaplow JB, Dodge KA, Amaya-Jackson L, Saxe GN. Pathways to PTSD, Part II: Sexually abused children. *American Journal of Psychiatry*. 2005; 162:1305–1310. doi:10.1176/appi.ajp.162.7.1305. [PubMed: 15994713]
- Kaplow JB, Hall E, Koenen KC, Dodge KA, Amaya-Jackson L. Dissociation predicts later attention problems in sexually abused children. *Child Abuse and Neglect*. 2008; 32:261–275. doi:10.1016/j.chiabu.2007.07.005. [PubMed: 18308391]

- Krause ED, Kaltman S, Goodman LA, Dutton MA. Avoidant coping and PTSD symptoms related to domestic violence exposure: A longitudinal study. *Journal of Traumatic Stress*. 2008; 21:83–90. doi:10.1002/jts.20288. [PubMed: 18302182]
- Litz BT, Gray MJ, Bryant RA, Adler AB. Early intervention for trauma: Current status and future directions. *Clinical Psychology: Science and Practice*. 2002; 9:112–134. doi:10.1093/clipsy.9.2.112.
- Maniglio R. Child sexual abuse in the etiology of depression: A systemic review of Reviews. *Depression and Anxiety*. 2010; 27:631–642. doi:10.1002/da.20687. [PubMed: 20336807]
- Pennebaker JW. Traumatic experience and psychosomatic disease: Exploring the roles of behavioural inhibition, obsession, and confiding. *Canadian Psychology*. 1985; 26:82–95. doi:10.1037/h0080025.
- Pineles SL, Mostoufi SM, Ready CB, Street AE, Griffin MG, Resick PA. Trauma reactivity, avoidant coping, and PTSD symptoms: A moderating relationship? *Journal of Abnormal Psychology*. 2011; 120:240–426. doi:10.1037/a0022123. [PubMed: 21319932]
- Pynoos RS, Eth S. Witness to violence: The child interview. *Journal of the American Academy of Child Psychiatry*. 1986; 25:306–319. doi:10.1016/S0002-7138(09)60252-1.
- Sayfan L, Mitchell EB, Goodman GS, Eisen ML, Qin J. Children's expressed emotions when disclosing maltreatment. *Child Abuse & Neglect*. 2008; 32:1026–1036. doi:10.1016/j.chiabu.2008.03.004. [PubMed: 19090025]
- Sedlak, AJ.; Broadhurst, DD. Executive summary of the third national incidence study of child abuse and neglect. U.S. Department of Health and Human Services; Washington, DC: 1996.
- Seiffge-Krenke I. Causal links between stressful events, coping style, and adolescent symptomatology. *Journal of Adolescence*. 2000; 23:675–691. doi:10.1006/jado.2000.0352. [PubMed: 11161332]
- Selby EA, Joiner TE. The emergence of borderline personality disorder from emotional and behavioral dysregulation. *Review of General Psychology*. 2009; 13:219–229. doi:10.1037/a0015687. [PubMed: 20161656]
- Simon VA, Feiring C, Kobielski McElroy S. Making meaning of traumatic events: Youths' strategies for processing childhood sexual abuse are associated with psychosocial adjustment. *Child Maltreatment*. 2010; 15:229–241. doi:10.1177/1077559510370365. [PubMed: 20498128]
- Spaccarelli S. Stress, appraisal, and coping in child sexual abuse: A theoretical and empirical review. *Psychological Bulletin*. 1994; 116:340–362. doi:10.1037//0033-2909.116.2.340. [PubMed: 7972595]
- Stone AA, Shiffman S. Capturing momentary, self-report data: A proposal for reporting guidelines. *Annals of Behavioral Medicine*. 2002; 24:236–243. doi:10.1207/S15324796ABM2403_09. [PubMed: 12173681]
- Thomas R, DiLillo D, Walsh K, Polusny MA. Pathways from child sexual abuse to adult depression: The role of parental socialization of emotions and alexithymia. *Psychology of Violence*. 2011; 1:121–135. doi:10.1037/a0022469.
- van der Kolk BA. Developmental trauma disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals*. 2005; 35:401–408. ISSN: 00485713.
- Ullman SE. Relationship to perpetrator, disclosure, social reactions, and PTSD symptoms in child sexual abuse survivors. *Journal of Child Sexual Abuse*. 2007; 16:19–36. doi:10.1300/J070v16n01_02. [PubMed: 17255075]
- Wolfe DA, Sas L, Werkerle C. Factors associated with the development of post-traumatic stress disorder among child victims of sexual abuse. *Child Abuse and Neglect*. 1994; 18:37–50. doi:10.1016/01452134(94)90094-9. [PubMed: 8124597]
- Zeman J, Shipman K, Suveg C. Anger and sadness regulation: Predictions to internalizing and externalizing symptoms in children. *Journal of Clinical Child and Adolescent Psychology*. 2002; 31:393–398. doi:10.1207/S15374424JCCP3103_11. [PubMed: 12149977]

Table 1

Factor Loadings for Behavioral Markers of Coping in the Forensic Interview

Item	Factor 1 Positive Affective Coping	Factor 2 Avoidant Coping	Factor 3 Expressive Coping
Makes and maintains eye contact	.66	-.26	.16
Engaged with interviewer	.84	-.22	.17
Appears comfortable	.85	.23	-.06
Displays positive affect	.71	-.38	.14
Appears happy	.76	.23	.05
Intentionally distracts interviewer	.16	.74	-.09
Appears avoidant	-.26	.70	-.28
Appears distracted	.00	.83	-.02
Appears fidgety	-.12	.81	-.13
Spontaneously discloses details about abuse	.08	-.14	.33
Child's certainty that abuse occurred	-.01	-.08	.83
Child disclosed the abuse to someone else	.16	-.13	.77
Emotionally expressive	.18	-.05	.74
Describes emotions at time of abuse	-0.7	-.03	.74
Eigenvalue	3.11	2.79	2.67

Note. $N = 127$. For the ease of presentation, items have been arranged so that for each component, loadings appear according to the strength of their loading. Items defining the factor are in boldface.

Table 2

Means and Standard Deviations for Measures of Coping and Psychiatric Symptoms

Variable	Time 1 (N = 156)			Time 2 (N = 47)		
	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
Avoidant Coping	0.65	0.63	0–3.0	0.74	0.55	0–1.75
Expressive Coping	0.64	0.43	0–1.60	0.63	0.45	0–1.30
Positive Affective Coping	2.10	0.64	0–3.0	2.10	0.54	0.4–2.80
Depressive symptoms				8.13	6.16	0–22.0
PTSD symptoms				8.48	5.43	0–24.0
Anxiety symptoms				5.81	4.66	0–17.0
Aggressiveness				12.50	10.00	0–37.0
Attention problems				5.72	4.58	0–17.0
Dissociative symptoms				3.74	2.87	0–12.0

Note. All psychiatric symptoms were only measured at Time 2.

Table 3

Partial Correlations Among Avoidant Coping Behaviors and Future Psychiatric Symptoms

Time 2 psychiatric symptoms	Fidgetiness	Distractibility	Appearing avoidant	Distracting interviewer
Depressive symptoms	.20	.27 [†]	.27	.23
PTSD symptoms	.49 ^{**}	.30 [*]	.10	.20
Anxiety symptoms	.37 [*]	.19	.04	.02
Aggressiveness	.34 [*]	.26 [†]	.04	.17
Attention problems	.37 [*]	.22	.05	.20
Dissociative symptoms	.43 [*]	.22	.14	.23

Note. $N = 47$. PTSD = posttraumatic stress disorder.

* $p < .05$.

** $p < .01$.

[†] $p < .1$.