MEDIATORS OF THE LINK BETWEEN CHILDHOOD SEXUAL ABUSE AND EMOTIONAL DISTRESS

A Critical Review

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A history of childhood sexual abuse (CSA) is a risk factor for adult emotional distress, including symptoms of depression, anxiety, dissociation, and trauma. However, CSA is likely associated with adult distress indirectly through an impact on mediating variables. In a review of the empirical literature, the authors found support for the roles of shame or self-blame, interpersonal difficulties, and avoidant coping strategies as mediators. In addition, emotional distress appears to mediate links between CSA and other adverse outcomes, such as alcohol abuse and revictimization. The authors conclude with a number of methodological and conceptual recommendations.

Key words: *childhood sexual abuse, maltreatment, emotional distress, depression, PTSD, mediators*

A HISTORY OF CHILDHOOD SEXUAL ABUSE (CSA) clearly is associated with adult emotional distress. CSA survivors tend to show elevated levels of distress across symptom domains (Whiffen, Benazon, & Bradshaw, 1997). However, they are at particular risk for a handful of emotional disorders, including chronic or recurrent depression (Andrews, 1995), anxiety disorders (Levitan, Rector, Sheldon, & Goering, 2003), and posttraumatic stress disorder (PTSD; Rodriguez, Vande Kemp, & Foy, 1998). Some investigators argue that CSA also is a significant risk factor for dissociative disorders (Bloch, 1991), with more severe and multiple forms of abuse being associated with the diagnosis of disorders further along the dissociative continuum (Butzel et al., 2000; D. M. Johnson, Pike, & Chard, 2001; Rodriguez-Srednicki, 2001). Thus, the first generation of research has shown that CSA is a risk factor for various forms of emotional distress, particularly depression, anxiety, PTSD, and dissociation. Having documented this association, researchers have moved onto a second generation of research, the aim of which is to understand the causal mechanisms underlying this association; that is, why are CSA survivors at risk for emotional distress?

CAUSAL AND NONCAUSAL RISK FACTORS

A risk factor is any variable that precedes emotional distress temporally and that is correlated with it. However, not all risk factors are causal mechanisms (Kraemer, 2003). A noncausal risk factor increases the risk of emotional distress statistically but is not, in itself, capable

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of causing distress. A good example of a noncausal risk factor is gender; women are at an increased risk for emotional distress compared to men, but there is no evidence that femaleness per se is the reason for their distress. A risk factor is said to be a fixed marker when it is an attribute of the person that cannot be changed. By this definition, CSA is a fixed marker for adult emotional distress. Although a fixed marker can tell us who is at risk, it cannot tell us why or how to reduce this risk. A causal risk factor is a variable that can be changed and that, when it is changed, alters the degree of risk. When causal risk factors are identified, they can be used as the basis for developing interventions to reduce the risk. Generally, researchers concur that CSA is associated with adult emotional distress because of its impact on causal risk factors (Briere & Runtz, 1988).

Most emotional disorders are associated with a number of risk factors, and it is important to identify the ways in which these factors are associated with each other (Kraemer, 2003). One risk factor may be a proxy for another that actually is the source of the risk. For instance, a meta-analysis examining the associations among CSA, family environment, and psychological distress found that the effect of a dysfunctional family environment was a stronger predictor than CSA of later psychological distress (Rind, Tromovitch, & Bauserman, 1998). Because family dysfunction is a more global variable than CSA, CSA may be a proxy for the risk of growing up in a difficult family (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). Risk factors also may mediate or moderate each other. A mediating risk factor is one that explains the association between another risk factor and the outcome. For instance, CSA and emotional distress may be linked because CSA has an impact on survivors' ability to find and use social support. By definition, a mediator must be a consequence of the CSA and therefore develop after the CSA has occurred (Kraemer et al., 2001). A risk factor is said to moderate another risk factor when it alters the strength of the association between it and the outcome, either by increasing or decreasing the risk. A moderator specifies the conditions under which the risk factor produces the outcome. So for instance, social support also could moderate (i.e., amplify or diminish) the impact of CSA on adult emotional distress.

KEY POINTS OF THE RESEARCH REVIEW

- The first generation of research showed that childhood sexual abuse is associated with adult emotional distress. This article reviews the second generation of research, which attempts to explain why.
- We review 19 unique studies that assessed shame or self-blame, interpersonal difficulties, family environment, and coping as mediators of the link between CSA or maltreatment and adult emotional distress.
- The evidence for mediation is strongest for shame or self-blame; interpersonal difficulties, including attachment insecurity; and the use of avoidant strategies to cope with CSA.
- However, conclusions from the existing research are limited by methodological and conceptual problems. Specifically, researchers do not always use standardized procedures for determining mediation, and there is some confusion about the difference between mediators and proxy variables.

The distinction between noncausal and causal risk factors helps us clarify the roles played by various statistical predictors of emotional distress. In this review, we are interested in evaluating mediators of the link between CSA and adult emotional distress with the view to clarify which mediators have the potential to be causal risk factors. The first step in identifying a causal risk factor is showing that it accounts statistically for the association between another risk factor, in this case CSA, and the outcome, adult emotional distress. Baron and Kenny (1986) outlined a procedure for establishing mediation statistically. First, the researcher must show that CSA is associated with emotional distress. Second, the potential mediator must be associated both with CSA and with emotional distress. Finally, when both CSA and the potential mediator are considered jointly as predictors of emotional distress, only the mediator should remain statistically significant. This means that the statistical effect of CSA should disappear once we take the mediator into account. In all of the studies reviewed, we sought to confirm that the first two basic conditions

were met before researchers tested for mediation.

Although Baron and Kenny's (1986) procedure has been useful for specifying the ground rules for establishing mediation, it is important to emphasize the limitations of their procedure. Ideally, mediation has to be shown over time in a longitudinal study. For instance, the mediator should be measured at Time 1 and emotional distress at Time 2. None of the studies discussed in this review used a longitudinal design. A cross-sectional design, in which the mediator and emotional distress are measured at the same time, renders the direction of effects ambiguous because emotional distress could have had an impact on the mediator rather than vice versa; we can only rule out this possibility with a longitudinal design. Thus, the results of cross-sectional studies are useful primarily for planning longitudinal studies. Longitudinal studies are useful primarily for identifying potential causal risk factors. Ultimately, however, we can only know that a risk factor is causal by changing it and observing whether this reduces the risk (Kraemer, 2003). Therefore, a study that finds statistical mediation in a cross-sectional data set is only the first step in a long process of establishing that the mediator is a causal risk factor.

MEDIATORS OF THE LINK BETWEEN CSA AND EMOTIONAL DISTRESS

We conducted a search for empirical articles that assessed mediation using the statistical procedure recommended by Baron and Kenny (1986), either explicitly or intuitively. Studies that included CSA as part of a measure of childhood maltreatment were included but are identified clearly in the text. In this way, we identified 19 unique studies, which we classified thematically, as described in the following sections.

Shame and Self-Blame

Children who are sexually abused may be at risk for feelings of shame and self-blame, especially when the abuse was prolonged or when the perpetrator or significant others blamed the child for the abuse. In clinical work with survivors, the importance of addressing the issue of deeply internalized shame, not only about the abuse but as an ongoing theme of self-blame, is consistently noted (Browne & Finkelhor, 1986; Talbot, 1996). Because shame is associated with psychological maladjustment (Tangney, Wagner, & Gramzow, 1992), shame or self-blame may mediate the link between CSA and emotional distress. It is interesting that we were unable to locate a single study that tested this hypothesis in its general form, that is, that CSA is associated with higher levels of self-blame and hence higher levels of distress. This hypothesis warrants testing in a large sample of individuals both with and without a history of CSA.

Wyatt and Newcomb (1990) explored the possibility that specific circumstances surrounding the abuse are more likely to induce self-blame, which was hypothesized to be associated with more negative outcomes as an adult. They tested this hypothesis in a randomly selected sample of women, all of whom had a history of CSA involving physical contact. Negative outcomes were defined as emotional, sexual, and relationship-specific problems and were based on the women's responses to interview questions. The researchers reported that path analysis provided support for the mediating hypothesis. However, inspection of their zero-order correlations showed that the data failed to meet the basic conditions for mediation set out by Baron and Kenny (1986). Specifically, none of the hypothesized mediators was associated with the negative outcomes at the level of the zero-order correlations. However, it is difficult to evaluate the meaning of this null result because several of the mediators were measured with single items.

Coffey, Leitenberg, Henning, Turner, and Bennett (1996) set out to reevaluate this hypothesis in a large, randomly selected sample of women who reported contact CSA. Multiple item scales were developed for the study to measure stigma, betrayal, feelings of powerlessness, and self-blame related to the abuse. These scales had acceptable internal consistencies but undemonstrated validity. Emotional distress was measured with a global symptom inventory. The basic conditions for mediation

were met. Using path analysis to test the mediating model, the researchers found that abuse involving intercourse was more likely to engender feelings of self-blame and stigma, which accounted for higher levels of adult emotional distress. Feelings of powerlessness and betrayal were not found to be significant mediators.

Andrews (1995) focused on the role of bodily shame specifically as a mediator of the link between CSA and depression because for women, a positive view of the self is highly dependent on feelings of attractiveness. In addition, sexually abused children can experience pleasurable sensations at the time of the abuse that are a source of shame. Andrews tested the mediating hypothesis in a community sample of women at high risk for depression because of their difficult life circumstances. Scores on all three variables were based on women's responses to interview questions. The basic conditions for mediation were met. Women with an abuse history (physical and sexual abuse were combined) reported feeling shame that was focused on a particular part of their body and, they reported using strategies to disguise or hide shameful body parts. As hypothesized, Andrews (1995) found that bodily shame accounted for the link between childhood abuse and episodes of chronic or recurrent depression in adulthood. It is interesting that the link with depression was not accounted for by the influence of two related variables: low self-esteem and bodily dissatisfaction. Thus, it was the specific element of bodily shame that was important rather than global feelings of self-worth or global dissatisfaction with one's physical appearance.

Thus, of the three studies that evaluated shame or self-blame as a mediator of the link between CSA and emotional distress, two found support for this hypothesis. The null result of the third study may be attributable to the inadequate measurement of self-blame.

Interpersonal Difficulties

CSA is thought to have a negative impact on interpersonal relations because it occurs in the context of an interpersonal relationship, typically one where a degree of safety and trust has developed. Thus, the experience of CSA may impede the development of trusting relationships subsequently, particularly with romantic partners. Furthermore, the experience of CSA may compromise the development of a positive sense of the self, which will inherently influence social relationships (Cole & Putnam, 1992). For instance, CSA survivors are observed to have specific self-in-relation difficulties, such as problems maintaining appropriate boundaries.

Rumstein-McKean and Hunsley (2001) reviewed the empirical support for the general hypothesis that a history of CSA is associated with interpersonal difficulties. They concluded that in both community and clinical samples of CSA survivors, women with this history are more likely than women without a CSA history to report interpersonal difficulties. CSA survivors are less satisfied with their current romantic relationships or marriages, they are less likely to marry and more likely to divorce, they report more sexual problems, and they feel less secure in their romantic relationships. Because interpersonal problems may be a causal risk factor for emotional distress, these difficulties may mediate the association between CSA and distress.

Whiffen, Thompson, and Aube (2000) tested the hypothesis that interpersonal problems mediate the association between CSA severity and depressive symptoms in a community sample that included both women and men. CSA severity was assessed with a continuous scale, ranging from no abuse to multiple forms of abuse. Interpersonal problems and depressive symptoms were assessed with standardized measures. The basic conditions for mediation were met. Among the women, the link between CSA and depressive symptoms was partially mediated by self-reported difficulties of being distant and controlling in relationships, whereas among the men, the link was partially mediated by feeling unassertive and taking too much responsibility in relationships. These results underscore the importance of not generalizing from research done with females to males. Although mistrust and estrangement from others is a common pattern among female survivors of CSA (Briere, 1989; Harter, Alexander, & Neimeyer, 1988), male survivors may have less

difficulty forming relationships but more difficulty being authentic in them.

Another way of looking at interpersonal difficulties is through the lens of attachment theory, which proposes that early relationships between children and their caregivers shape the development of children's internal working models of the self and others. Working models are cognitive schemas that reflect a child's sense of self-worth and his or her expectations about the emotional responsiveness of significant others. For instance, children who experience warmth and consistency in their relations with their caregivers will develop a working model of the self as lovable and a working model of others as loving and reliable. Children who are sexually exploited may develop negative working models of both the self and others. Specifically, these children may form a working model of the self as shameful and a working model of others as untrustworthy, unresponsive to their emotional needs, and abusive.

Alexander (1992) proposed that negative working models formed during CSA survivors' childhood would be evident in insecure adult attachment relationships; research consistently supports this hypothesis (Rumstein-McKean & Hunsley, 2001). Because insecure adult attachment is known to be a risk factor for such forms of emotional distress as depression (Roberts, Gotlib, & Kassel, 1996), attachment insecurity may mediate the link between CSA and emotional distress.

Only one of three studies that evaluated attachment in romantic relationships as a mediator found support for this hypothesis. In a large sample of female undergraduate students, Roche, Runtz, and Hunter (1999) assessed CSA, adult attachment, and trauma symptoms using standardized questionnaires. The basic conditions for mediation were met. The researchers found that insecure attachment in romantic relationships mediated the association between a history of contact CSA and all scales on the measure of trauma symptoms.

In contrast, Whiffen, Judd, and Aube (1999) did not find support for a mediating effect on depressive symptoms in a community sample of 60 women. The severity of CSA was measured with a continuous scale, ranging from *no abuse* to *multiple forms of abuse*. Depressive symptoms and adult attachment were assessed with standardized measures. The basic conditions for mediation were not met because CSA severity was not associated with depressive symptoms in this sample. However, all of the women were living in stable, cohabiting or marital relationships. Among CSA survivors, the ability to form a stable, cohabiting relationship may indicate a relatively high level of functioning, which would truncate the statistical associations among the variables. Shapiro and Levendosky (1999) examined the mediating role of attachment in the association between CSA and symptoms of depression and trauma in a sample of 80 adolescents, many of whom were at risk because of family circumstances. Adult attachment, CSA, and depressive and trauma symptoms were measured with standardized instruments. The authors did not report the zero-order correlations among their variables. However, in their Structural Equation Model (SEM), which they used to test the mediating hypothesis, there was no association between CSA and psychological distress; therefore, the basic conditions for mediation were not met. They also did not find a significant relationship between CSA and attachment, which may be because of the use of an adult attachment measure in a sample of girls with an average age of 15 instead of an age-appropriate measure or because of the relatively small sample, which would attenuate the researchers' power to detect small to moderately sized effects. Thus, only one study found support for the hypothesis that the link between CSA and adult distress is mediated by insecure adult attachment relationships.

A fourth study took a different approach by proposing that the associations between childhood maltreatment and both adult attachment and depressive symptoms may be accounted for by insecure attachment to parents (Styron & Janoff-Bulman, 1997). The authors argued that as a result of childhood maltreatment, children form insecure attachments to their parents, which put them at risk for attachment insecurity in romantic relationships and for depressive symptoms as adults. In a large sample of

undergraduate psychology students, maltreatment was assessed by three items embedded in a life-events questionnaire designed for the study. Although depressive symptoms and attachment were assessed with standardized measures, the adult attachment measure was used to rate both romantic relationships and childhood attachments to parents, which is a nonstandardized usage for this instrument. Individuals with a maltreatment history self-reported greater attachment insecurity in all three domains and higher levels of depressive symptoms. However, the researchers did not report the simple associations between insecure attachment to parents and either insecure attachment in romantic relationships or depressive symptoms. Thus, we do not know that the basic conditions for mediation were met. In multiple regression analyses, insecure attachment to parents appeared to mediate the associations between maltreatment and both adult attachment and depressive symptoms. Therefore, the mediating hypothesis seemed to be supported. However, the maltreatment variable included abuse that was perpetrated by both parents and other individuals. It is not at all clear that abuse perpetrated by individuals outside the family would have a negative impact on attachment to parents; conversely, children with insecure attachments to parents may be at risk for extrafamilial abuse. Thus, in this study, it is not clear that insecure attachment to parents would always meet the criterion of developing after the maltreatment, which is required of a mediator. Finally, although the researchers had a large sample of male survivors, they did not analyze their data by gender, so we do not know if the results were the same for both sexes.

To summarize, there is evidence that interpersonal problems play a part in the development of emotional distress in both men and women with a history of CSA. Although women report being overly controlling and emotionally distant in their relationships, which likely has a negative impact on the formation of intimate relationships, men with this history report being exploited and having difficulties with assertiveness. Both interpersonal strategies may increase the risk of depressive symptoms. In addition, there is some evidence that attachment insecurity may specifically be implicated in both emotional distress and the difficulties survivors have in establishing and maintaining close interpersonal relationships, with the two studies that had the largest and most heterogeneous samples finding support for this hypothesis. In the future, researchers need to rule out the competing hypothesis that insecure attachment to parents places children at risk for sexual abuse, especially by individuals outside of the family.

Family Environment

The family context in which CSA typically occurs has been characterized as disorganized, conflicted, inflexible, violent, and strained by parental mental illness (Fromuth, 1986; Harter et al., 1988). These variables clearly have a negative impact on adult emotional distress. Thus, some researchers have proposed that family environment mediates the link between CSA and emotional distress.

Yama, Tovey, Fogas, and Teegarden (1992) assessed the hypothesis that a dysfunctional family environment mediates the link between CSA and symptoms of both depression and anxiety. All of the variables were measured with standardized instruments, and the basic conditions for mediation were met in a large sample of female undergraduates. Although there was no evidence that family environment mediated the link between CSA and depressive symptoms, the link with anxiety symptoms appeared to be mediated by family conflict and control. Similarly, Weissmann Wind and Silvern (1994) assessed the potential mediating roles of family stress and parental warmth in the link between intrafamilial child abuse (sexual and physical combined) and adult psychological functioning in a large sample of female university staff members. Abuse, parental warmth, low self-esteem, and symptoms of depression and trauma were measured with standardized instruments. The basic conditions of mediation were met. The results suggested that the links between intrafamilial abuse and both low self-esteem and depressive symptoms were mediated by parental warmth but not by family stress. In addition, the link between abuse and

trauma symptoms was partially mediated by parental warmth.

Although these results seem to suggest that family environment mediates the impact of CSA on some aspects of adult emotional functioning, we think that these studies reflect confusion in the literature about the relationships among risk factors. By definition, potential mediators must develop after the abuse has occurred. It is not at all clear that CSA precedes family dysfunction; in fact, the empirical evidence suggests that the reverse is true: that children from problematic families are at risk for CSA (Finkelhor & Baron, 1986; Mian, Marton, LeBaron, & Birtwistle, 1994; Rowland, Zabin, & Emerson, 2000). Without a clear temporal ordering, child abuse and problematic families are best construed as correlated risk factors. When risk factors are correlated with each other, one may be a proxy for the other, or they may be overlapping variables that make independent contributions to the outcome (Kraemer et al., 2001).

This clarification changes our understanding of the results. In the first study, CSA appears to be a proxy for family conflict and overcontrol in the prediction of anxiety symptoms, whereas in the latter, intrafamilial abuse appears to be a proxy for low levels of parental warmth in the prediction of low self-esteem and depressive symptoms; in both cases, the main effect for maltreatment disappeared once family factors were taken into account. The result of the analysis for trauma symptoms in the latter study appears to suggest that intrafamilial abuse and parental warmth are correlated risk factors for trauma symptoms because both contribute to the prediction of trauma symptoms where they are considered jointly. This conclusion is consistent with the results reported by Merrill, Thomsen, Sinclair, Gold, and Milner (2001), who considered the independent and joint effects of CSA and parental support during childhood on trauma symptoms. In a large sample of female naval recruits, they found that both risk factors contributed to the prediction of trauma symptoms. Thus, although symptoms of depression and anxiety appear to be influenced more by the family context in which maltreatment occurs, trauma symptoms are jointly influenced by both family context and maltreatment. The results of these studies further suggest that family dysfunction, because it is a more global variable, may be a more useful predictor of adult emotional distress than is CSA or childhood maltreatment.

Coping

Six studies assessed coping as a mediator between CSA and symptoms of adjustment or emotional distress. Five of these found results that supported the hypothesis, whereas one did not. The general premise of these studies is that some forms of coping are more effective than others. Although active problem solving tends to be an effective strategy across a wide range of stressful situations, emotion-focused coping typically is less effective. Researchers have suggested that avoidance is an adaptive method of coping in the short term because it prevents the child from the overwhelming emotional consequences of the trauma (Merrill et al., 2001). Although very few empirical investigations have assessed the coping strategies used by CSA survivors, two studies of adolescent survivors found that avoidance is common (B. K. Johnson & Kenkel, 1991; Spaccarelli & Fuchs, 1997). Avoidance is categorized as a form of emotion-focused coping, which generally is associated with higher levels of distress (Folkman & Lazarus, 1988).

As operationalized in questionnaires, emotion-focused coping includes both relatively positive behaviors, such as expressing one's feelings, and more negative behaviors that many clinicians would categorize as defensive responses, such as avoiding thinking about problems, denial, and self-medicating with alcohol or drugs. Emotional expressiveness may be adaptive among survivors of CSA, whereas inexpressiveness may not. For this reason, Runtz and Schallow (1997) recategorized the types of coping so that both emotional expressiveness and cognitive coping were classified as positive strategies and avoidant and self-destructive coping were classified as negative strategies. The 1st-year university students who participated in the study were asked how they coped presently with the childhood experience

of abuse. All of the variables were measured with standardized instruments. Adjustment was defined by the combination of self-esteem and symptoms of emotional distress. When data from the sexes were combined, the SEM showed that individuals with a history of CSA were more likely to use negative forms of coping in dealing with their childhood experiences, such as drinking or eating too much and ignoring feelings, which in turn predicted poorer adjustment. The authors speculated that negative forms of coping are not symptoms of distress but that they are tension-reduction behaviors that are intended to soothe negative internal emotional states. In addition, the path between CSA and adjustment was not significant in the tested model. On this basis, the authors concluded that their data provided evidence for mediation of the link between CSA and adjustment by coping.

However, there are a number of anomalies in the published report that make a clear conclusion impossible. First, the table of zero-order correlations shows that not all of the mediation conditions set down by Baron and Kenny (1986) were met when the sexes were considered separately. Among the women, there was no significant association between CSA and adjustment, whereas among the men, there was no correlation between CSA and the use of avoidant coping. When the sexes were combined, these nonsignificant correlations appeared to have become significant, although zero-order correlations for the full sample were not provided. In addition, the authors reported that they tested a nonmediated model in which both CSA and coping were hypothesized to have direct effects on adjustment and that the nonmediated model fit the data just as well as the mediated model. This problem is not fatal. If the mediated model accounted for as much variance as the nonmediated model, then the direct effects would be redundant and could be eliminated, which would meet the third condition set down by Baron and Kenny (1986). However, the authors did not report this comparison. An additional problem is mentioned in the text when the authors noted that only social support correlated significantly with adjustment in the unmediated model. Thus, we are hesitant to cite these data as evidence for the mediating effect of coping.

Bal, Van Oost, Bourdeauhuij, and Crombez (2003) assessed the role of coping as a mediator between traumatic events and symptoms of depression, fear, trauma, dissociation, anger, and sexual problems in a large sample of adolescents ages 11 to 19. Again, the participants were asked to reflect on the traumatic event when answering the coping questionnaire. All of the variables were assessed with standardized instruments. The basic conditions for mediation were met. Inspection of the partial correlations between traumatic events (both sexual and nonsexual events were combined at this stage of the analysis) and trauma symptoms showed that the tendency to use avoidant strategies to cope completely accounted for the link between traumatic events and anger, sexual problems, and dissociative symptoms. In addition, avoidance partially mediated the links between traumatic events and fear as well as symptoms of PTSD and depression. Again, however, the published results are ambiguous, in this case because sexual trauma was not considered separately in the final mediating analyses.

Finally, Merrill et al. (2001) assessed the mediating roles of avoidant, self-destructive, expressive, and cognitive coping strategies in the link between abuse severity and trauma symptoms in two subsamples of female naval recruits, with an average age of 19, who reported a history of CSA. Therefore, this study differs importantly from the previous two in that it considers mediation among CSA survivors and not in a sample of individuals both with and without this history. Participants were asked to report on how they coped with the abuse in the weeks and months after it first occurred. All variables were measured with standardized instruments. Both mediated and unmediated models were evaluated on one half of the sample and cross-validated on the other half using the SEM. However, in the evaluation sample, not all of the conditions for mediation were met. Inspection of the table of zero-order correlations shows that abuse severity was not associated significantly with trauma symptoms in this sample. In the cross-validation sample, more severe abuse (involving penetration, force, and

more incidents) was associated with greater use of avoidant and self-destructive coping strategies, which in turn were associated with higher levels of trauma symptoms. As was the case with the Runtz and Schallow (1997) study, both the mediated and unmediated models fit the data. However, the authors showed that the unmediated model was not a significant improvement over the mediated model; therefore, the more parsimonious mediated model was supported.

Schuck and Widom (2001) examined the role of using alcohol or drugs to cope with difficult situations, an avoidant strategy, as a mediator ofthe link between childhood maltreatment and adult alcohol abuse. They followed up on a large group of adults who had court-substantiated histories of sexual abuse, physical abuse, or neglect before the age of 11, as well as a sample of controls matched on demographic variables. On average, the participants were 29 years old at follow-up. Alcohol abuse was assessed with a structured diagnostic interview. Using alcohol to cope was measured by a single item taken from a list of coping strategies. The basic conditions for mediation were met. The SEM indicated that using drugs or alcohol to cope mediated the association between maltreatment and symptoms of alcohol abuse.

One additional study found no evidence that avoidant coping was a mediator. Shapiro and Levendosky (1999) argued that CSA has a negative impact on attachment security, which is linked to the way individuals regulate emotion. Specifically, female CSA survivors, especially survivors of incest, tend to be avoidant in their attachment relationships, which is linked to the use of such emotional regulation strategies as denial. Thus, the authors hypothesized that CSA survivors would be insecurely attached, which subsequently would increase their use of avoidant coping strategies. They assessed their hypothesis in a relatively small sample of adolescent girls who were asked to indicate how they coped with a recent interpersonal stressor. Psychological distress was measured by a combination of depression and trauma symptoms. All variables were measured with standardized instruments. The researchers did not report the zero-order correlations among the variables, so we do not know if the basic conditions for mediation were met. However, analysis of the data with the SEM did not support their hypothesis in that a history of CSA was not associated with avoidant coping and avoidant coping was not associated with distress. This study differs from the others in that it assessed a smaller sample, which would have reduced their power to detect small to moderate effects, and in that the girls were asked how they coped with a recent interpersonal stressor rather than with the abuse.

Draucker (1995) considered coping as a mediator between traumatogenic aspects of the abuse and symptoms of guilt and social introversion in a large sample of women attending CSA therapy groups. She hypothesized that aspects of the abuse, specifically the extent to which the victim was powerless, betrayed by someone close, stigmatized by the reactions of others, or forced to engage in bizarre sexual activities, would have an impact on women's ability to make meaning of the abuse and gain a sense of control of their lives. Those women who were unable to adapt cognitively to the abuse were hypothesized to experience more guilt and social isolation. All of the variables were measured with standardized instruments. The basic conditions of mediation were met only for the outcome of guilt; social introversion was not associated with aspects of the abuse. Despite the failure to meet these conditions, the researcher tested the full hypothesized model using the SEM. When we examined only those paths for which the basic conditions of mediation were met, it appeared that when the abuse was stigmatizing (i.e., when others found out about it and were disgusted, shocked, or disbelieving), the survivor was less able to make meaning of the abuse and subsequently more likely to experience guilt. However, our acceptance of this finding must be tentative because the full model was tested instead of only the paths for which mediation was possible, according to Baron and Kenny's criteria.

Although the results of these studies are taken in the literature to suggest strong support for the hypothesis that avoidant coping mediates the association between CSA and emotional distress, as our description of the studies

indicates, any such conclusion must be tentative. In half of the samples in which this hypothesis was assessed, not all of the conditions for mediation set down by Baron and Kenny (1986) were met. Additionally, in one study where the conditions were met, the researchers tested for mediation between traumatic events and emotional distress rather than sexual trauma specifically.

Adolescents and young adults do appear to use negative coping strategies, including avoidance, alcohol and drugs, and self-destructive behaviors, in their attempts to cope with their histories of sexual abuse. Negative forms of coping may be more likely to be used when individuals feel overwhelmed by the emotions with which they are attempting to cope. Given that the CSA occurred many years previously, many survivors may feel that there is nothing to do about it but temporarily reduce the negative internal states they frequently experience. Thus, the very nature of CSA may increase the likelihood that negative coping strategies are activated, particularly in young people whose coping repertoires may be limited. It would be interesting to evaluate this basic association in a sample of older individuals who may have developed varied and more sophisticated coping strategies. In addition, the use of negative coping strategies is associated with increased emotional distress. However, we cannot conclude with any confidence at this point that negative forms of coping mediate the link between CSA and adjustment. We await a study with a large sample of individuals, both with and without a history of CSA, in which the basic conditions for mediation are clearly met.

EMOTIONAL DISTRESS AS A MEDIATOR OF OTHER ADVERSE OUTCOMES

A handful of studies also have assessed the possibility that emotional distress mediates the link between CSA and other adverse outcomes, such as alcohol use and revictimization.

Individuals with a history of CSA are likely to abuse alcohol as adults; researchers conceptualize alcohol use in this population as a form of coping with the distress generated by the CSA or as an attempt to self-medicate (Briere, 1988; Ireland & Widom, 1994; Lindberg & Distad, 1985; Moeller, Bachmann, & Moeller, 1993). However, the relationships among CSA, emotional distress, and alcohol use have been assessed empirically in only two studies. Epstein, Saunders, Kilpatrick, and Resnick (1998) assessed these associations in a large community sample of women. *CSA* was defined as unwanted contact that occurred through the use of threat or force. All variables were measured by interview questions. The basic conditions for mediation were met. The sample was then divided into two subsamples so that the researchers could evaluate and cross-validate their model using path analysis. In both samples, lifetime rates of PTSD symptoms were found to fully mediate the relationship between CSA and lifetime rates of alcohol abuse. The researchers confirmed that in two thirds of the cases, the PTSD symptoms preceded the alcohol abuse symptoms. Schuck and Widom (2001) also looked at the possible mediating role of emotional distress, specifically depressive symptoms as measured by a diagnostic interview, in the link between maltreatment and alcohol use. This study included a large sample of children with court-substantiated histories of maltreatment during childhood and a matched group of nonabused children. At the level of the zero-order correlations, the basic conditions for mediation were met, but the SEM failed to confirm a path from maltreatment to depressive symptoms. Thus, of the two studies conducted, one found evidence that women with a history of CSA experience more trauma symptoms, which may lead to alcohol abuse.

Becker-Lausen, Sanders, and Chinsky (1995) examined the role of symptoms of depression and dissociation in mediating between childhood maltreatment (sexual abuse, physical abuse, and neglect) and revictimization and interpersonal difficulties. All variables were measured with standardized instruments in a large sample of male and female undergraduates. The basic conditions for mediation were met. Depressive symptoms were found to mediate the association between childhood maltreatment and interpersonal difficulties, whereas dissociative symptoms mediated the association between childhood maltreatment and

revictimization. No gender differences were found. Thus, childhood maltreatment may generate depressive symptoms, which lead to interpersonal difficulties, and dissociative symptoms, which increase the likelihood of revictimization. Together, the results discussed in this section suggest that emotional distress, per se, may be a mechanism that links CSA to other negative outcomes in adulthood, specifically alcohol abuse, interpersonal problems, and revictimization. CSA survivors may be caught in a negative feedback loop in which the abuse leads to feelings of emotional distress that are coped with in ways that perpetuate and extend emotional problems.

CONCLUSIONS AND FUTURE DIRECTIONS

Our review of the empirical literature indicates that shame or self-blame; interpersonal difficulties, including interpersonal problems and attachment insecurity; and negative forms of coping, such as avoidance, all have the potential to be causal risk factors in the link between CSA and adult emotional distress. In addition, emotional distress may be a causal risk factor in the link between CSA and other negative outcomes, such as alcohol abuse and revictimization. The identification of potential causal risk factors is of special interest to clinicians, who can do nothing to change the fact of the abuse but who can do much to intervene at the level of critical mediators. For instance, our review suggests that clinicians should focus on softening feelings of shame, strengthening interpersonal relations, and promoting active coping strategies in the treatment of sexual abuse survivors.

The evidence is most consistent for the hypothesis that shame and self-blame mediate the link between CSA and emotional distress, with two of the three studies that have assessed this variable as a mediator finding support. Andrews (1998) proposed that shame is an emotion associated with subordination and defeat and that it results specifically from being victimized. She suggested that children who are subjected to severe and humiliating abuse are at risk of feeling bad about themselves at the very core of their being, a feeling that they will carry as a permanent feature of their internal landscape. An individual who experiences shame expects others to be rejecting and scornful about supposed defects. Thus, as adults, feelings of shame may be elicited in response to both real and imagined mistreatment by others. An individual whose personality is organized around a core sense of shame will experience many difficulties as he or she attempts to navigate the complex and ambiguous world of interpersonal relationships. The internalization of shame can lead survivors to isolate themselves to protect themselves from further humiliation or, alternatively, to attack others to conceal their shame. Thus, shame may link the intrapersonal world to the interpersonal one, and it may isolate the survivor from the very relationships that could be used to manage distress and to create a more positive sense of the self.

Interpersonal relationships also appear to contribute to the emotional distress experienced by adult survivors of CSA. Early experiences with abusive individuals seem to impair CSA survivors' ability to form close, trusting relationships, particularly intimate romantic relationships. Poor interpersonal relationships may contribute to emotional distress directly through the generation of interpersonal stress, which is associated with such forms of emotional distress as depression (Hammen, 2003). In addition, survivors of CSA who do not have close relationships may be at risk for emotional distress because they are deprived of close relationships as a source of support, comfort, and healing from the trauma of CSA (S. M. Johnson, 2004). These distinct pathways by which interpersonal relationships may be linked to emotional distress should be investigated further.

Finally, negative forms of coping may mediate the link between CSA and emotional distress, especially when participants describe how they cope with the abuse. However, it is important to emphasize that the evidence that avoidance mediates the link between CSA and emotional distress is not as strong as it is generally assumed to be, primarily because of limitations in the existing published reports. Specifically, it is important that researchers establish that the basic conditions for mediation are met

before using path analysis or SEM to test for mediation. As we speculated earlier, avoidance may appear to be a viable coping strategy if the stressor that is being coped with happened long ago, was beyond the individual's control at the time, and cannot be changed now. Avoidance also may be more common among adolescents and young adults, a hypothesis that should be tested in future research.

As we noted earlier, all of these studies used a cross-sectional design to test for mediation. Cross-sectional studies run the risk of confounding mediators with outcomes. For instance, when individuals feel emotionally distressed, they also may feel more shameful, they may be more prone to avoid difficulties rather than to cope with them actively, and they may have more interpersonal problems. To identify causal relationships, researchers first must establish temporal relationships among the variables, which can only be accomplished with longitudinal designs. Thus, significant results in cross-sectional studies are only the first step in the process of establishing these variables as causal risk factors. Future research needs to assess the mediating role of these variables in longitudinal studies, which, as a minimum requirement, measure the potential mediator at Time 1 and emotional distress at Time 2. Although there are ethical and practical constraints associated with attaining longitudinal samples of survivors of CSA, it is possible to employ targeted sampling, such as that used by Terr (1981, 1990) in her investigation of the Chowchilla children. In addition, much can be learned from longitudinal studies that follow adult survivors of CSA for short periods of time to assess the impact of earlier mediators on later outcomes.

In addition, we encourage researchers to consider the potential causal risk factors jointly so that they can determine how these variables are related to each other. Shame, interpersonal difficulties, and avoidant coping may be linked by mediating processes themselves. For instance, shame may impede the development of close interpersonal relationships, or it may predispose the use of avoidant coping. Alternatively, shame, interpersonal difficulties, and avoidance may be independent risk factors that contribute uniquely to the risk for emotional distress among survivors of CSA. These possibilities can only be assessed in studies that measure all three variables.

Conceptual and Methodological Issues

Methodological problems have been an ongoing issue for CSA research. Initial problems revolved around widely differing definitions of CSA, which made it difficult to generalize findings across studies. In reviewing this research area, we found that the majority of studies focused on CSA used very similar definitions, which is a step forward that we applaud. Measurement is another area that has been consistently weak in studies of trauma survivors. The almost sole reliance on self-report data, often retrospective, is a limitation of these studies. Self-reports may not be reliable and are even more risky than usual given the intense controversy about the veracity of survivors' memory for traumatic events. We also found studies that operationalized variables with only a few items or that used measures with undetermined psychometric properties. Finally, a number of the studies reviewed did not use the Baron and Kenny (1986) procedure for determining mediation. We strongly encourage future researchers to use well-validated measures, short-term longitudinal designs, and the Baron and Kenny procedure for establishing mediation.

Our review also raises several conceptual issues. As we noted at the outset, a broad range of psychopathological outcomes is associated with CSA. Little attempt has been made by researchers to link specific mediators to specific forms of emotional distress. For instance, based on the broader empirical literature, shame and self-blame might be expected to predict symptoms of depression better than symptoms of anxiety, PTSD, or dissociation because self-blame is a defining feature of depression. Similarly, avoidant coping may be more likely to mediate the association between CSA and PTSD symptoms, again because the oscillation between avoidance and flooding is a feature of PTSD. Thus, there is a need for researchers to better specify the links between mediators and outcomes.

Second, we question the assumption that it is the specific experience of CSA that is associated with emotional distress. CSA appears to be a marker for global difficulties during childhood, such as an unprotective, unsupportive, violent, or chaotic family environment, and it is these difficulties that ultimately may account for the CSA distress link. If CSA is a proxy for family dysfunction in the prediction of anxiety and depression symptoms, as suggested by the results of the two studies we reviewed (Weissman Wind & Silvern, 1994; Yama et al., 1992), it should be set aside as a risk factor, and the focus should be shifted to aspects of the family environment that are associated with CSA, such as alcohol abuse, parental absence from the home, high levels of parental conflict, low socioeconomic status, maternal history of child sexual abuse, and the presence of a stepfather (Finkelhor & Baron, 1986; Mian et al., 1994; Rowland et al., 2000). Alternatively, CSA and family dysfunction may be overlapping risk factors, with neither fully accounting for the effect of the other on emotional distress. This conclusion was suggested by the results of the two studies that we reviewed, results that suggested that trauma symptoms are best explained by both CSA or maltreatment and parental support (Merrill et al., 2001; Weissman Wind & Silvern, 1994). In this case, aggregating the two risk factors would provide a more powerful index of risk (Kraemer et al., 2001).

In addition, some evidence indicates that the various forms of child maltreatment often occur together and have similar sequelae (Belt & Abidin, 1996; Briere, 1992; Hovdestad & Kristiansen, 1996). Again, CSA may be a proxy for a more global risk factor, such as neglect, or the combination of sexual or physical abuse and neglect may increase the risk of emotional distress exponentially. In our view, it is particularly critical to determine whether CSA per se is responsible for emotional distress in adulthood or whether this distress is attributable to some of the many variables that covary with CSA, including family dysfunction and other forms of maltreatment and neglect.

Finally, the very concept of a mediator assumes that most individuals experience CSA in the same way. However, there is good evidence that preexisting individual differences contribute to CSA survivors' ability to cope with the experience and may be important determinants of adjustment (Bowman, 1997). For instance, we know that children who disclose their experiences of CSA to a parent who is supportive and nonblaming is unlikely to show elevated levels of emotional distress as an adult (Cohen & Mannarino, 1998; Elliott & Carnes, 2001). Yet several of the studies discussed in this review assumed that CSA would have a negative impact on children's interpersonal relations, particularly with attachment figures. Thus, the models discussed here do not take into account the fact that the children who are sexually abused may differ from one another in important ways that may be a source of resilience to the trauma. Moderators cannot be detected with the same statistical strategies used to evaluate mediation. Thus, progress in this area of research will depend on the inclusion of moderating variables in models attempting to understand the link between a history of CSA and emotional distress.

IMPLICATIONS FOR PRACTICE, POLICY, AND RESEARCH

The practice implications of this review are that psychological treatments for adult survivors of CSA should focus on softening self-blame, addressing interpersonal difficulties and enhancing attachment security, and promoting the use of emotional expression, instead of avoidance to cope with the abuse.

The research implications are that researchers need to have a better understanding of causal and noncausal risk factors and of the ways in which these risk factors interact with each other. Models explaining emotional distress also need to consider moderating as well as mediating variables.

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