

Dysfunctional Cognitions and Adult Psychological Functioning in Child Sexual Abuse Survivors

Kerstin Wenninger¹ and Anke Ehlers^{2,3}

Two studies explored the relationship between cognitions and long-term symptoms in adult child sexual abuse (CSA) survivors. In Study 1, an American sample of 43 survivors completed questionnaires assessing attributional style and dysfunctional beliefs in cognitive themes affected by victimization, as well as measures of posttraumatic symptoms. Survivors' attributions of negative events were more internal, stable, and global than those of 29 comparison subjects without a history of CSA. However, only the globality scale was significantly related with severity of long-term symptoms. High correlations between dysfunctional beliefs concerning safety, trust, esteem, or intimacy, and posttrauma symptoms were found. The latter finding was replicated in Study 2 with a German sample of 35 CSA survivors, even when controlling for frequency of abuse.

KEY WORDS: child sexual abuse; dysfunctional beliefs; posttraumatic stress disorder; attributional style; cognitive theories.

Research on the prevalence of child sexual victimization suggests that one in every four girls in the United States may be molested during childhood (e.g., Finkelhor, Hotaling, Lewis, & Smith, 1990). Many victims of child sexual abuse (CSA) experience long-term psychological problems. Commonly observed symptoms include posttraumatic stress disorder (PTSD), depression, substance abuse, low self-esteem, dissociation, feelings

¹Department of Psychiatry & Behavioral Sciences, University of Washington, Seattle, Washington 98105.

²Department of Psychiatry, University of Oxford, Oxford, UK.

³To whom correspondence should be addressed at the Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford OX3 7JX, UK.

of guilt, and interpersonal problems like difficulty in trusting others, or sexual problems (e.g., Zlotnick et al., 1996; for reviews, see Beitchman et al., 1992; Briere & Runtz, 1993; Kuyken, 1995; Rowan & Foy, 1993).

The major focus of research on long-term effects of CSA has been on the relationship between variables characterizing the abuse situation, such as duration or severity of abuse, and the victim's adult psychological functioning. More recently, the role of cognitive responses to victimization in predicting long-term symptoms has received increasing attention (e.g., Foa, Steketee, & Rothbaum, 1989; Foa & Riggs, 1993; McCann & Pearlman, 1990; McCann, Sakheim, & Abrahamson, 1988; Peterson & Seligman, 1983; Spaccarelli, 1994; Dunmore, Clark, & Ehlers, 1997), although empirical studies are still sparse. The purpose of the present studies was to explore the relationship between cognitive variables, specifically dysfunctional beliefs in themes affected by victimization and attributional style, and adult psychological functioning.

Dysfunctional Beliefs and Posttraumatic Symptoms

According to Taylor (1983), successful adjustment to trauma includes the survivor's search for meaning in the traumatic experience, an attempt to regain mastery over the event in particular or over one's life more generally, and an effort to restore self-esteem. There is empirical evidence that these processes are related to adult psychological functioning of incest survivors (Draucker, 1989; Silver, Boon & Stones, 1983). Failure to adapt to traumatic events has been linked to shattering of cognitive schemas or core assumptions (Janoff-Bulman, 1985, 1992; McCann & Pearlman, 1990; McCann et al., 1988; Resick, Schnicke, & Markway, 1991), or to shattering of adaptive or confirmation of maladaptive beliefs (Foa & Riggs, 1993). According to Resick et al. (1991), shattering of schemas can lead to PTSD symptoms in two ways. First, the individual may distort reality and assimilate schema-discrepant information (e.g., "This not really a rape"). This assimilation is unsuccessful and leads to intrusive images and avoidance. Second, victims may overaccommodate their schemas and overgeneralize the new information (e.g., "All men are dangerous"), changing their beliefs in a maladaptive manner. Even though it seems reasonable for abuse victims to hold beliefs such as "Men are dangerous" in an abusive environment, these cognitions are dysfunctional or maladaptive in the long-term in that they are often accompanied by persistent negative affect and hyperarousal, and because they may increase behaviors that may make subsequent negative life experiences more likely.

The purpose of the present study was to investigate the relationship between maladaptive beliefs and posttraumatic symptoms in CSA survivors. Several authors have proposed core belief themes related to poor adjustment to victimization. There is considerable overlap among these suggestions. For example, Janoff-Bulman (1985, 1992) proposed that shattering of the belief in one's personal invulnerability, of the perception of the world as meaningful, and of positive self-perception are essential. Self-denigratory beliefs were emphasized by Jehu (1988) and Linchan (1993). Foa and Riggs (1993) addressed beliefs about safety and competence.

The present study followed the work of McCann et al. (1988) and McCann and Pearlman (1990) who hypothesized that dysfunctional beliefs in the areas of safety, trust, power, esteem, and intimacy have particular relevance for understanding long-term effects of trauma. In line with this hypothesis, Resick et al. (1991) demonstrated that rape victims hold dysfunctional beliefs in these areas and that PTSD severity was correlated with the strength of beliefs. Similar findings were reported for battered women (Dutton, Burghardt, Perrin, Chrestman, & Halle, 1994). In Dutton et al.'s study, however, an additional history of CSA did not contribute to more negative beliefs beyond what was accounted for by the battering alone. To date, there is very little empirical information on the role of dysfunctional beliefs in the long-term adjustment of CSA survivors.

Attributional Style and Posttraumatic Symptoms

Another set of cognitive variables that has received increasing interest in trauma research are causal attributions and attributional style. Etiological theories of PTSD as well as depression assign a core role to the perceived uncontrollability of aversive events (Foa, Zinbarg, & Rothbaum, 1992; Seligman, 1975). The revised learned helplessness model (Abramson, Seligman, & Teasdale, 1978) postulates that internal, stable, and global attributions of negative events are related to subsequent depression. An association between a negative attributional style and symptoms of depression has consistently been confirmed in the empirical literature for non-traumatized samples (for a review, see Brewin, 1985). Because childhood sexual abuse is usually experienced as uncontrollable by the victim, it can be conceptualized as a helplessness experience (Gold, 1986). Accordingly, the learned helplessness theory would suggest that posttraumatic symptoms of CSA survivors may be related to internal, stable, and global attributions and to expectations of having no control over future distressing events.

Internal causal attributions or self-blame regarding the victimization experience have been shown to be associated with poorer posttrauma ad-

justment in rape victims (Frazier, 1990) as well as in CSA survivors (Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Hoagwood, 1990). There were no differential effects of blaming one's behaviors versus blaming aspects of one's character in these studies, contrary to Janoff-Bulman's (1979) prediction that only characterological self-blame is maladaptive. With regard to the aspect of control, empirical studies found significant associations between perceived controllability over aversive events and PTSD symptoms in war veterans (e.g., Frye & Stockton, 1989), women who experienced criminal assault (Kushner, Riggs, Foa, & Miller, 1992), and individuals living near the Three Mile Island nuclear accident (Baum, Cohen, & Hall, 1993). Several studies investigating attributional style have found an association between posttraumatic symptoms and stable and global attributions in war veterans (for a review see Joseph et al., 1993). In a comparison of adult CSA survivors and women without a history of CSA (Gold, 1986), survivors attributed negative events in their everyday life to more internal, stable, and global causes than control subjects. Attributional style was related to general adult functioning defined as a combination of high scores on the Beck Depression Inventory and the Hopkins Symptom Checklist and low scores on a measure of social competence. Unfortunately, no measures for the assessment of symptoms that are specific to trauma victims were used and further investigation is needed to explore the association between attributional style and specific posttrauma reactions such as PTSD in CSA survivors.

Purpose of the Present Studies

The present studies explored the relationship between cognitions and symptoms in CSA survivors. Study 1 compared an American sample of *adult survivors to control subjects without a history of CSA*. Survivors' attributions of negative events were expected to be more internal, stable, and global than those of control subjects. Furthermore, it was hypothesized that maladaptive beliefs in cognitive themes affected by victimization would be related to the severity of posttraumatic symptoms within the survivors' group. We expected that cognitive themes that have been shown to be relevant in posttrauma adaptation of rape victims would explain symptom variance in CSA survivors. Study 2 was designed to replicate the results from Study 1 concerning the relation between dysfunctional beliefs and long-term symptoms with a German sample of CSA survivors. In addition, the validity of the results was tested by controlling for relevant variables characterizing the abuse situation.

Method

Participants

Study 1 was conducted at the University of Washington in Seattle. Female CSA survivors as well as a comparison sample of women without a history of CSA were recruited from the Seattle area through newspaper advertisements and fliers distributed in public places. In addition, a number of clinicians contacted by the authors distributed fliers in therapy groups for CSA survivors. Study 2 was conducted at the University of Göttingen, Germany. A sample of female CSA survivors was recruited from the Göttingen area through newspaper advertisements and fliers.

We are seeking female survivors of child sexual abuse, age 18 or over, to participate in a research study at the University of Washington/Göttingen. A free feedback session will be provided to participants. For more information, please call Kerstin Wenninger at For recruitment of the comparison sample in Study 1, the first sentence was modified so that the subject of the study was worded more neutrally: "We are seeking women, age 18 or over, to participate in a research study on childhood experiences at the University of Washington"

All participants contacted the first author by telephone. A brief semi-structured telephone interview on sexual experiences during childhood was conducted to assess whether the subject met criteria for CSA. CSA was defined as physical sexual contact before age 18 with a person who was at least 5 years older or with a person within the same age range if the sexual contact was experienced as coercive (i.e., the child felt forced or pressured into the sexual contact, e.g., through physical force or threat).

The sample of Study 1 comprised 43 of 48 CSA survivors who met screening criteria and had been sent questionnaires (return rate 90%). Participants' ages ranged from 20 to 60, with a mean of 38.7 years ($SD = 9.5$). The mean duration of education was 15.1 years ($SD = 1.8$). Most of the subjects held a college degree. Their marital status was as follows: 30% married, 28% divorced, 40% never married, and 2% separated. A majority (78%) of the abused women were currently being treated. Only 7% had never received psychotherapy. The comparison group comprised 29 women without a history of CSA (91% of 32 women who had been sent questionnaires). They did not differ significantly from the abused subjects in age; range 23 to 62, mean 41.1 years, $SD = 10.0$; $t(70) = 1.03$. Their mean length of education was 16.5 years ($SD = 1.8$), and was thus approximately 1 year longer than that of the abused women; $t(70) = 3.45$, $p < .01$. There was no significant difference between the two groups in marital status; $\chi^2(3, N = 72) = 4.16$.

In Study 2, of 40 women who met criteria, 2 (5%) declined to participate and 3 (7.5%) could not participate because of scheduling problems. Thus, 35 women who reported CSA participated in the study. Their ages ranged from 24 to 58, with a mean age of 36.4 years ($SD = 8.7$). The average duration of education was 15.0 years ($SD = 2.5$). Their marital status was as follows: 46% married, 17% divorced or separated, and 37% never married. At the time of the study, 46% of the participants were receiving psychotherapy; 11% had never received treatment.

Symptom Measures

PTSD Symptom Scale, self-report version (PSS-SR). The PSS-SR (Foa, Riggs, Dancu, & Rothbaum, 1993) is a 17-item questionnaire developed to assess posttraumatic stress disorder as defined in the third revised edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R, American Psychiatric Association [APA], 1987). Foa et al. reported a Cronbach's α of .91 for the total scale and a 1-month retest-reliability of .74 for sexual assault victims. They also reported high concurrent validity with other measures of posttrauma reactions, including the Structured Clinical Interview for DSM-III-R (SCID, Spitzer, Williams, & Gibbon, 1987). The diagnosis of PTSD is given if participants endorse at least one symptom of the reexperiencing subscale, three symptoms of the avoidance subscale, and two symptoms of the arousal subscale of the PSS-SR (cutoff score 1, "once per week or less/ a little bit/ once in a while"). In Study 2, a German translation of the PSS-SR by the authors was used. Cronbach's α for the total scale in the German sample was .88.

Trauma Symptom Checklist (TSC-33). The TSC-33 (Briere & Runtz, 1989) was developed to specifically assess the impact of CSA on adult psychological functioning. Subjects are asked to rate how often they experience each of a list of 33 symptoms. The inventory consists of five subscales (dissociation, anxiety, depression, post-sexual abuse trauma-symptoms such as intrusions or sexual problems, and sleep disturbances) and also yields a total score for all 33 items. Data suggest that the scales of the TSC-33 are reasonably reliable with Cronbach's α ranging from .66 (sleep disturbances) to .89 (total scale). Several studies have found that the TSC-33 subscale scores discriminate between participants with and without CSA (see Briere & Runtz, 1989). The TSC-33 was translated into German by the authors for use in Study 2. Cronbach's α ranged from .59 (sleep disturbances) to .93 (total scale) in the German sample.

Additional symptom measures. In Study 2, the Beck Depression Inventory (BDI, German version; Beck, Rush, Shaw, & Emery, 1986) and the

trait version of the State-Trait Anxiety Inventory (STAI-trait, German version; Laux, Glanzmann, Schaffner, & Spielberger, 1981) were given. Both instruments have been widely used and have been shown to display satisfactory reliability and validity.

Measures of Cognitions

Expanded Attributional Style Questionnaire (EASQ). This questionnaire (Peterson & Villanova, 1988) was developed to measure attributional style for negative events in everyday life. It has the same instruction and format as the widely used Attributional Style Questionnaire (ASQ; Peterson et al., 1982) but contains 24 hypothetical negative events compared to only 6 in the ASQ. Subjects are asked to imagine the events happening to them. They then are asked to write down "the one major cause of the event" and rate it in terms of internality, stability, globality and controllability. Peterson and Villanova (1988) reported internal consistencies for the EASQ scales ranging from $\alpha = .66$ to $\alpha = .88$.

Personal Beliefs and Reactions Scale (PBRS). The PBRS (Resick et al., 1991) is a 55-item inventory assessing maladaptive cognitions in sexual assault victims. It was specifically developed for rape victims. For the use in our study, we substituted the word rape in the questionnaire by CSA. Subjects are asked to rate how much they agree with statements representing dysfunctional beliefs. Five of the scales represent cognitive themes suggested by McCann et al. (1988), i.e., safety, trust, power, esteem, and intimacy. Item examples are "The world is very dangerous" (safety scale), or "I avoid other people because they might hurt me" (intimacy scale). All items representing dysfunctional beliefs about the self from the five scales compose an additional scale "self." Items representing maladaptive beliefs about other people are grouped together in a scale "others." Resick et al. (1991) included three further scales regarding cognitions which could interfere with recovery (negative beliefs about rape, self blame) and those that represent the attempt to deny or alter the event (undoing). The authors found that the PBRS scales predicted posttraumatic symptoms on the PSS-SR and the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979). Furthermore, a study of 19 rape victims (Resick et al., 1991; Resick & Schnicke, 1992) showed significant changes with treatment for all PBRS scales but negative beliefs about rape. Cronbach's α for the PBRS scales in Study 1 were as follows, .77 (safety), .82 (trust), .55 (power), .77 (esteem), .72 (intimacy), .89 (self), .87 (others), .73 (negative beliefs about CSA), .59 (undoing), and .87 (self-blame). The power and undoing scales were omitted from analyses because of unsatisfactory internal consistency. [The question-

naire has recently been shortened by Mechanic and Resick (1993) resulting in somewhat better reliabilities for the scales power and undoing.]

A German translation of the PBRS by the authors was used in Study 2. Cronbach's α for the 10 subscales were: .65 (safety), .70 (trust), .49 (power), .71 (esteem), .70 (intimacy), .82 (self), .82 (others), .44 (negative beliefs about CSA), .26 (undoing), and .79 (self-blame). The scales undoing, negative beliefs, and power were omitted from analyses in Study 2 because of low reliabilities.

Assessment of Abuse Characteristics

Study 2 included a detailed assessment of the nature of the abuse. The authors developed a Structured Interview on CSA Experiences (SICE) for this purpose that was conducted face to face with each participant and lasted between 0.5 and 1.5 hr. A proportion of the items were derived from a protocol for initial assessment for CSA survivors developed by Jehu (1988). Other items were based on the empirical literature on CSA. The interview obtains information about abuse characteristics such as age of victim at time of abuse, relationship between victim and perpetrator, and duration and frequency of abuse. Furthermore, it specifically asks about sexual activities that occurred between victim and perpetrator as well as about methods used by the abuser to induce the victim to engage in sexual activities.

Procedure

In Study 1, participants were sent questionnaires by mail. CSA survivors completed the PSS-SR, the TSC-33, the EASQ, and the PBRS. Because the PSS-SR as well as the PBRS are not applicable to non-traumatized individuals, the comparison group only completed the TSC-33 and the EASQ. Participants of Study 2 completed German versions of the PSS-SR, TSC-33, BDI, STAI-trait, and PBRS, and were interviewed with the SICE to assess abuse characteristics. All participants were offered an individual feedback or counseling session. Referrals to mental health services were provided.

Study 1: Results

Symptom Scores

CSA survivors had higher symptom scores than the comparison group. A multivariate analysis of covariance of the TSC-33 scales, with years of edu-

cation as the covariate, showed a significant group effect, Hotelling's T^2 $F(6,64) = 10.12, p < .001$. Univariate F tests indicated that survivors had higher scores on all subscales. Means and standard deviations are presented in Table 1. According to the PSS-SR, 81% of the CSA group suffered from PTSD.

Attributional Style

A multivariate analysis of covariance (MANCOVA), with years of education as the covariate, was conducted to compare the CSA and control

Table 1. Means (Standard Deviations) for Posttraumatic Symptom Measures and Attributional Style

		CSA survivors	Comparison group	$F(\text{Study 1})$
TSC-33 total score ^a	Study 1	43.86 (19.03)	12.45 (5.44)	53.99***
	Study 2	38.42 (17.41)		
TSC-33 dissociation	Study 1	8.49 (4.94)	1.45 (1.43)	41.83***
	Study 2	6.97 (4.00)		
TSC-33 depression	Study 1	13.79 (5.73)	4.97 (2.44)	46.05***
	Study 2	11.54 (5.39)		
TSC-33 anxiety	Study 1	10.84 (6.27)	2.45 (1.64)	33.65***
	Study 2	9.89 (5.27)		
TSC-33 post-sexual abuse trauma symptoms	Study 1	8.30 (4.54)	1.69 (1.61)	41.23***
	Study 2	7.94 (3.80)		
TSC-33 sleep disturbance	Study 1	5.95 (3.19)	2.83 (1.95)	11.27**
	Study 2	4.60 (2.42)		
PSS total score ^b	Study 1	26.98 (12.40)		
	Study 2	25.83 (11.06)		
BDI	Study 2	17.83 (9.68)		
STAI-trait	Study 2	51.11 (12.16)		
EASQ internality ^c	Study 1	4.88 (0.90)	4.17 (0.50)	11.36**
EASQ stability	Study 1	4.47 (0.77)	3.97 (0.64)	5.40*
EASQ globality	Study 1	4.71 (0.84)	3.39 (1.09)	22.11***
EASQ controllability	Study 1	4.48 (0.69)	4.58 (0.53)	0.12

^aTSC-33: Trauma Symptom Checklist.

^bPSS-SR: PTSD Symptom Scale.

^cEASQ: Expanded Attributional Style Questionnaire.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

groups on the four scales of the EASQ. The MANCOVA showed a significant group effect, Hotelling's T^2 : $F(4, 66) = 6.74, p < .001$. Univariate F -tests indicated that survivors' attributions of negative events in their everyday life were more internal, stable, and global than those of control subjects. No differences were found for the controllability scale. Means and standard deviations for both groups are presented in Table 1.

To examine the relationship between attributional style and posttraumatic symptoms, Pearson correlations were calculated within the survivors' group between the scores on the four EASQ scales and the scores on the PSS-SR and the TSC-33 total scales (see Table 2). To control for α -inflation, a significance level of .0125 (.05/4) was required, resulting in an overall α of .05 for each of the symptom scales. The globality scale correlated significantly with the TSC-33, $r = .43, p = .004$, and the PSS-SR, $r = .38, p = .011$. Scatter plots did not reveal any indication for non-linear associations between EASQ scales and symptom total scores.

Because the TSC-33 measures quite variable symptoms, further exploratory analyses tested whether there were associations between attributional style and the TSC-33 subscales (using an unadjusted p of .05). Globality of attributions was correlated with all subscales (r 's .30-.46) except for avoidance, $r = .25, p > .09$. The only other correlations were between stability of attributions and depression, $r = .34, p = .026$, and post-sexual abuse trauma symptoms, $r = .31, p = .045$.

Relation of Dysfunctional Beliefs and Adult Functioning

To examine the relationship between maladaptive beliefs in cognitive themes affected by victimization and long-term symptoms, Pearson corre-

Table 2. Correlations Between the Expanded Attributional Style Questionnaire Scales and Posttraumatic Symptoms in CSA Survivors (Study 1)

	EASQ ^a Internality	EASQ Stability	EASQ Globality	EASQ Control
TSC-33 total ^b score	.18	.30	.43*	-.15
PSS-SR total ^c score	.24	.22	.38*	-.14

^aEASQ: Expanded Attributional Styles Questionnaire.

^bTSC-33: Trauma Symptom Checklist.

^cPSS-SR: PTSD Symptom Scale.

*Significant after α -adjustment ($p < .0125$).

lations between the 8 scales of the PBRs with sufficient reliability and the PSS-SR and TSC-33 total scores were calculated. To control for α -inflation, a significance level of .00625 (.05/8) was required, resulting in an overall α of .05 for each of the symptom scales. As shown in Table 3, six of the eight cognition scales (safety, trust, esteem, intimacy, self, others) remained significantly correlated with both symptom scales. Negative correlations indicate that higher symptom scores were associated with stronger endorsement of statements representing dysfunctional beliefs. No significant correlations were found with self-blame (r 's = .35 and .29) and negative beliefs about CSA (r 's = .17 and .04).

Table 3. Correlations and Partial Correlations (Controlling for Frequency of Abuse) Between PBRs Scales and Posttraumatic Symptoms^a

		TSC-33 ^b	PSS-SR ^c	BDI ^d	STAI-trait ^e
Safety	Study 1 corr. ^f	-.57	-.51	— ^h	—
	Study 2 corr.	-.66	-.59	-.60	-.63
	Study 2 part. ^g corr.	-.66	-.59	-.63	-.64
Trust	Study 1 corr.	-.65	-.64	—	—
	Study 2 corr.	-.59	-.44 ^{n.s.}	-.66	-.69
	Study 2 part. corr.	-.67	-.46 ^{n.s.}	-.55	-.64
Esteem	Study 1 corr.	-.66	-.58	—	—
	Study 2 corr.	-.62	-.46	-.71	-.67
	Study 2 part. corr.	-.65	-.49 ^{n.s.}	-.72	-.63
Intimacy	Study 1 corr.	-.68	-.71	—	—
	Study 2 corr.	-.68	-.64	-.72	-.68
	Study 2 part. corr.	-.58	-.60	-.64	-.64
Self	Study 1 corr.	-.67	-.67	—	—
	Study 2 corr.	-.61	-.50	-.69	-.74
	Study 2 part. corr.	-.55	-.49 ^{n.s.}	-.69	-.77
Others	Study 1 corr.	-.69	-.61	—	—
	Study 2 corr.	-.76	-.65	-.72	-.71
	Study 2 part. corr.	-.78	-.69	-.64	-.65

^aAll correlations significant at $p < .00625$ in Study 1 and $p < .0071$ in Study 2 unless otherwise indicated (n.s.).

^bTSC-33: Trauma Symptom Checklist.

^cPSS-SR: PTSD Symptom Scale.

^dBDI: Beck Depression Inventory.

^eSTAI: State-Trait Anxiety Inventory, trait version.

^fcorr.= Pearson correlation.

^gpart. corr.= Partial correlation controlling for frequency of abuse.

^h—: not assessed.

Study 2: Results

Symptom Scores

Means and standard deviations on the symptom measures are presented in Table 1. As assessed with the PSS-SR, 86% of the abused women suffered from PTSD. Following the categories for BDI scores suggested by Beck et al. (1986), 23% of the CSA group were not depressed, with scores of up to 11, 60% suffered slight to moderate depression, with scores of up to 26, and 17% were severely depressed, scoring higher than 26. According to norms reported by Laux et al. (1981) for the STAI-trait, 69% of the abused women scored within the upper 10th percentile of the population.

Characteristics of Abuse

Ages of the survivors at the time of first sexual contact with the abuser ranged from 1 to 12. The mean age was 7.5 ($SD = 3.2$). The perpetrators were fathers in 29% of the cases, and a caretaker/nonbiological father figure in 23%, a different family member than the father, e.g., an uncle or brother, in 23%, an acquaintance in 23%, and a stranger in only 3% of the cases. (In case of abuse by multiple perpetrators, the one with the closest relationship to the victim is reported.) The number of different perpetrators involved with one participant ranged from one to five. Nearly half (49%) of the survivors were abused by more than one perpetrator. About half of the victims (51%) reported that oral, vaginal, or anal penetration had taken place. Perpetrators used physical force in 60% of the cases. Other means to induce the victim to engage in the sexual contact included e.g., misrepresenting the abuse as a game or fun (reported by 43% of survivors) or as sex education (31%), misrepresenting the abuse as affection and attention (69%), or using threats (46%).

Relation of Characteristics of Abuse and Adult Functioning

Even with an unadjusted $p < .05$, no significant correlations were found between PSS-SR and TSC-33 scores (neither total score nor subscales) and the following abuse variables: Number of perpetrators, age of victim at time of first sexual abuse, duration of abuse in years, and a rating for closeness of relationship between victim and perpetrator (categories of increasing closeness were transformed into ratings from 1 to 5: stranger, acquaintance, other family member than father, caretaker/nonbiological father figure, father). The only significant relationship that

emerged was between frequency of abuse per month and the TSC-33 scores. The correlation with the TSC-33 total score was $r = .60, p = .002$. All TSC-33 subscales except for sleep disturbances correlated with this variable.

When victims abused by their fathers were compared with victims abused by somebody else, no differences emerged on the TSC-33 total score, $t(33) = 0.43$, the PSS-SR total score, $t(33) = 0.92$, or the STAI-trait, $t(33) = 1.26$. Women victimized by their fathers were, however, significantly more depressed than women who were abused by other perpetrators; BDI: means = 21.0 vs. 14.5, $t(33) = 2.09, p < .05$.

To examine the relationship between abuse severity and long-term symptoms, women who reported penetration were compared to those who had not experienced penetration. Neither on the TSC-33, $t(33) = 1.17$, nor on the PSS-SR, $t(33) = 0.51$, were significant group differences found. Likewise, victims who were physically forced to engage in the sexual activities did not differ from victims who did not experience physical force during the abuse on the TSC-33, $t(33) = 0.57$, or the PSS-SR, $t(33) = 0.89$. However, if the perpetrator misrepresented the sexual abuse as affection or attention, survivors scored significantly higher on the TSC-33 total scale than in other cases; means = 42.9 vs. 28.6, $t(33) = 2.41, p < .05$.

Relation of Dysfunctional Beliefs and Adult Functioning

Pearson correlations between the seven PBRS scales with sufficient reliability and the four symptom measures (TSC-33, PSS-SR, BDI, STAI-trait) were calculated. Results are presented in Table 3. To control for α -inflation, a significance level of .0071 (.05/7) was required, resulting in an overall α of .05 for each of the symptom scales. The results of Study 1 were replicated. The only exception was that the correlation between PBRS-trust and the PSS-SR just missed significance ($p = .008$). As in Study 1, self-blame did not correlate with the symptom measures. The BDI and STAI showed similar correlation patterns with the PBRS scales as the TSC-33 and PSS-SR.

In order to control for relevant abuse characteristics, partial correlations between cognition scales and symptom measures were calculated (see Table 3) controlling for frequency of abuse ($N = 25$ for these analyses). Nearly all correlations remained significant. Exceptions were that the correlations between the PBRS scales esteem and self and the PSS-SR dropped just below the significance level (p 's = .008), although the size of the correlations stayed the same when controlling for abuse frequency.

Discussion

Survivors of CSA attributed negative events in their everyday lives to more internal, stable, and global causes than controls (Study 1). This finding is in line with results reported by Gold (1986). It is noteworthy, however, that participants of Study 1 were on average approximately 10 years older than those in Gold's study. This may suggest a relatively stable negative attributional style of CSA survivors. According to the revised learned helplessness theory (Abramson et al., 1978), this negative attributional style would indicate that survivors of CSA are prone to depression. Our results are in line with this hypothesis. In both studies, CSA survivors scored high on the TSC-33 depression scale, and only 23% were not depressed according to the BDI (Study 2).

Within the group of CSA survivors, however, only the EASQ globality was related to posttraumatic symptoms, as assessed by the PSS-SR and the TSC-33 total score. More symptomatic survivors reported more global attributions. It is possible that this result reflects the overaccommodation of cognitive schemas described by Resick et al. (1991). The stability dimension showed the predicted relationship only with the TSC subscales depression and post-sexual abuse trauma symptoms. Because of the risk of α inflation, this latter result can only be interpreted as a tentative replication of Gold's (1986) finding. Together, our results suggest a relationship between inflexible attributional style and posttraumatic symptoms in CSA survivors. The present study failed to replicate a significant relationship between the internality attributional dimension and adult psychological functioning (Gold, 1986). The discrepancy may be due to differences in methodology. Gold reported a significant relationship emerging from a canonical correlation where a high positive loading on attributional style (a score composed of the ASQ total score for bad events combined with self-blame measures) was related to the adult functioning variable, which had a high positive loading on psychological distress (BDI and Hopkins Symptom Checklist scores combined) and a high negative loading on a self-esteem measure. The lack of significant correlations between single attributional style dimensions and symptom scores in the present study might not be comparable to the relation between linear combinations of sets of composed variables reported by Gold. Also, while one focus of the present study was on specific posttraumatic symptoms, PTSD symptoms were not assessed in Gold's study. It would be interesting to explore in future research whether causal explanations for the experience of CSA are more directly related to posttrauma symptoms than a general attributional style for negative events in everyday life. Results reported by Hoagwood (1990) suggest a significant relation between internal causal attributions for the abuse and adult func-

tioning although no measures of PTSD were used in this study. Also, more research on the other attributional dimensions in samples of CSA survivors is needed.

The dysfunctional beliefs measured by the PBRs showed strong associations with post-trauma symptoms in Study 1. In Study 2 replicated this result, even when controlling for frequency of abuse as a relevant abuse characteristic. Higher TSC-33 and PSS-SR symptom scores were associated with stronger endorsement of statements representing dysfunctional beliefs about safety, trust, esteem, and intimacy. This finding is in line with recent studies reporting self-denigratory beliefs (Waller & Smith, 1994) and maladaptive schemas (including defectiveness, incompetence, mistrust, vulnerability) in CSA survivors (Zlotnick et al., 1996). The results provide support for cognitive theories of posttrauma adaptation (e.g., Foa et al., 1989; Foa & Riggs, 1993; Janoff-Bulman, 1985, 1992; McCann et al., 1988; McCann & Pearlman, 1990; Resick & Schnicke, 1993) which link the development and/or maintenance of posttraumatic symptoms to distortions in cognitive schemas.

It is noteworthy that the pattern of correlations replicated well across cultures (USA, Germany). The samples of Study 1 and 2 were remarkably similar in terms of severity of long-term symptoms following CSA and their relationship with dysfunctional beliefs. The telephone screening interviews (Study 1) and the structured interviews (Study 2) also showed similarity between the samples in terms of abuse characteristics such as sexual activities and methods used by the perpetrator to induce the victim to engage in sexual activities.

The high correlations between dysfunctional beliefs concerning safety, trust, esteem, and intimacy and posttraumatic symptom measures found in the present studies suggest that CSA survivors develop negative beliefs in mostly the same cognitive areas that seem to be affected in rape victims (Dutton et al., 1994; Resick et al., 1991). Direct comparisons of victims of sexual versus non-sexual assault on dysfunctional beliefs are lacking. We would speculate that non-sexual assault victims may develop maladaptive cognitions in themes like safety as well, whereas dysfunctional beliefs about intimacy may be specific to sexual abuse victims.

The nature of the mechanisms underlying the relationship between dysfunctional cognitions and posttraumatic symptoms remains unclear. McCann et al. (1988) postulated a reciprocal interaction between an individual's negative schemas, her/his behavior resulting from these maladaptive cognitions, and her/his life experiences. According to this model, dysfunctional beliefs about the self and others might operate as self-fulfilling prophecies. To test this hypotheses, longitudinal studies are needed assessing behavioral variables and everyday life experiences in addition to

cognitions and symptom level. There is a growing literature showing that cognitive variables act as mediators between traumatic experiences and symptoms of psychopathology (e.g., Andrews, 1995; Coffey et al., 1996).

Results regarding self-reports of abuse characteristics have to be interpreted with some caution because it remains open how reliably survivors can report on events that, in some cases, occurred at a very young age. There was no information available to verify survivors' self-reports. However, it is likely that the subjective experiences and memories held by the survivors are a better predictor of long-term symptoms than objective abuse characteristics even if subjects' recollections are not completely congruent with the facts.

Fewer significant correlations than expected were found between characteristics of the abuse and symptoms. Frequency of abuse was the only variable significantly related to the PSS and TSC-33 scores among a wide range of abuse characteristics. Closeness of relationship between victim and perpetrator was related to symptoms in that victims abused by their fathers were more depressed than victims abused by someone else. This confirms previous findings (e.g. Wyatt & Newcomb, 1990) that a closer relationship between victim and perpetrator is associated with more negative long-term effects of the abuse. Furthermore, if the perpetrator misrepresented the sexual abuse as affection or attention, survivors scored significantly higher on the TSC-33 than in other cases. This finding points to a cognitive aspect of the traumatic abuse situation.

Several of the above variables characterizing the abuse situation have previously been found to be associated with long-term symptoms (e.g. Briere & Runtz, 1989; Peters, 1988; Wyatt & Newcomb, 1990). However, the correlations found in empirical studies were generally low. For example, the authors of the TSC-33 (Briere & Runtz, 1989) report 11 significant variables out of 42 that were calculated ranging from .15 to .21. That reflects a maximum of only four percent shared variance. Consistent with our results, Briere and Runtz (1989) did not find the TSC-33 total score to be significantly related to duration of abuse, penetration, parental incest, and number of abusers. Also, the present finding that the age of the victim at time of abuse was not related to adult psychological functioning has been reported relatively consistently in previous studies (e.g., Briere & Runtz, 1988). Low correlations between abuse characteristics and symptoms might be a result of the passage of time and the growing impact of other variables like the individual's cognitive response to the trauma and its sequelae in maintaining symptoms (see also Ehlers & Steil, 1995).

A number of limitations of the present study need to be considered in the interpretation of the results. Sample sizes were small, leading to relatively low power. However, the PBRs findings replicated well supporting

the validity of these results. The results on attributional style need cross-validations in other samples. Furthermore, there are a number of possible problems related to the method of solicitation of participants, i.e. self-selection of volunteer samples that identified themselves as sexual abuse survivors. The recruitment method may in part be responsible for the great severity of abuse, the high rate of PTSD and the high rate of participants who had received treatment. These sample characteristics suggests the participants are more comparable to clinical samples (Rowan & Foy, 1993) than to community samples, which limits the applicability of the results to the general population of CSA survivors. However, it is likely that the restriction of range in posttraumatic symptoms due to this self-selection effect would have resulted in lower rather than higher correlations with other measures and therefore does not invalidate the high correlations with PBRS. It may, however, have contributed to the low correlations with objective measures of the abuse. As mentioned above, other studies have found small but significant correlations which may be due to a wider range of abuse severity in their samples.

Furthermore, the samples had above average education levels which may be due to the fact that the recruitment areas included (not exclusively, however) university districts. In addition, information on PTSD and treatment history was not available for the comparison group in Study 1. This does not invalidate the results on group differences in attributional style, because inclusion of comparison subjects with PTSD due to other trauma or other psychological disorders would have made it more unlikely to obtain differences on the EASQ measures. Furthermore, comparison subjects' scores on the TSC-33 indicate that their level of psychological functioning was in the range of other non-clinical, non-abused comparison samples (as summarized in Briere & Runtz, 1989).

Keeping these limitations in mind, the present study provides evidence for a strong relation between cognitions regarding themes affected by victimization and posttraumatic symptoms in fairly affected CSA survivors. The findings provide support for theories that emphasize the role of cognitive variables in posttrauma adaptation (e.g., Foa & Riggs, 1993; Janoff-Bulman, 1985; Resick et al., 1991). The results suggest that targeting maladaptive cognitions may be an essential component in the treatment of survivors who suffer clinical levels of long-term posttraumatic symptoms. Preliminary evidence for the efficacy of cognitive-behavior therapy (CBT) stems from a number of uncontrolled studies with encouraging results. Deblinger, McLeer, and Henry (1990) reported that a CBT intervention for sexually abused children including gradual exposure, modeling, education, coping, and prevention skill training resulted in marked improvements on measures of PTSD, depression, anxiety, and the Child Behavior Checklist.

Jehu and colleagues (Jehu, Klassen, & Gazan, 1985/6; Jehu, 1988) demonstrated the effectiveness of cognitive restructuring in decreasing symptoms of mood disturbances in adult CSA survivors. However, there is still a lack of controlled studies investigating the effectiveness of CBT for CSA survivors (Beutler & Hill, 1992).

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