Adjustment Following Sexual Abuse Discovery: The Role of Shame and Attributional Style

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This study examined adjustment following sexual abuse as a function of shame and attributional style. One hundred forty-seven participants (83 children and 64 adolescents) were seen at the time of abuse discovery and again 1 year later. Once adjustment at abuse discovery was accounted for, shame and attribution style explained additional variation in subsequent adjustment, whereas abuse severity did not. A pessimistic attribution style at abuse discovery moderated the relation between severity of abuse and subsequent depressive symptoms and self-esteem. The relations between abuse severity and these outcomes were significant only at high levels of pessimistic attribution style. Of note, patterns of change in shame and attribution predicted which children remained at risk or improved in adjustment. In addition, age and gender differences were found in adjustment over time.

The past decade has seen a considerable increase in the number of studies focusing on sexual abuse and its relation to child outcomes. Child sexual abuse (CSA), in both clinical and nonclinical samples, has been consistently associated with a number of adjustment problems, including depression, post-traumatic stress disorder (PTSD) and poor self-esteem (e.g., Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Boney-McCoy & Finkelhor, 1995; Feiring, Taska, & Lewis, 1998; Kendall-Tackett, Williams, & Finkelhor, 1993; Widom, 1999). However, CSA victims vary widely in their adjustment; some show significant levels of symptoms and poor self-esteem, whereas others do not (Ackerman et al., 1998; Kendall-Tackett et al., 1993). Some evidence suggests that individual differences in adjustment vary as a function of abuse severity. Poorer adjustment has been associated with more abuse events, greater duration, penetration, the use of force, and abuse by a parent figure (Browne & Finkelhor, 1986; Kendall-Tackett et al., 1993; Mennen & Meadow, 1995). The link between abuse severity and outcomes is weak and inconsistent, however, providing limited understanding of which CSA victims are more likely to be poorly adjusted.

The purpose of this study was to examine processes that help explain variations in children's adjustment to CSA over time. Individual-differences studies that assess children once abuse has been discovered can offer important insights into factors that explain the development of adjustment (Briere & Elliott, 1993). We used a within-group design to examine how differences in shame and attribution style are related to adjustment within a sample of confirmed CSA cases. In particular, we examined the ways in which shame and attribution style add to and compound the negative effects of CSA and how changes in these processes are related to the development of depressive and PTSD symptoms and poor self-esteem.

We hypothesized the experience of shame as a consequence of sexual abuse to be an important emotional mechanism for explaining which CSA victims develop adjustment problems. The phenomenological experience of shame is a desire to hide the damaged self from others, to disappear, or die (Lewis, 1992; Tangney, 1995). It is a state in which the whole self feels defective, often as a result of a perceived failure to meet self-imposed standards. Clinical observation shows that CSA victims express the desire to avoid exposure and hide themselves when talking about the abuse (Feiring, Taska, & Lewis, 1996). Feelings of shame may be heightened by the discovery process, during which the child may feel exposed to public scrutiny. At this time the abuse becomes known to family members, child protective service workers, and law enforcement officials. More severe forms of abuse, such as penetration and repeated incidents, would be expected to elicit greater shame, as they represent a greater magnitude of transgression from acceptable behavior. Also, greater severity may be linked to a sense that the abuse is more uncontrollable and, therefore, elicit more shame (Weiner, 1986). Shame also is related to poor adjustment, such as depressive and PTSD symptoms (Andrews, 1995; Ferguson, Stegge, Miller, & Olsen, 1999; Lewis, 1992; Tangney, 1995).

Cognitive processes are involved in the self-evaluative emotion of shame. Shame is linked to individuals' evaluations of their actions with regard to their standards and attributions about the self (Lewis, 1992). How the victim evaluates events in general and the abuse in particular is believed to play an important role in adjustment (Celano, 1992; Spaccarelli, 1994). Negative events such as

sexual abuse can lead to an increase in self-focus and self-evaluation (Graham & Hoehn, 1995; Lewis, 1992). A pessimistic attributional style (i.e., making internal, stable, global attributions for negative events and external, unstable, specific attributions for positive events) in nonabused samples is related to shame, low self-esteem, and depression (Nolen-Hoeksema, Girgus, & Seligman, 1992; Tangney, Wagner, & Gramzow, 1992). For abused adults and children, a pessimistic attributional style is related to more depressive symptoms and lower self-esteem (Gold, 1986; Mannarino & Cohen, 1996). Research also indicates that higher levels of internal attributions for the abuse are related to more symptoms of depression, anxiety, and PTSD (Feiring, Taska, & Chen, in press; Spaccarelli & Fuchs, 1997; D. Wolfe, Sas, & Wekerle, 1994). Consequently, abuse-specific and more general at-risk attributional styles are implicated in adjustment.

Once abuse severity and adjustment level at abuse discovery are taken into account, we would expect shame and attribution style to account for additional variation in victims' subsequent adjustment. More shame and greater attribution risk should be related to poorer adjustment, that is, more depressive and PTSD symptoms and lower self-esteem. Furthermore, shame and attribution should have stronger relations to changes in adjustment than abuse severity.

In addition to the direct effects of shame and attribution on children's adjustment, we examined potential moderator and mediator effects. Shame and attribution may have differential effects on the strength of the relation between abuse severity and adjustment. To the extent that CSA and its discovery are viewed as the exposure of a social transgression, theories of shame suggest that the child's level of shame will help explain the relation between abuse and adjustment (Feiring et al., 1996; Lewis, 1992). Thus, shame may moderate the relation between abuse severity and adjustment such that at higher levels of shame, the association between abuse severity and adjustment is stronger. If CSA is conceptualized as an uncontrollable situation, then learned helplessness theory would suggest that the child's causal attributions will help explain the relation between abuse severity and adjustment (Gold, 1986). The more that negative events are attributed to negative qualities of the self, the stronger will be the relation between abuse severity and poor adjustment.

Alternatively, shame and attributional style may mediate or act as pathways through which abuse severity is related to adjustment (Feiring et al., 1996; Lewis, 1992). In a cross-sectional study of women who reported CSA, the relation between abuse severity and psychological distress was mediated by shame and attributions of self-blame (Coffey, Leitenberg, Henning, Turner, & Bennet, 1996). Previous results from this study provide support for concurrent mediational effects at the time of abuse discovery. Shame and pessimistic attributional style mediated the relation between the number of abuse events and depressive symptoms and self-esteem (Feiring et al., 1998). In this study we extend this work by examining the persistence of mediational effects and the possibility of moderation effects in the same sample, over a year's time from the abuse discovery.

In addition to examining variations in adjustment as a function of abuse severity, shame, and attributional style, we asked whether these variables or the relation among them would differ with children's age and gender. Whereas some studies have shown that the prepubescent period may be a particularly vulnerable time compared with early childhood or adolescence, other work has indicated that the later the abuse occurs, the more pervasive are the effects (Gomes-Schwartz, Horowitz, & Sauzier, 1985; Kendall-Tackett et al., 1993; D. Wolfe et al., 1994). Results from our study at the time of abuse discovery showed that adolescents, compared with children, were more likely to have been abused by a parent figure, to have experienced 10 or more abuse events, and to have experienced the use of force (Feiring, Taska, & Lewis, 1999). Adolescents also reported more depressive symptoms and lower self-esteem than did children. A history of CSA may heighten feelings of shame and self-doubt during adolescence, when developing sexuality and reflective self-appraisal are central tasks (Downs, 1993; Reimer, 1996). Adolescent victims, compared with child victims, were expected to continue to show poorer adjustment over time. The relations among shame, self-oriented explanations for negative events, and behavior problems are stronger in older children (Ferguson et al., 1999). We therefore expected that the relation among shame, at-risk attributional style, and poor adjustment would be stronger in adolescents than in children.

The few studies that have examined gender report differences in the nature of sexual abuse, such as boys more than girls experiencing force and extrafamilial abuse (Faller, 1989; Pierce & Pierce, 1985). In general, girls and women are more likely to experience shame in situations in which they perceive they have broken a social rule or not lived up to their own or others' expectations and are more likely to report depressive symptoms (Lewis, 1992; Nolen-Hoeksema & Girgus, 1994). Results from our study at the time of abuse discovery showed that girls were more likely than boys to report both abuse by a parent figure and genital penetration (Feiring et al., 1999). Girls also reported more shame and PTSD symptoms. Consequently, we expected that abused girls more than boys would continue to show higher levels of shame and internalizing symptoms over a year's time.

In summary, this study examined how abuse severity, shame, and attributional style are related to the development of adjustment from the time of abuse discovery to 1 year later. Shame and attribution risk were expected to be related to poorer adjustment over time, with these process variables acting as potential moderators or mediators of the relation between abuse severity and adjustment. Age and gender differences also are expected in the level and relations among abuse severity, shame, attributional style, and adjustment.

Method

Sample Selection and Characteristics

Sexual abuse was defined as sexual contact by coercion with a juvenile or an adult perpetrator. Sexual contact included both physical contact (e.g., fondling or oral, anal, or vaginal penetration) and nonphysical contact (e.g., exhibitionism or exposure to pornography). All participants were 8–15 years of age at the time of discovery and were confirmed to have experienced sexual abuse by at least one of the following criteria: specific medical findings, confession by the offender, abuse validated by an expert, abuse substantiated by Child Protective Services (CPS), or conviction of the offender in family or criminal court. About half of the sample came directly from CPS, and the remainder came from other referral sources (e.g., medical clinics) and were not seen by CPS because the perpetrator was not in a caretaking role. While the sample was obtained from a variety of sources, it did not differ by source of referral or abuse characteristics (other than type of perpetrator) or demographic variables.

The sample of 147 participants consisted of 83 children (61 girls and 22 boys, ages 8–11) and 64 adolescents (47 girls and 17 boys, ages 12–15). They were initially assessed within 8 weeks of the discovery of the abuse, before they received any treatment (Time 1, or T1), and 1 year later (Time 2, or T2). This longitudinal sample of 147 represents an attrition rate of 8% of those participants seen at T1. We were unable to locate 3 families, and 10 other families refused to participate in the follow-up assessment. The dropouts from the study did not differ from the longitudinal sample on demographic or abuse characteristics, shame, attribution, or adjustment. The majority of the sample came from single-parent families (71%) and were poor (70% with an income of $25,000 or less). The ethnicity of the sample was self described as African American (40%), White (34%), Hispanic (18%), and other (8%, including Asian and Native American).

Procedure

As approved by the sponsoring university's institutional review board, participants were recruited through CPS and regional CSA medical clinics. Project staff, who were CPS consultants, were permitted to review intake logs to identify eligible cases. CPS caseworkers then contacted eligible families to obtain permission for project staff to contact them to discuss the study (a similar procedure was followed for recruitment from medical clinics). If the family was interested in participating in the study, an appointment for an interview was scheduled. At both the initial and follow-up assessments, informed consent was obtained from the children and their parents or caregivers when the family arrived for the interview. Participants were administered a structured interview by a trained clinician in a private office. For the self-report questionnaires, the clinician read the items aloud while the participants marked their responses on their own form, which was out of view of the clinician. This helped ensure that the children read the questions properly and at the same time protected their privacy. The interview was not investigative and, thus, did not include questions about the disclosed abusive events. This information was obtained from CPS and law enforcement case records after the children were interviewed. Participants were paid $150 for completion of the initial and follow-up assessments.

Measures

The same measures were used at the initial and follow-up assessments. Instruments were selected to be age appropriate for the sample. Each of the measures is described below.

Abuse characteristics. We determined characteristics of the abuse by using a checklist designed to systematically collect information about the specifics of the abuse. This checklist was completed by a staff member after reviewing written reports from law enforcement agencies and CPS. The checklist included information on the relationship of the perpetrator to the victim, frequency and duration of the victimization, how the abuse was discovered, the types of abusive acts experienced (e.g., fondling, penetration), the use of force, medical findings, and how the case was confirmed.

Attribution. We obtained general attributional style by using the Children's Attributional Style Questionnaire—Revised (CASQ–R), which includes 24 forced-choice items (Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998). Half of the items describe events with positive, and the other half, negative, outcomes. Each event (e.g., "You get an A on a test") has two possible attributions to explain why it occurred (e.g., "I am smart" vs. "I am good in the subject that the test was in"). Children are instructed to pick one sentence from the pair that best describes why the event in question happened to them. Each pair of descriptions relates to one of the three attributional dimensions (internality, stability, and globality). Positive composite (PC; internal stable, global attributions for positive events), negative composite (NC; internal, stable, global attributions for negative events), and general attribution risk (GAR; the PC minus the NC) scores were calculated. The GAR score indicates the extent to which a pessimistic style for negative events is balanced by an optimistic style for positive events; the lower the score is, the more the child has a pessimistic style for both positive and negative events. The GAR potentially ranges from -12 to 12. The GAR was used in the analyses because it had better internal consistency at each time point (at T1 and T2, $\alpha = .72$) than the separate PC (at T1 and T2, $\alpha = .55$ and .56, respectively) and NC (at T1 and T2, $\alpha = .54$ and .52, respectively). Similar results for internal consistency are reported in the CASQ–R validation study (Thompson et al., 1998); this study also reported moderate test–retest reliability over a 6-month period and good criterion validity.

Abuse-specific internal attributional style was measured with the Abuse Attribution Inventory (AAI), which was developed for this study. The AAI includes items that describe internal and external attributions for the abuse. The respondents are asked to rate each item on a 3-point scale ranging from 0 (*not true*) to 2 (*very true*). Confirmatory factor analyses indicated that a reliable factor for abuse-specific internal attributions could be obtained at each assessment point (Feiring et al., in press). Sample items include "This happened to me because: I was not a careful person; I was not smart enough to stop it from happening." The abuse-specific internal attribution factor score was obtained by multiplying each item on this factor by its factor weight, summing the resultant product, and dividing by the number of items; the potential range for this score was 0–.97 at T1 and 0–1.07 at T2. The higher the score, the higher the internal attribution for the abuse. This factor has good internal reliability (at T1 and T2, $\alpha = .75$ and .73, respectively). For ease of discussion, we refer to this measure as *abuse attribution risk.*

Shame. Shame for the abuse was indexed by four items developed for this study: "I feel ashamed because I think that people can tell from looking at me what happened"; "When I think about what happened I want to go away by myself and hide"; "I am ashamed because I feel I am the only one in my school who this has happened to"; and "What happened to me makes me feel dirty." Each of these items was rated on a 3-point scale ranging from 0 (*not true*) to 2 (*very true*), with a potential overall range of 0–8. A short measure of shame was used to limit the potential for emotional distress participants might feel when responding to items about shame for the abuse. Even with the small number of items, the alpha coefficient for this measure was .85 at each time point. On a sample of 10 adolescents in treatment following the discovery of sexual abuse, the test–retest reliability over a 2-week interval was adequate ($r = .78$).

Self-esteem. The Self-Perception Profile for Children (Harter, 1985) and the Self-Perception Profile for Adolescents (Harter, 1988) were used to measure the participants' feelings of self-esteem. The Global Self-Worth subscale for children has 6 items, and for adolescents, 5 items. Some items begin with high and some with low competence statements, and a structured alternative format is used. Items are scored from 4 to 1, with 4 representing the most positive and 1 the most negative self-evaluation. The measure has acceptable internal consistency and construct validity (Harter, 1985, 1988; Hymel, LeMare, Ditner, & Woody, 1999; Wichstrom, 1995). Using the standardization samples provided in the manual, we converted raw scores to *t* scores to allow comparability across gender and age. The internal consistency for this sample was good for the child (at T1 and T2, $\alpha = .68$ and .82, respectively) and adolescent (at T1 and T2, $\alpha = .88$ and .84, respectively) forms of the esteem measure.

Depressive symptoms. The Children's Depression Inventory (CDI; Kovacs, 1985), a 27-item forced-choice questionnaire, was used to assess depressive symptoms. Each item is coded 0, 1, or 2, yielding a potential score of 0–54. The CDI quantifies a range of depressive symptoms, including disturbances of mood, hedonic capacity, vegetative functions, and interpersonal behaviors. The higher the total score is, the more depressive symptomatology is evidenced. CDI scores discriminate among depressed children, nondepressed patients, and normal school children (Saylor, Finch, Spirito, & Bennett, 1984). In this sample the internal consistency of the CDI was high (at T1 and T2, $\alpha = .91$ and .90, respectively).

PTSD. The Children's Impact of Traumatic Events Scale—Revised (CITES–R) is used to assess PTSD symptoms in children who have experienced sexual abuse (V. V. Wolfe, Gentile, Michienzi, Sas, & Wolfe, 1991). The CITES–R contains four PTSD subscales with a total of 26 items indexing symptoms of intrusive thoughts, avoidance, hyperarousal, and sexual anxiety. The subscales consist of statements to which the child responds on a 3-point scale ranging from 1 (*not true*) to 3 (*very true*); the subscale scores consist of the mean of the items on that subscale with a potential range of 1–3. The Intrusive Thoughts subscale (7 items) assesses reexperiencing abusive events and reactions through nightmares and memories. The Avoidance subscale (8 items) taps efforts to forget or not think about the abuse and to avoid reminders of the abuse. The Hyperarousal subscale (6 items) indexes feelings of hypervigilance, irritability, difficulty concentrating, and exaggerated startle response. The Sexual Anxiety subscale (5 items) measures anxiety associated with sexual behavior, such as becoming upset when thinking about sex. Multitrait–multimethod matrix analyses provide evidence for significant convergent and discriminant validity (V. V. Wolfe et al., 1991). To minimize the number of analyses and, therefore, reduce the probability of Type I errors, we created a summary PTSD score. This PTSD score was based on the results of principal-components analyses of the four PTSD subscales, which showed that they all loaded on one factor (at T1, factor loadings ranged from .66 to .83, with 60% of the variance accounted for; T2 factor loadings ranged from .62 to .88, with 65% of the variance accounted for). The summary PTSD score was obtained by adding the mean value for each of the subscales and dividing by 4 (this was done because there are different numbers of items on each subscale). The higher the score was, the more PTSD symptoms existed. The alpha coefficient for this measure is high (at T1 and T2, α = .88 and .91, respectively).

Results

Analytic Plan

First, we present the nature of the sexual abuse experience in this sample. Next, we examine the means for the abuse severity, shame, attribution, and adjustment measures for the total sample and for age group, gender, and time effects. Third, we present the cross-sectional and longitudinal correlations among abuse severity, shame, attribution, and adjustment. Next, we test the hypotheses that more shame and attribution risk predict poorer adjustment after controlling for adjustment at discovery and abuse severity, as well as potential moderating and mediating effects, using regression analyses. Finally, we present analyses to examine the improvement in adjustment as a function of improvement in shame and attribution risk.

Sexual Abuse Characteristics

Sixty-seven percent of this sample experienced genital penetration, which is the most serious form of abuse contact. Almost all of the perpetrators were known to their victims, with 35% being a parent figure, 25% a relative, 37% a familiar person who was not a relative, and 3% a stranger. Forty-three percent of the participants lived with the perpetrator at the time of the abuse. Frequency of the reported abusive events was once for 31% of the sample, 2–9 times for 38%, and 10 times or more for 31%. The abuse lasted for a year or longer in 33% of the sample. The use of force was reported in 26% of the sample, and the threat of force was reported in 21%; in 53% of the cases, no force or threat were reported. Latency to disclose the abuse, that is, the time lapse from the last abusive act to the time of discovery, was 2 weeks or less

(46%), more than 2 weeks through 6 months (33%), and 7 months or more (21%).

Although it would have been preferable to create abuse profiles, this was not feasible given the large number of possible combinations of abuse characteristics. Using each abuse characteristic as a separate predictor (as was done in the abuse discovery analyses; see Feiring et al., 1998) would not have left sufficient degrees of freedom to examine longitudinal direct and moderator–mediator effects of the process variables. To obtain a summary measure of abuse severity, we calculated a score based on characteristics of the abuse that research suggests are related to poor outcomes and that are rated by professionals as being of greater severity (Chaffin, Wherry, Newlin, Crutchfield, & Dykman, 1997; Kendall-Tackett et al., 1993). For each child we counted whether he or she had experienced the most severe level of each of six abuse characteristics as follows: penetration, parent figure perpetrator, perpetrator living with the child at the time of abuse, 10 or more abuse events, duration of abuse for a year or longer, and use of physical force. The resulting summed abuse-severity score ranged from 0 to 6, with higher scores indicating a greater number of severe types of abuse. The correlations between individual abuse characteristics and the summary abuse-severity measure averaged .51 (*df* = 145) and ranged from .21 (for force) to .68 (for living with perpetrator). We acknowledge that this summary score is an imprecise estimate of severity as it equally weights severity for different characteristics (e.g., experiencing 10+ events is given one point, as is having a parent figure perpetrator).

Mean Analyses

The average summary abuse-severity score indicates that the participants experienced the most severe level of abuse on at least two of the six abuse characteristics (*M* = 2.3, *SD* = 1.5). Results of an Age Group × Gender analysis of variance (ANOVA) show that girls were higher in severity than boys (girls, *M* = 2.5, *SD* = 1.5; boys, *M* = 1.8, *SD* = 1.4), $F(1, 143) = 7.53$, $p \le .01$, with a trend for adolescents to have experienced more severe abuse than children (adolescents, *M* = 2.6, *SD* = 1.6; children, *M* = 2.0, *SD* = 1.3), $F(1, 143) = 3.49$, $p \le .06$.

Table 1 shows the means for the shame and the attribution measures at T1 and T2 by age group and gender and for the total sample. Repeated measures ANOVAs with age group and gender as the between-subjects factors and time of assessment as the within-subject factor were conducted on the shame and attribution measures. Post hoc comparisons of means were performed using *t* tests. Over a 1-year period there was significant improvement in shame for the abuse, $F(1, 143) = 28.66$, $p \le .0001$, abuse attribution risk, $F(1, 143) = 4.82$, $p \le .05$, and general attribution risk, $F(1, 143) = 11.61$, $p \le .001$. As expected, girls (G) reported higher levels of shame than boys (B), but this difference was significant only at T1: main effect for gender, $F(1, 143) = 5.74$, $p \le .05$ (at T1, G > B, $p \le .01$; at T2, *ns*). The time and gender effects were qualified by a Time × Gender interaction, $F(1, 143) = 4.47$, $p \le .05$. Whereas girls showed a significant decrease in shame over time, boys did not (girls, T1 > T2, $p \le .0001$; boys, T1 > T2, $p \le .11$).

Table 2 shows the means for the adjustment measures at T1 and T2. Repeated measures ANOVAs were used to examine the effects of age group, gender, and time. Over a 1-year period (time effect)

Table 1

Means for General and Abuse Attribution Risk and Shame at Time 1 (T1) and Time 2 (T2) by Age Group and Gender and for the Total Sample

| | General attribution risk[a] | | | | Shame[a,b,c] | | | | Abuse attribution risk (factor score)[a] | | | |
| | T1 | | T2 | | T1 | | T2 | | T1 | | T2 | |
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age group												
Child	4.99	3.13	5.60	3.35	3.30	2.20	2.10	2.10	.19	.20	.15	.20
Adolescent	3.70	4.33	5.20	4.04	3.30	2.10	1.95	1.80	.18	.17	.16	.15
Gender												
Girls	4.47	3.56	5.32	3.73	3.65	2.10	2.13	2.01	.17	.17	.16	.19
Boys	4.30	4.23	5.70	3.49	2.41	2.00	1.79	1.90	.22	.23	.14	.13
Total	4.43	3.74	5.42	3.66	3.32	2.14	2.04	1.99	.18	.19	.15	.18

Note. For general attribution risk, the lower the score, the more pessimistic the attributional style for positive and negative events.
[a] Significant gender effect. [b] Significant time effect. [c] Significant Gender × Time effect.

there were significant decreases in depressive symptoms, $F(1, 143) = 18.78$, $p \le .0001$, and PTSD symptoms, $F(1, 143) = 44.62$, $p \le .0001$, and an increase in self-esteem, $F(1, 143) = 9.62$, $p \le .01$. Although adjustment improved over time, a substantial minority of children experienced serious problems 1 year following abuse discovery. At T2, 42% and 17% of the sample reported elevated levels of PTSD and depressive symptoms, respectively, and 19% reported poor self-esteem (with elevated scores defined as follows: depression, 17 or higher; PTSD, 2 or higher; and self-esteem, 40 or lower).

Overall age group effects were found. Adolescents (A) compared with children (C) had more depressive symptoms, $F(1, 143) = 4.26$, $p \le .05$ (at T1, A > C, $p \le .01$; at T2, A > C $p \le .05$), and lower self-esteem, $F(1, 143) = 7.13$, $p \le .01$ (at T1, A < C, $p \le .001$; at T2, A < C, $p \le .05$). In contrast, children had more PTSD symptoms than adolescents, $F(1, 143) = 5.65$, $p \le .05$ (at T1, C > A, $p \le .01$; at T2, C > A, $p \le .07$). Overall, gender effects also were found. Girls were higher than boys in symptoms of depression, $F(1, 143) = 4.26$, $p \le .05$ (at T1, G > B, $p \le .10$; at T2, G > B, $p \le .05$), and PTSD, $F(1, 143) = 16.50$, $p \le .0001$ (at T1, G > B, $p \le .001$; at T2, G > B, $p \le .001$). There were no other significant main effects or interactions.

Interrelations Among Abuse Severity, Shame, Attribution, and Adjustment

The zero-order correlation matrix for the continuous variables used in this study, within and across time, is shown in Table 3. Within and across time, greater abuse severity was related to greater general attribution risk, more depressive symptoms, and lower self-esteem. The relation between abuse severity and shame approached significance. Severity was not related to abuse attributions or PTSD.

The shame and attribution variables showed a moderate stability over a year. Within and across time, there were low to moderate associations among the general and abuse attribution risk and shame measures. The strongest relations among the different process variables were between concurrent abuse attribution and shame. T1 shame was a stronger predictor of T2 abuse attribution than T1 abuse attribution was of T2 shame.

Concurrently and across time, greater general attribution risk was related to more depressive symptoms and lower self-esteem. Within T2 only, more general attribution risk was related to more PTSD symptoms. Within and across time, shame was related to more depressive and PTSD symptoms and lower self-esteem.

Table 2

Means for Depression and Post-Traumatic Stress Disorder (PTSD) Symptoms and Self-Esteem at Time 1 (T1) and Time 2 (T2) by Age Group and Gender and for the Total Sample

| | Depressive symptoms[a,b,c] | | | | Self-esteem[a,c] | | | | PTSD symptoms[a,b,c] | | | |
| | T1 | | T2 | | T1 | | T2 | | T1 | | T2 | |
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age Group												
Child	10.42	9.25	7.80	8.18	52.11	10.14	53.89	9.28	2.22	0.42	1.90	0.47
Adolescent	15.31	10.28	10.84	8.40	44.78	14.47	49.36	13.68	1.99	0.40	1.77	0.43
Gender												
Girls	13.38	9.68	9.84	9.05	48.44	12.34	51.07	13.41	2.19	0.40	1.92	0.46
Boys	10.26	10.56	7.13	5.82	50.00	14.06	54.19	9.20	1.91	0.43	1.64	0.41
Total	12.55	9.98	9.12	8.38	48.83	12.76	51.86	12.55	2.12	0.43	1.86	0.46

[a] Significant age effect. [b] Significant gender effect. [c] Significant time effect.

Table 3
Zero-Order Correlation Matrix Among Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Abuse severity T1	—	−.22**	−.22**	−.02	.06	.15	.14	.21**	.26***	−.19*	−.23**	−.02	.09
2. General attribution risk[a] T1		—	.51****	−.21**	−.15	−.20**	−.14	−.51****	−.40****	.39****	.30****	−.16	−.13
3. General attribution risk[a] T2			—	−.15	−.23**	−.11	−.19*	−.34****	−.57****	.25**	.46****	−.13	−.29****
4. Abuse attribution T1				—	.35****	.44****	.14	.40****	.18*	−.25**	−.21**	.34****	.10
5. Abuse attribution T2					—	.32****	.48****	.21**	.36****	−.18*	−.30****	.20**	.40****
6. Shame T1						—	.44****	.43****	.24**	−.31****	−.18*	.65****	.44****
7. Shame T2							—	.23**	.50****	−.07	−.30****	.38****	.67****
8. Depressive symptoms T1								—	.60****	−.64****	−.45****	.39****	.27***
9. Depressive symptoms T2									—	−.45****	−.70****	.24**	.49****
10. Esteem T1										—	.57****	−.23**	−.15
11. Esteem T2											—	−.20*	−.30****
12. PTSD symptoms T1												—	.54****
13. PTSD symptoms T2													—

Note. $df = 145$. T1 = Time 1; T2 = Time 2; PTSD = post-traumatic stress disorder.
[a] The lower the score, the more pessimistic the attributional style for good and bad events.
* $p \le .05$. ** $p \le .01$. *** $p \le .001$. **** $p \le .0001$.

Abuse attribution risk showed a similar pattern except that this variable at T1 was not related to PTSD at T2.

The Role of Shame and Attribution in Predicting Adjustment: Direct Effects, Moderation, and Mediation

To examine the extent to which shame and attribution were directly related to adjustment a year following abuse discovery or moderated the relation between abuse severity and adjustment, we conducted two sets of hierarchical linear regressions. The first set of regressions examined the direct and moderator effects of the T1 shame and attribution variables, and the second set examined these effects for the T2 shame and attribution variables. In Step 1 of the analyses, the initial (T1) level of the adjustment measure was entered so that the following steps indicated the variance accounted for after stability in adjustment had been considered. Age, as a continuous measure in years, gender, and abuse severity were

entered on the next step. The third step included the direct effects of the shame and attribution variables. Interaction terms of abuse severity with the shame and attribution variables were entered on the final step. Interaction terms were multiplicative products of the centered abuse severity and moderator variables (Cohen & Cohen, 1983). At each step, the significance of the change in R^2 showed the contribution of each block of variables. Interaction terms were further analyzed if they were significant.

Table 4 presents the results of the hierarchical regressions using the T1 shame and attribution variables to predict depressive and PTSD symptoms and self-esteem. It shows the change in R^2 for each step of the regression and the standardized beta weight (B) for each predictor variable. After accounting for the variance due to adjustment at T1, age, gender, and abuse severity, as well as the main effects for the process variables, the interaction of abuse severity with general attribution risk was the only other significant

Table 4
Hierarchical Regression Results for Predicting Time 2 (T2) Adjustment as a Function of Time 1 (T1) Adjustment, Age, Gender, Abuse Severity, T1 Shame, and Attribution Variables and the Interaction of Severity With Shame and Attribution Variables

Predictor	Depressive symptoms		Self-esteem		PTSD symptoms	
	ΔR^2	B	ΔR^2	B	ΔR^2	B
Step 1	.35****		.32****		.30****	
T1 adjustment		.60****		.57****		.54****
Step 2	—		—		—	
Age		.02		.06		−.09
Gender		.04		−.05		.07
Abuse severity		.13†		−.14†		.06
Step 3	—		—		—	
T1 General attribution risk[a]		−.12		.06		−.06
T1 Abuse attribution risk		−.03		−.12†		−.14
T1 Shame		−.03		.08		.20*
Step 4	.03*		.04*		—	
Abuse Severity × General Attribution Risk		−.15*		.20**		−.06
Abuse Severity × Abuse Attribution Risk		.12†		.09		.05
Abuse Severity × Shame		−.07		.06		.11

Note. Dashes indicate values that were nonsignificant. PTSD = post-traumatic stress disorder.
[a] The lower the score, the more pessimistic the attributional style for positive and negative events.
† $p \le .10$ (marginally significant). * $p \le .05$. ** $p \le .01$. **** $p \le .0001$.

predictor for subsequent depressive symptoms and self-esteem. The additional variance explained by this moderation effect was small but significant. Only PTSD at abuse discovery accounted for a significant portion of the variance in subsequent PTSD, although more T1 shame was significantly related to such symptoms at T2.

To understand the meaning of the interaction terms, general attribution risk was divided into high-, middle-, and low-risk groups. The cutoff scores for the T1 general attribution groups were as follows: high-risk group, -9–2 ($n = 45$); middle-risk group, 3–6 ($n = 54$); and low-risk group, 7–11 ($n = 58$). Following the procedure described by Cohen and Cohen (1983), we compared the slope of the high-risk group to that for the other groups by using dummy codes (for high vs. other and middle vs. low groups). These dummy codes were used in a regression analysis in which the main effects for severity and the risk group comparisons (dummy codes) were entered first, followed by the interaction terms for severity with the risk group comparisons. The results showed that the relations between abuse severity and depressive symptoms and self-esteem were significantly greater for those individuals in the high-risk attribution group than for those in the middle- or low-risk attribution groups (for depression, $B = 0.19$, $p < .01$; for self-esteem, $B = -0.14$, $p < .05$). The relations between abuse severity and depressive symptoms and self-esteem in the middle- and low-risk attribution groups were not significantly different. Results for the simple main effects of abuse severity on adjustment within each attribution risk group showed that within the high-risk group there was a significant relation between abuse severity and depressive symptoms ($R^2 = .25$, $B = 0.50$, $p \leq .001$) and self-esteem ($R^2 = .22$, $B = -0.46$, $p \leq .01$). When general attribution risk was high, greater abuse severity predicted poorer adjustment. For the middle- and low-risk groups there were no significant relations.

Table 5 presents the results of the hierarchical regressions using the T2 shame and attribution variables to predict depressive and PTSD symptoms and self-esteem. After we accounted for the variance due to adjustment at T1, as well as age, gender, and abuse severity, shame and general attribution risk showed significant direct effects on depressive and PTSD symptoms and self-esteem. Shame was particularly important for predicting PTSD symptoms. The change in R^2 was significant and moderate when these process measures were added to the regressions. After we controlled for other variables, abuse attribution risk did not show unique relations to the adjustment measures. No significant moderation effects were observed.

To examine whether age moderated the relations between shame, attribution, and adjustment we conducted two sets of hierarchical linear regressions. These analyses were the same as those shown in Tables 4 and 5 except for the final step. In this step, three interaction terms were entered for age with the shame and attribution variables. Contrary to expectation, no effects were found for age as a moderator of the relations between the process and adjustment variables. Similar analyses also failed to show significant moderation effects of age on the relation between severity and adjustment.

To examine whether attribution risk and shame mediated the relation between abuse severity and T2 adjustment we followed the steps specified by Baron and Kenney (1986) using a series of regressions. General attribution risk was the only variable to meet the first two conditions for mediation: It was significantly related to abuse severity and it significantly predicted subsequent depressive symptoms and self-esteem. However, the third condition for mediation was not met: The significant relation between severity and outcomes did not decrease substantially when the effect of general attribution risk was included in the regression.

An additional set of analyses was conducted to examine whether shame mediated the relation between abuse severity and adjustment under high- but not medium- or low-risk general attribution. This moderation of mediational effects was examined for two reasons: because general attribution risk was found to moderate the relation between abuse severity and adjustment and because the-

Table 5

Hierarchical Regression Results for Predicting Time 2 (T2) Adjustment as a Function of Time 1 (T1) Adjustment, Age, Gender, Abuse Severity, T2 Shame and Attribution Variables and the Interaction of Severity With Shame and Attribution Variables

Predictor	Depressive symptoms		Self-esteem		PTSD symptoms	
	ΔR^2	B	ΔR^2	B	ΔR^2	B
Step 1	.36****		.32****		.30****	
T1 adjustment		.60****		.57****		.55****
Step 2	—		—		—	
Age		.03		.07		−.07
Gender		.03		−.05		.12
Abuse severity		.13†		−.14†		.09
Step 3	.25****		.13****		.28****	
T2 General attribution risk[a]		−.37***		.29****		−.16*
T2 Abuse attribution risk		−.03		−.07		.07
T2 Shame		.34***		−.16*		.50****
Step 4	—		—		—	
Abuse Severity × General Attribution Risk		−.08		.10		.07
Abuse Severity × Abuse Attribution Risk		−.04		.13†		.10
Abuse Severity × Shame		−.08		−.09		−.01

Note. Dashes indicate values that were nonsignificant. PTSD = post-traumatic stress disorder.
[a] The lower the score, the more pessimistic the attributional style for positive and negative events.
† $p \leq .10$ (marginally significant). * $p \leq .05$. *** $p \leq .001$. **** $p \leq .0001$.

oretically, this type of risky attributional style is thought to elicit shame (Lewis, 1992). The results did not support the mediational model in the high-risk attribution group.

Improvement in Attribution and Shame Related to Changes in Adjustment

To examine the extent to which changes in shame and attribution were related to changes in adjustment we conducted a series of hierarchical regressions. The T1 adjustment measure was entered on the first step so that the subsequent predictors would explain variance attributed to change in adjustment. The second step included age, gender, and abuse severity. On the final step, difference scores were entered that indexed improvement in shame and attribution risk such that higher difference scores indicated more improvement. Improvement difference scores were calculated as follows: decreases in shame (T1 shame minus T2 shame), decreases in abuse attribution (T1 minus T2 scores) and increase in general attribution (because higher general attribution scores indicate less risk, T2 minus T1 scores).

After we accounted for stability in adjustment over time and controlled for age, gender, and abuse severity, the increment in variance due to adding the changes in the process variables was significant. As shown in Table 6, improvement in shame is related to improvement in all adjustment outcomes. Improvement in general attribution risk is related to improvement in depressive symptoms and self-esteem, whereas improvement in abuse attribution risk is related only to improvement in PTSD symptoms.

The above improvement analysis does not address the concern that the equivalent amount of change in a process variable may have different implications for adjustment depending on the level of the process variable. For example, although children may show the same amount of improvement in shame, some may remain relatively high, and others low, in shame. The former group would be expected to show poor adjustment over time, whereas the latter would not. To address this issue, we used median splits to create four groups that reflected level and type of change from T1 to T2 in the process variables (high–high, low–low, high–low, and low–

high change groups). Repeated measures ANOVAs on the adjustment measures were conducted with the four change groups for a particular process variable as the between-subjects factor and time of assessment as the within-subject factor.

Shame change groups were associated with adjustment patterns over time (Shame Group × Time interactions) for depressive symptoms, $F(3, 143) = 5.75$, $p \leq .001$, self-esteem, $F(3, 143) = 6.42$, $p \leq .0001$, and PTSD symptoms, $F(3, 143) = 9.08$, $p \leq .0001$. As shown in Figure 1, the high–high shame group remained high in depressive symptoms and low in self-esteem over time, with a small but significant decrease in PTSD symptoms. For the low–low group, depressive and PTSD symptoms were low and decreased over time, whereas self-esteem remained high. Individuals who changed from high to low shame (high–low group) showed concomitant changes in all adjustment outcomes. The low–high group is difficult to interpret because of the small sample size. None of the changes in adjustment measures were significant for this group, although for PTSD and self-esteem they were in the expected direction of increased symptoms and decreased self-esteem.

General attribution risk change groups were associated with patterns of depressive symptoms (General Attribution Risk Group × Time interaction), $F(3, 143) = 2.81$, $p \leq .05$. As shown in the top panel of Figure 2, even with some improvement, the high–high general attribution risk group showed the highest levels of depressive symptoms. The low–low group showed the lowest levels of depressive symptoms, with a decrease in these symptoms over time. The group that changed from high to low showed a parallel decrease in depressive symptoms. Contrary to what would be expected, the low–high group showed low levels of depressive symptoms that did not change over time. Abuse attribution risk change groups were associated with patterns of PTSD symptoms (Abuse Attribution Risk Group × Time interaction), $F(3, 143) = 5.30$, $p \leq .01$. As shown in the bottom panel of Figure 2, for all except the low–high group, improvement occurred. The high–high group had the highest, and the low–low group the lowest, PTSD levels, whereas the high–low group showed the

Table 6

Hierarchical Regression Results for Changes in Adjustment as a Function of Improvement in General and Abuse Attribution Risk and Shame After Controlling for Age, Gender, and Abuse Severity

Predictor	Depressive symptoms		Self-esteem		PTSD symptoms	
	ΔR^2	B	ΔR^2	B	ΔR^2	B
Step 1	.35****		.32****		.31****	
T1 adjustment		.60****		.57****		.55****
Step 2	—		—		—	
Age		.03		.07		−.07
Gender		.03		−.05		.12
Abuse severity		.13†		−.14†		.09
Step 3: Improvement	.20****		.10****		.19****	
General attribution risk		−.23****		.21**		−.10
Abuse attribution risk		−.10		−.01		−.20**
Shame		−.32****		.23**		−.31****

Note. Dashes indicate values that were nonsignificant. PTSD = post-traumatic stress disorder.
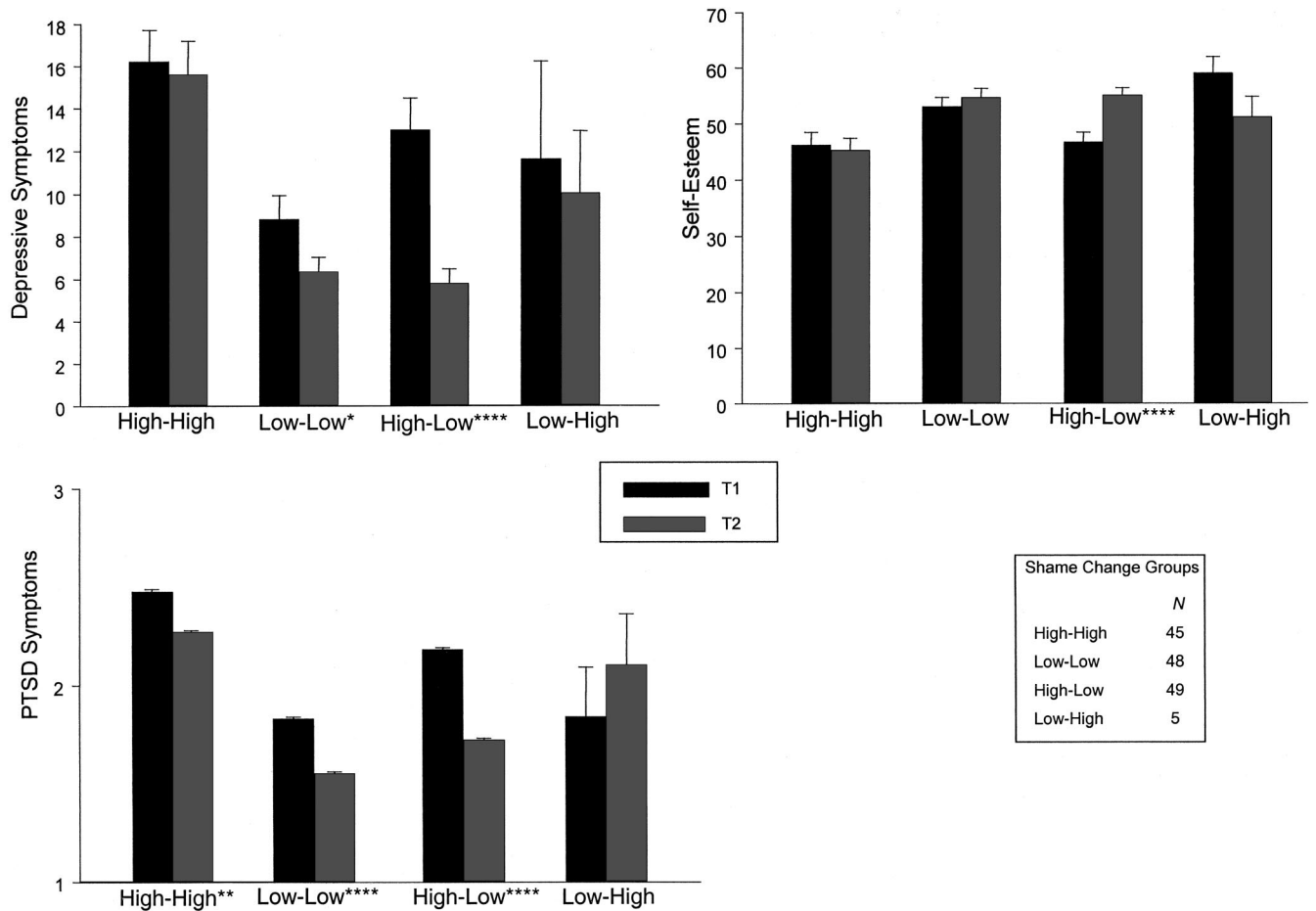† $p \leq .10$ (marginally significant). ** $p \leq .01$. **** $p \leq .0001$.

Figure 1. Adjustment measures by shame change groups (standard errors are represented by vertical lines). High group membership was at or above the median of 3, and low was below the median. PTSD = post-traumatic stress disorder. Significant Time 1 (T1) to Time 2 (T2) differences: $* p < .05$; $** p < .01$; $**** p < .0001$.

expected pattern of change from high to low levels of PTSD symptoms.

Discussion

Although the experience of sexual abuse is a risk factor for the development of adjustment problems, most existing studies do not offer insights into processes that explain adjustment over time (Boney-McCoy & Finkelhor, 1996; Kendall-Tackett et al., 1993; Widom, 1999). Our results agree with others showing a weak relation between reports of sexual abuse severity following discovery and subsequent adjustment problems (Goodman et al., 1992; Paradise, Rose, Sleeper, & Nathanson, 1994; Tebbutt, Swanston, Oates, & O'Toole, 1997). Once adjustment at the time of discovery is considered, abuse severity does not account for additional variation in adjustment a year later. Theoretically, abuse is an address variable that may indicate risk but does not further our understanding of psychological processes that contribute to changes in adjustment (Cicchetti & Toth, 1995).

In contrast to abuse severity, shame and general attribution style account for additional variation in victims' adjustment 1 year

following abuse discovery even after previous adjustment at the time of discovery is controlled. Furthermore, general attribution risk at the time of discovery shows small but significant moderation effects on the relations between severity and subsequent depressive symptoms and self-esteem. Although shame and general attribution risk mediated the relations between number of abuse events and depressive symptoms and self-esteem at the time of abuse discovery, these mediational effects did not persist from T1 to T2. The predictive analyses that examined mediational effects over a year's time used the summary abuse severity measure rather than separate abuse characteristics. Additional analyses substituting the number of abuse events for the summary severity measure still failed to show mediational effects from T1 to T2. Mediation is difficult to demonstrate under conditions in which the direct effect between predictor and outcome is weak, as was the case here. Mediational effects may disappear over time, or as discussed later, demonstrating the persistence of such effects may require improvement in the measurement of the abuse severity and process constructs. Despite the failure to find mediational effects over time, changes in shame and attribution each independently
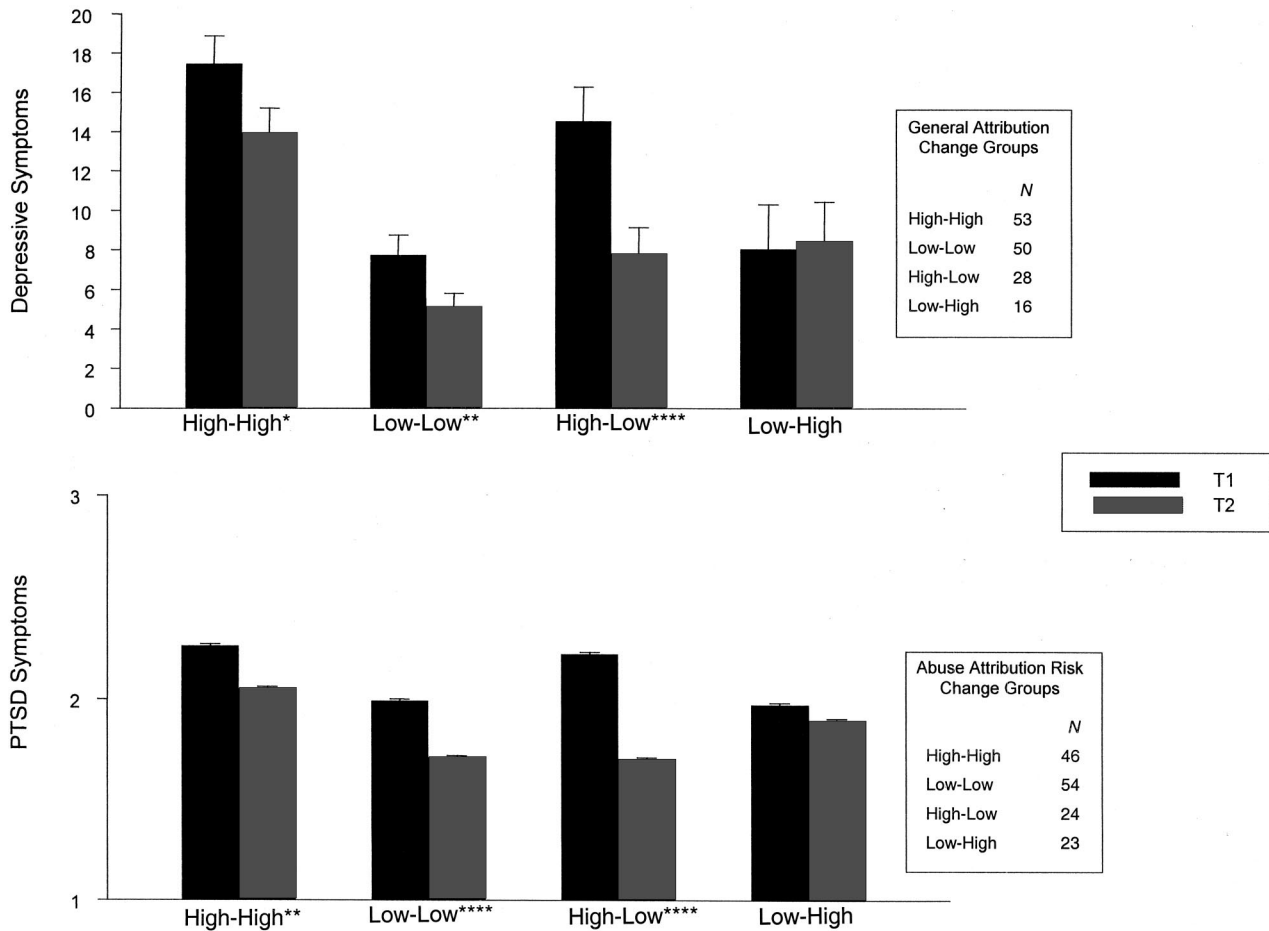
Figure 2. Adjustment measures by general and abuse-specific attribution risk change groups (standard errors are represented by vertical lines). Top: Depressive symptoms by general attribution risk change groups (High group membership was below the median of 5, and low was at or above the median). Bottom: Post-traumatic stress disorder (PTSD) symptoms by abuse-specific attribution groups (High group membership was at or above the median of .13, and low was below the median). Significant Time 1 (T1) to Time 2 (T2) differences: * $p <$ .05;   ** $p < .01$;   **** $p < .0001$.

contribute to changes in adjustment. Children who improve in shame and attribution risk show concomitant improvements in adjustment. It is important to note that patterns of consistency and change in shame and attribution provide insight into who improves and who does not.

Accounting for Adjustment Over Time

Children who remain high in shame for the abuse appear to be at particular risk for the poorest adjustment over a year's time, whereas those children who change from high to low levels of shame show improvement across all indicators of adjustment. These results are consistent with those implicating shame in the development of poor adjustment and provide longitudinal evidence for clinical observations that feelings of stigmatization are important for understanding the negative sequelae of sexual abuse (Andrews, 1995; Finkelhor & Browne, 1985; Ferguson et al., 1999; Tangney et al., 1992). For some children, sexual abuse and its discovery precipitate painful self-scrutiny in which the self is

found to be fundamentally defective. Shame for the abuse may engender negative affect in a wide range of self-representations and disrupt processes essential to self-development, such as self-agency and self-affectivity (Alessandri & Lewis, 1996; Westen, 1994). From a functionalist perspective of emotion, exposure to shame can lead to a surfeit pathology in which a person persistently interprets events in terms of a shame-prone affective style (Malatesta & Wilson, 1988). When shame for the abuse does not decrease over time, this suggests the development of a maladaptive surfeit affective style that may indiscriminately operate across time and situations.

This study is among the first to implicate shame as an important emotional process for the development of sexual-abuse-related PTSD symptoms. A consistent finding in shame research is that this self-conscious emotion often motivates an avoidance response such that the individual wants to hide the exposed self (Barrett, Zahn-Waxler, & Cole, 1993; Tangney, 1995). Strong negative emotions associated with traumatic events are aversive and can

promote cognitive and behavioral avoidance, which may serve to prolong PTSD symptoms (Berliner & Wheeler, 1987; Foa & Riggs, 1994).

These findings add to converging evidence that a pessimistic attributional style is related to poor adjustment in CSA victims and extends previous work by suggesting that improvement in such styles is related to improvement in adjustment (Mannarino & Cohen, 1996). The findings also provide limited support for the hypothesis that having such an attributional style at abuse discovery moderates the relation between abuse severity and subsequent adjustment. For the child who interprets both positive and negative events with a pessimistic attributional style and experiences more severe abuse, the risk for poorer adjustment is higher than for children whose attributional style is less pessimistic.

The results are consistent with the diathesis-stress model, in which children with a pessimistic attributional style are more likely to become depressed after negative life events (Nolen-Hoeksema et al., 1992). It is not possible to determine whether abuse severity increases the likelihood of developing such a style because it was not feasible to obtain measurements of attributional style prior to the abuse. However, the concurrent and predictive relations between abuse severity and general attribution risk are low. This suggests that other factors play a role in the development of this pessimistic style. Other stressful events and parental attributions about children's behavior can engender and sustain attributional styles and merit future study in CSA populations (Alessandri & Lewis, 1993; Silvester, Bentovim, Stratton, & Hanks, 1995). Although the level of internal attributions for the abuse was low on average, changes in these attributions predicted changes in PTSD symptoms. This finding is consistent with other research showing that even though high levels of self-blame for the abuse are rare, such attributions still predict who is at risk for poor adjustment (Hunter, Goodwin, & Wilson, 1992).

Age and Gender

At the time of abuse discovery and 1 year later, child and adolescent victims manifest different patterns of adjustment. Adolescents are consistently higher than children in depressive symptoms and are lower in self-esteem over a year's time. The developmental tasks of adolescents may put them at increased risk for depression and low self-esteem (Downs, 1993). Their experiences of stressful events of both major and minor magnitude are significantly related to internalizing problems (Compas, 1987; Ge, Lorenz, Conger, Elder, & Simons, 1994). There is a trend for adolescents, compared with children, to report a greater number of severe abuse characteristics on the summary measure of severity. Adolescents typically report more negative life events than children, including more family, peer, and school events, and their experience of negative events has a stronger association with negative affect (Larson & Ham, 1993). The stresses of the abuse discovery in combination with the normative stresses of adolescence may make victims in this developmental period particularly vulnerable to experiencing adjustment problems related to affect regulation (e.g., depression) and self-evaluation. It is important to note that being an adolescent in this study refers to the age at the time of abuse discovery, not the age at the time that the abuse began. For 45% of the individuals who were adolescents at abuse discovery, abuse began when they were children (before the age

of 12 years). Thus, for some adolescents it may be the persistence of abuse across developmental periods that contributes to problems of depression and poor self-esteem, in addition to or in combination with the particular stressors of adolescence.

In contrast to depressive symptoms and poor self-esteem, children report consistently higher levels of PTSD symptoms than adolescents from abuse discovery to 1 year later. Although conceptualizations of PTSD suggest an association between greater abuse severity and more symptoms of PTSD (Spaccarelli, 1994), we found no such relations. Furthermore, age did not moderate the relation between severity and PTSD. Future work needs to replicate this developmental difference in levels of PTSD and examine how age differences in information processing such as expectations and appraisals of threat and safety may account for this difference.

Although the small sample of boys limited the power to detect differences, we found meaningful gender effects. As expected, girls reported a greater number of severe abuse characteristics than boys and persisted in showing higher levels of PTSD and depressive symptoms. These findings are consistent with previous work indicating that girls experience more severe types of abuse, such as penetration and having a parent perpetrator (Tong, Oates, & McDowell, 1987) and report more internalizing and PTSD symptoms (Friedrich, 1988; D. Wolfe et al., 1994). Girls did not, however, persist in experiencing higher levels of shame than boys a year following the abuse. The gender distribution of the sample precluded testing the moderating effects of gender on the relations among abuse severity, shame, and adjustment. Nevertheless, the findings suggest that girls' experience of greater abuse severity and shame at abuse discovery may make them more vulnerable to internalizing problems over time.

Measurement Issues

Attempts to explain variation in the development of adjustment using abuse severity were constrained in this study by problems of measurement. The indicators of abuse severity came from official records, and such records are based to a large extent on children's recollections of what happened to them. Recollections of traumatic events are imperfect (Henry, Moffitt, Caspi, Langley, & Silva, 1994; Lewis, 1997; Widom & Morris, 1997; Williams, 1994). Following abuse discovery, it is difficult to measure specific qualities of the abuse to determine severity. For example, some children may not be able to provide accurate estimates of the number of incidents or duration of the abuse. In addition, it is difficult to compare individuals with complex profiles of abuse experiences. The same abuse characteristic may have different psychological meaning for different children. This is suggested by the absence of significant correlations between abuse severity and the abuse measures of shame and attribution. Examination of individual case records suggests that children with similar abuse profiles (e.g., having a parent perpetrator and having experienced penetration) vary in the amount of shame and attribution risk they report (Lynch, 1999). Thus, in terms of psychological meaning for the child, the measures of shame and attribution may represent better indicators of severity than the abuse characteristics themselves.

The measures of abuse-specific shame and attributional style were developed for this project because at the time of its inception,

no such instruments were available. Findings from this study indicate that in addition to face validity, these measures have good internal consistency and predictive validity. Nevertheless, more work is needed on their test–retest reliability and construct validity in order to ensure that the measures consistently tap the concepts of interest.

Another measurement constraint in this study was the low internal consistency of the CASQ–R's separate scores for attributions about positive and negative events. For this reason we did not examine whether general attributional style for negative events would be the better predictor of adjustment. Although the composite measure of general attribution risk for positive and negative events was reliable and provided insight into which children are most at risk for poor adjustment, refinement of this measure is necessary if we are to obtain a clearer understanding of the nature of attributional style and children's adjustment following sexual abuse discovery. Furthermore, as expected, shame and general attribution risk were correlated, but the association was not strong. In addition, for the high-risk general attribution group, stronger relations between shame and abuse severity or adjustment were not found. Perhaps more reliable measurement of general attributions for negative events as well as larger samples with such a style would yield better understanding of for whom and under what conditions attributions are related to shame.

Conclusion

The basic question addressed in this study was the extent to which differences in shame and attributional style are related to changes in adjustment a year following the discovery of sexual abuse. This study does not provide information on whether the relations between shame, attribution risk, and adjustment are specific to or stronger for sexual abuse victims than for other types of abused and neglected or nonmaltreated children. Conclusions regarding the direction of causality are tentative given the correlational nature of the data. The ecological validity of the results is limited to youth for whom the abuse is discovered and to cases that come to the attention of the authorities. The findings also are subject to method bias, as all the variables are self-report measures.

This study does, however, address several weaknesses of previous work noted by others who reviewed empirical findings (Briere, 1992; Spaccarelli, 1994). The entire sample was seen within a specified time period following the discovery of the abuse, thus providing comparability among participants on this factor. Only confirmed cases of sexual abuse were included in the sample. Multivariate approaches were used to facilitate understanding of complex relations among factors that contribute to adjustment. Furthermore, longitudinal studies are the only source of information about which children are more vulnerable to long-term adjustment problems following sexual victimization. Studies of CSA with few exceptions have involved single assessments. The dearth of longitudinal work means there is limited knowledge about adjustment as a function of psychological processes for individuals over time. This study is among the first to provide support for the role of shame and attribution in predicting changes in victims' adjustment. Future research should examine how patterns of shame and attribution may be related to family processes, including parental discipline styles (Ferguson & Stegge, 1995),

parental attributions about causes for the abuse and negative events in general (Alessandri & Lewis, 1993; Silvester et al., 1995), and a family environment in which the negative emotions of anger and disgust are more frequently expressed (Grych & Fincham, 1993). Examining individual, family, and other environmental processes related to the development and maintenance of or change in shame and attribution styles should provide valuable insights for theory and intervention.

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