

## **Posttraumatic Stress Associated with Delayed Recall of Sexual Abuse: A General Population Study**

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*This study examined delayed recall of childhood sexual abuse in a stratified random sample of the general population (N = 505). Of participants who reported a history of sexual abuse, 42% described some period of time when they had less memory of the abuse than they did at the time of data collection. No demographic differences were found between subjects with continuous recall and those who reported delayed recall. However, delayed recall was associated with the use of threats at the time of the abuse. Subjects who had recently recalled aspects of their abuse reported particularly high levels of posttraumatic symptomatology and self difficulties (as measured by the IES, SCL, and TSI) at the time of data collection compared to other subjects.*

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**KEY WORDS:** sexual abuse; amnesia; delayed recall; memory.

Research conducted over the last two decades documents a relatively robust association between self-reported childhood sexual abuse and adult psychological dysfunction. Among the long-term correlates of such victimization are symptoms of posttraumatic stress (e.g., nightmares, flashbacks, and sleep disturbance), alterations in mood (e.g., depression, anxiety, and anger), impaired self-functions (e.g., identity, boundary, and affect regulation problems), sexual difficulties, and relationship problems (e.g., Briere & Elliott, 1994; Browne & Finkelhor, 1986). The replications of these findings across date of study, source of subjects (i.e., general population, clinical, university samples), and sociodemographic characteristics has led to

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the general consensus that child sexual abuse is a risk factor for later psychological distress.

More controversial is the possibility that some individuals experience periods of incomplete or absent memory for sexual abuse experiences. According to several studies, a significant proportion of adults in clinical and nonclinical samples either (a) report having recently recollected previously unrecalled childhood sexual abuse (Briere & Conte, 1993; Feldman-Summers & Pope, 1994; Herman & Schatzow, 1987; Loftus, Polonsky, & Fulilove, 1994) or (b) appear to have no current memory of sexual abuse known to have occurred in the past (Williams, 1994). Despite the various methodological problems associated with such research, whether retrospective or prospective (Briere, 1992a; Pope & Hudson, in press), the replication of this general finding across various research paradigms and populations suggests that reports of delayed recall of childhood sexual abuse experiences represent a real phenomenon, albeit one that is imperfectly understood.

Although all of the potential reasons for impairment in the recall of previous abuse are not clear, it is possible that the negative affect associated with recollections of abuse (e.g., fear, horror, disgust) can operate to reinforce avoidance of such memories. The abused individual may learn to avoid conscious access to especially painful abuse memories, since such recollections would be punished by the distress associated with the memories. Learned avoidance of abuse memories could lead to some level of psychogenic amnesia for the abusive experiences, possibly through the mechanism of dissociation (Briere, 1992b; Lowenstein, 1993; van der Kolk, 1994). This hypothesis is supported by studies of clinical samples, which demonstrate an association between the severity of the abuse and subsequent impairment in continuous memory of the abuse (e.g., Briere & Conte, 1993; Herman & Schatzow, 1987).

Although widely cited by those who study or treat adult sexual abuse survivors, reports of amnesia for abuse have been criticized by others (e.g., Lindsay & Read, 1994; Loftus, 1993). This latter group notes that memory is rarely perfect and that recall of previous events can be influenced, distorted, or confabulated under certain circumstances, such that "recalled" abuse may be, in fact, confabulated pseudomemories. They further suggest that when reports of "recovered" memories of childhood abuse appear in studies, they may be artifacts of poor research methodologies, and when they appear in the courts they may be the result of memory-implanting therapy or misrepresentation for secondary gain. In several instances, critics question the entire validity of posttraumatic or psychogenic amnesia, despite its description and categorization in the last three Diagnostic and Sta-

tistical Manuals of the American Psychiatric Association (e.g., DSM-IV; APA, 1994) (see, for example, Loftus, 1993).

The present study was not designed to resolve this debate, in the sense of further testing the construct validity of abuse-related amnesia. Based on the above-cited research data and the authors' clinical impression that some proportion of self-reported delayed recall of abuse reflect real childhood events, this preliminary research was directed at broadening our understanding of the demographics, abuse characteristics, and phenomenology associated with self-reported delayed recall. Although researchers and theorists have considered possible mechanisms whereby painful memory might be attenuated or completely blocked from awareness, the current study is one of few that seeks to evaluate the *process* of "re-remembering" previously avoided or forgotten events.

Our hypotheses were as follows:

*Subjects who reported previous amnesia for now-recollected abuse would report more severe sexual abuse than those whose abuse was continuously recalled.* Clinical studies (e.g., Briere & Conte, 1993; Herman & Schatzow, 1987) have found that among sexual abuse survivors, those who report more severe abuse are more apt to also report disruption in their memory for the abuse. This is consistent with trauma theory, which suggests that an individual's ability to accommodate to a trauma is based both on the severity of the traumatic event and the internal resources of the individual at the time of the trauma (Briere, in press; McCann & Pearlman, 1990). Individuals who are unable to accommodate to the trauma, whether because of a relative lack of internal resources or the relative severity of the traumatic event, would be motivated to employ cognitive avoidance strategies (e.g., dissociation), resulting in impairment in the memory of the trauma.

*Subjects who reported previous amnesia for now-recollected abuse would present with more psychological symptoms and greater self-reported distress than those whose abuse was continuously recalled.* Because most theories of dissociated memory emphasize the painfulness of the initial disremembered event(s), it follows that the return of such memories might be associated with a resurgence of painful affect. Briere and Conte (1993), for example, found that subjects reporting recovered memories of abuse endorsed more immediate psychological distress than did subjects who said they had always had complete memories of their abuse.

*More recently recollected memories would be experienced as more painful than would events recollected farther in the past.* Although there is little literature available on this phenomenon, clinical experience suggests that individuals whose memories of the abuse are more "new" are more acutely

distressed than are those who had more time to accommodate to such material.

*The return of abuse memories would occur, at least in part, via sensory modalities.* Clinical experience and preliminary research suggests that recovered memories are often first reexperienced at the sensory level, i.e., by way of visual images, sounds, and smells (e.g., van der Kolk & Fisler, 1995). In fact, van der Kolk (1994) has suggested that many memories of traumatic events are implicitly encoded at the somatosensory (rather than at the declarative/autobiographical) level. As a result, we expected that newly recovered autobiographical memory would be accompanied by an increase in sensory flashbacks to the abuse. Because this sensory component is thought to predominate during the earlier phases of memory recovery, it was hypothesized that flashbacks and related phenomena would be more severe in subjects with more recent (as opposed to more remote) access to previously avoided memory.

*In the relative absence of the buffering effects of dissociative amnesia, the increased distress and intrusion associated with recent memory recovery would motivate greater use of other avoidance responses.* This hypothesis is grounded in trauma theory, wherein the behavioral and cognitive avoidance symptoms of posttraumatic stress disorder are thought to reflect ways in which the individual copes with the aversive nature of intrusive reexperiencing symptoms (e.g., Horowitz, 1976). Based on clinical experience, these avoidance responses were expected to include nonamnesic dissociative responses and cognitive avoidance of abuse-related thoughts and memories.

In order to evaluate these hypotheses, the current paper examined data from part of a recent general population mail-out study by Elliott (1995). Elliott investigated the incidence of delayed recall of various traumas, the amount of time passed since recollection of these previously forgotten traumas, and subjects' current level of posttraumatic symptomatology. The present paper is restricted to the issue of recollection of sexual abuse.

## Method

### *Participants*

A national, stratified, random sample of 800 individuals living in households with telephones was generated by a sampling service. According to the 1990 United States census, 95% of all households have telephones. The sample was stratified based on geographic location and the density of households in counties across the United States. A questionnaire was

mailed to the 800 individuals with a cover letter requesting their involvement in a project on traumatic experiences and adult psychological adjustment. Each subject was given \$5.00 regardless of whether or not they chose to participate in the study. One week after the initial mailing, a postcard was sent to each subject, encouraging nonresponders to complete the questionnaire. Three additional follow-up mailings were sent to nonrespondents at approximately three week intervals (one of which was sent via special one-day U.S. Postal service mail). After surveys inadvertently sent to deceased individuals and those that were undeliverable by the postal service were subtracted, the available subject pool consisted of 724 individuals, of whom 505 (70%) chose to participate in the study (i.e., returned completed questionnaires).

Fifty-five percent of the sample was female, and the mean age was 46.5 years ( $SD = 16.64$ ; Range = 18 to 90 years). The modal relationship status was married (52%), followed by single (20%) and divorced (16%). Most subjects were Caucasian (73%), followed by African American (13%), and Hispanic (8%). The modal level of education was a high school or trade school education (56%). Most subjects were employed at the time of data collection (59%). The modal annual family income was between \$20,000 and 39,999 (32%), followed by less than \$20,000 (31%). Only 8% of the sample were in some form of psychological treatment at the time of data collection. This sample is generally comparable to the 1990 United States census data on important demographic variables (see Elliott, 1995).

### *Materials*

The questionnaire included an abridged version of the Traumatic Events Survey (TES; Elliott, 1992) and three measures of posttraumatic symptomatology: the Trauma Symptom Inventory (TSI; Briere, 1995), the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979), and the Symptom Checklist (SCL; Foy, Sippelle, Rueger, & Carroll, 1984).

*The Trauma Symptom Inventory (TSI).* TSI (Briere, 1995) is a standardized 100-item clinical test of posttraumatic symptoms and dysfunction. It has three validity scales and 10 clinical scales, with normalized  $T$ -scores by sex and age (under 55 and 55 or older). The clinical scales of the TSI measure the extent to which the individual endorses four clusters of trauma-related symptoms: dysphoric mood (*Anxious Arousal, Depression, and Anger/Irritability*), posttraumatic stress (*Intrusive Experiences, Defensive Avoidance, and Dissociation*), sexual difficulties (*Sexual Concerns and Dysfunctional Sexual Behavior*), and disturbance in self-regulation (*Impaired Self-Reference and Tension Reduction Behavior*). The TSI has been shown

to have good internal consistency in general population, university, clinical, and military samples (mean clinical scale  $\alpha$ s of .86, .84, .87, and .84, respectively), and to covary in meaningful ways with self-reported histories of interpersonal violence (Briere, 1995; Briere, Elliott, Harris, & Cotman, in press).

*The Impact of Event Scale (IES)*. IES (Horowitz, Wilner, & Alvarez, 1979) is one of the most widely used assessment tools for posttraumatic symptomatology in research studies. It is a 15-item scale in which subjects rate the impact of a traumatic event—seven relate to intrusive symptomatology and eight address symptoms of avoidance. The reliability of this measure is acceptable (Horowitz et al., 1979) and it has been shown to accurately classify true cases of (DSM-III-R) PTSD (Kulka et al., 1990). The IES has been shown to distinguish sexually victimized from nonvictimized subjects in several studies (e.g., Kilpatrick & Amick, 1985; Runtz, 1990). The current study used the Horowitz et al. (1979) method for scoring IES responses.

*The Symptom Checklist*. The Symptom Checklist (Foy, Sippelle, Rueger, & Carroll, 1984) is a 43-item instrument used to assess psychological distress. Of these, 17 items relate to posttraumatic stress disorder (PTSD) and form three scales: Intrusion, Avoidance and Hyperarousal. The measure has adequate reliability (Foy et al., 1984), has been used in research on combat veterans (Butler, Foy, Snodgrass, Hurwicz, & Goldfarb, 1988; Foy et al., 1984) and battered women (Astin, Lawrence, & Foy, 1993; Houskamp & Foy, 1991), and has an 84% correspondence rate to clinical ratings of PTSD (Gallers, Foy, Donahoe, & Goldfarb, 1988).

*The Traumatic Events Survey (TES)*. TES (Elliott, 1992) consists of a series of items inquiring about the individual's history of childhood and adult traumatic experiences. Among other events, it inquires into the incidence of childhood sexual abuse. Subjects were categorized as having a sexual abuse history if they described sexual contact ranging from fondling to intercourse, prior to the age of 17, under either of the following conditions: (a) the contact was with someone 5 or more years their senior; or (b) the contact was with someone less than 5 years their senior, but occurred against the will of the subject under threat of violence or the use of physical force. Thirty percent of females ( $n = 84$ ) and 14% of males ( $n = 32$ ) reported a history of sexual abuse. Data were also collected on the characteristics of abuse including age at onset, duration and frequency of abuse, whether at least one incident involved oral, anal or vaginal penetration, whether the subject was abused by a member of their immediate family, the number of perpetrators, whether any incident involved physical force or threat of harm, and subject's rating of how traumatic the abuse was perceived to have been at the time it occurred.

Subjects who reported a history of sexual abuse were asked, "Was there ever a period of time when you had less memory of this event than you do now?" (referred to hereafter as *partial amnesia*) and "Was there ever a period of time when you had no memory of this event?" (referred to hereafter as *complete amnesia*). The term *amnesia* is used here solely to refer to memory loss and subsequent recall, without etiologic implications. Among the sexually abused subjects ( $n = 49$ ), 42% reported a period of time prior to data collection in which they had less memory of the abuse than they did at the time of data collection, 23 of whom (20% of abused subjects) reported a period of time in which they had *no* memory of the abuse. Throughout the remaining of the article, this phenomenon is referred to as *delayed recall*.

### *Analyses*

Statistical analyses proceeded in several steps. First, cross-tabulation of the demographic variables were completed based on abuse and recall status. Second, cross-tabulations and *t*-tests were calculated to examine the relationship between characteristics of abuse and amnesia status. Finally, a series of multivariate analysis and post hoc univariate *t*-tests of abuse and recall status combinations were completed to determine their relationship to IES, SCL, TSI scale scores.

## **Results**

### *Demographic Variables*

Cross-tabulations of demographics were conducted to determine whether any variable distinguished nonabused subjects from abused subjects, regardless of their recall status. Several significant differences were found. Participants who reported a history of sexual abuse were more likely to be female ( $\chi^2[1, N = 505] = 17.55, p < .001$ ), and, at the time of data collection, were younger ( $t[503] = 2.29, p < .022$ ), more likely to be single or divorced ( $\chi^2[3, N = 502] = 11.51, p < .009$ ), unemployed ( $\chi^2[2, N = 503] = 8.13, p < .017$ ), and in psychological treatment ( $\chi^2[1, N = 504] = 21.32, p < .001$ ). No differences were found with regard to race ( $\chi^2[4, N = 505] = 3.08, ns$ ), education ( $\chi^2[3, N = 504] = 2.09, ns$ ), or income ( $\chi^2[3, N = 501] = 1.76, ns$ ).

Analyses were completed on the subsample of abused subjects to determine if participants who reported partial amnesia differed from those

who reported complete amnesia on any demographic variable. No significant differences were found for age ( $t[47] = 0.70, ns$ ), sex ( $\chi^2[1, N = 49] = 0.01, ns$ ), marital status ( $\chi^2[2, N = 47] = 0.37, ns$ ), race ( $\chi^2[3, N = 49] = 1.95, ns$ ), education ( $\chi^2[3, N = 49] = 2.43, ns$ ), employment status, ( $\chi^2[2, N = 49] = 0.70, ns$ ), income, ( $\chi^2[3, N = 49] = 3.90, ns$ ), or treatment status ( $\chi^2[1, N = 49] = 1.07, ns$ ). Given the lack of significant differences on demographic variables, the two groups were combined to form a single group of subjects who reported delayed recall.

Further analyses were completed on the subsample of abused subjects to determine whether any demographic variable distinguished subjects reporting continuous recall of the abuse from subjects who reported delayed recall. No significant differences were found for age, ( $t [114] = 0.30, ns$ ), sex ( $\chi^2[1, N = 116] = 1.12, ns$ ), marital status ( $\chi^2[3, N = 116] = 2.95, ns$ ), race ( $\chi^2[4, N = 116] = 0.34, ns$ ), education ( $\chi^2[3, N = 116] = 3.60, ns$ ), employment status ( $\chi^2[2, N = 116] = 1.62, ns$ ), income ( $\chi^2[3, N = 116] = 0.72, ns$ ), or treatment status ( $\chi^2[1, N = 116] = 1.96, ns$ ). See Table 1 for detailed demographic data by abuse-recall status.

### *Abuse Variables*

To determine whether delayed recall status was related to characteristics of abuse, cross-tabulations and  $t$ -tests were performed. Where possible, one-tailed tests of significance were used given the specific and directional nature of the hypotheses. Compared to participants who reported continuous recall of their abuse, participants who reported delayed recall were more likely to have been threatened with harm by their perpetrator (46% vs. 27%;  $\chi^2[1, N = 114] = 4.20, p < .04$ ) and to have perceived the abuse as more distressing (2.35 vs. 1.98 on a scale of 0 to 3, one-tailed  $t[112] = 1.78, p < .049$ ). Characteristics of abuse that did not distinguish continuous recall from delayed recall included age at onset ( $t[109] = -0.24, ns$ ), frequency of the abuse ( $t[111] = -1.18, ns$ ), duration of the abuse ( $t[109] = -0.76, ns$ ), the presence of sexual penetration ( $\chi^2[1, N = 113] = 1.83, ns$ ), incest ( $\chi^2[1, N = 114] = 2.95, ns$ ), the use of physical force ( $\chi^2[1, N = 114] = 0.65, ns$ ), and the number of perpetrators ( $t[108] = 0.01, ns$ ). Only one variable distinguished abused subjects who reported complete amnesia from those who reported partial amnesia: subjects with complete amnesia tended to be younger at the onset of abuse than subjects with partial amnesia (8.14 vs. 10.52 years; one-tailed  $t[45] = 2.29, p < .03$ ).



Table 1. Demographic Differences by Abuse and Amnesia Status

Variable	Total Sample <i>N</i> = 505		Nonabused Subjects <i>n</i> = 389 77%	Abused: Continuous Recall <i>n</i> = 67 13%	Abused: Delayed Recall <i>n</i> = 49 10%
Age ( <i>N</i> = 505)	<i>M</i> = 46.5 <i>SD</i> = 16.6		<i>M</i> = 47.4 <i>SD</i> = 16.7	<i>M</i> = 43.0 <i>SD</i> = 16.3	<i>M</i> = 44.0 <i>SD</i> = 16.0
Sex ( <i>N</i> = 505)	<i>N</i>	%	%	%	%
Female	280	55	70	16	14
Male	225	45	86	9	5
Marital status ( <i>N</i> = 502)					
Never married	99	20	73	14	13
Married	263	52	81	11	8
Separated/divorced	82	16	65	18	17
Widowed	58	12	83	14	3
Race ( <i>N</i> = 505)					
Caucasian	369	73	79	13	9
Black	66	13	71	17	12
Hispanic	40	8	70	15	15
Other	30	6	77	13	10
Education ( <i>N</i> = 504)					
Less than High School	79	16	81	14	5
High Sch./Trade sch.	284	56	75	15	11
Bachelor's degree	86	17	79	12	9
Graduate degree	55	11	80	7	13
Employment ( <i>N</i> = 503)					
Employed	298	59	75	15	9
Unemployed	31	6	61	19	19
Not in work force	174	35	83	9	9
Income ( <i>N</i> = 501)					
Less than \$20,000	158	31	73	15	11
\$20,000–\$39,999	162	32	78	12	10
\$40,000–\$69,999	113	23	80	13	7
\$70,000 +	68	14	77	13	10
Treatment ( <i>N</i> = 504)					
Not in treatment	464	92	80	11	9
In treatment	40	8	48	38	15

### Psychological Distress

As with the demographic and abuse characteristic variables, analyses were completed to determine if participants who reported partial amnesia differed from those who reported complete amnesia on any measure of

psychological distress. No significant differences were found: IES ( $F[2, 46] = 0.12, ns$ ), SCL ( $F[3, 45] = 0.83, ns$ ), and TSI ( $F[10, 38] = 0.44, ns$ ). Given the lack of significant differences on psychological measures, these two groups were combined in tests of the relationship between recall status and symptomatology.

Four hundred and ninety-eight subjects completed the measures of psychological distress. Subjects were placed into one of four groups depending on their self-reported history of sexual abuse and recall status: (a) *Nonabused* ( $n = 385; 77\%$ ); (b) *Abused—Continuous Recall* ( $n = 64; 13\%$ ); (c) *Abused—Remote Recall* ( $n = 37; 7\%$ ), composed of subjects who reported a history of abuse and a period of time when they had less memory (or no memory whatsoever) of the abuse than they did at the time of data collection, but that the memory was recovered more than two years prior to data collection; and (d) *Abused—Recent Recall* ( $n = 12; 2\%$ ), composed of subjects who reported sexual abuse and recall of partially or completely forgotten abuse that occurred within 2 or less years of data collection. This division into “recent” and “remote” recall according to whether more than 2 years had passed since recollection was relatively arbitrary, reflecting the need for sufficient subjects in the “recent” recall group and yet not too long a passage of time since recollection.

Three multivariate analyses of variance (MANOVAs) were initially performed, comparing subjects' IES, SCL, and TSI scale scores on the four abuse-memory categories described above. Significant multivariate effects were followed up with univariate ANOVAs and post hoc Tukey tests.

MANOVA of the IES scales revealed a significant effect of abuse-memory status ( $F[6,988] = 6.98, p < .001$ ). Univariate  $F$  tests revealed significant differences on both IES subscales. Post hoc multiple comparisons revealed that abused subjects reported higher levels of Intrusion and Avoidance than did nonabused subjects. Further, the *Recent Recall* group reported higher levels on both IES scales than did the *Remote Recall* or *Continuous Recall* groups, the latter two of which did not differ significantly from one another (see Table 2).

MANOVA of the PTSD scales of the SCL revealed a significant effect ( $F[9,1476] = 6.11, p < .001$ ). Univariate  $F$  tests indicated significant differences on each of the three scales. Post hoc multiple comparisons revealed that abuse subjects reported higher scores on Intrusion, Avoidance, and Hyperarousal compared to nonabused subjects, and the *Recent Recall* group reported higher levels on all three scales than either the *Remote Recall* or *Continuous Recall* groups (see Table 2).

MANOVA of the clinical scales of the TSI revealed a significant main effect according to abuse-memory status ( $F[30,1458] = 3.25, p < .001$ ). Univariate  $F$  tests revealed significant differences on all 10 TSI scales. Post

Table 2. Mean IES, SCL, and TSI Scores According to Sexual Abuse History and Recall Status (N = 498)

Scale	No CSA (N = 385)		CSA Continuous Recall (N = 64)		Delayed Recall Remote (N = 37)		Delayed Recall Recent (N = 12)		F	p <
	M	SD	M	SD	M	SD	M	SD		
<b>IES</b>										
Intrusion	4.24	(5.10) <sup>a</sup>	6.00	(6.33) <sup>b</sup>	7.41	(5.76) <sup>b</sup>	11.50	(6.92) <sup>c</sup>	11.58	.01
Avoidance	4.39	(5.44) <sup>a</sup>	6.36	(6.05) <sup>b</sup>	8.38	(6.59) <sup>b</sup>	12.42	(5.99) <sup>c</sup>	14.08	.01
<b>SCL</b>										
Intrusion	1.73	(2.27) <sup>a</sup>	2.77	(2.67) <sup>b</sup>	3.08	(2.83) <sup>b</sup>	4.92	(3.26) <sup>c</sup>	12.23	.01
Avoidance	3.09	(3.77) <sup>a</sup>	4.50	(4.98) <sup>b</sup>	5.81	(4.93) <sup>b</sup>	9.75	(4.35) <sup>c</sup>	16.12	.01
Arousal	4.85	(4.90) <sup>a</sup>	6.58	(6.08) <sup>b</sup>	7.76	(5.58) <sup>b</sup>	13.67	(6.84) <sup>c</sup>	15.27	.01
<b>TSI</b>										
Anxious arousal	49.01	(9.71) <sup>a</sup>	52.50	(11.17) <sup>b</sup>	53.55	(8.70) <sup>b</sup>	59.35	(5.73) <sup>b</sup>	8.01	.01
Depression	48.86	(9.36) <sup>a</sup>	53.95	(10.61) <sup>b</sup>	56.07	(10.67) <sup>b</sup>	60.11	(9.96) <sup>b</sup>	14.54	.01
Anger/irritability	48.65	(9.44) <sup>a</sup>	52.96	(9.97) <sup>bb</sup>	55.45	(10.52) <sup>b,c</sup>	62.44	(10.52) <sup>c</sup>	15.24	.01
Intrusive experiences	49.22	(9.77) <sup>a</sup>	52.63	(11.82) <sup>b</sup>	54.90	(10.57) <sup>b</sup>	64.31	(11.09) <sup>c</sup>	12.71	.01
Defensive avoidance	48.81	(9.65) <sup>a</sup>	52.89	(11.07) <sup>b</sup>	55.78	(11.60) <sup>b</sup>	64.98	(7.08) <sup>c</sup>	16.80	.01
Dissociation	48.81	(9.53) <sup>a</sup>	53.26	(10.65) <sup>b</sup>	55.31	(12.06) <sup>b</sup>	65.64	(11.58) <sup>c</sup>	17.49	.01
Sexual concerns	48.10	(7.90) <sup>a</sup>	52.40	(11.60) <sup>b</sup>	55.55	(13.43) <sup>b,c</sup>	60.74	(8.36) <sup>c</sup>	17.23	.01
Dysfunctional sexual behavior	48.57	(8.31) <sup>a</sup>	53.27	(13.98) <sup>b</sup>	55.13	(11.08) <sup>b,c</sup>	60.81	(11.67) <sup>c</sup>	14.15	.01
Impaired self-reference	48.83	(9.15) <sup>a</sup>	52.57	(11.09) <sup>b</sup>	55.32	(9.87) <sup>b</sup>	63.02	(13.62) <sup>c</sup>	14.60	.01
Tension reduction behavior	48.61	(8.63) <sup>a</sup>	54.63	(13.38) <sup>b</sup>	55.10	(11.59) <sup>b</sup>	64.93	(13.00) <sup>c</sup>	20.22	.01

Note. Means not sharing a common superscript are significantly different at  $p < .05$ .

hoc multiple comparisons revealed that each scale varied across two or more groups. First, abused subjects reported greater symptomatology than nonabused on each of the 10 scales (see Table 2). Second, there were no significant differences between subjects in the *Continuous Recall* and *Remote Recall* groups. Finally, the *Recent Recall* group reported higher levels of distress than either the *Continuous Recall* or *Remote Recall* group on 5 of the 10 scales: the three posttraumatic stress scales (*Intrusive Experiences*, *Defensive Avoidance*, and *Dissociation*) and the two self-function scales (*Impaired Self-Reference* and *Tension Reduction Behavior*). See Figure 1 for IES and SCL scale score profiles, and Figure 2 for TSI *T*-score profiles according to group membership.

### Discussion

The present study offers data in a number of areas relevant to self-reported delayed memories and their subsequent recollection. First, as has been found in other studies, a significant number of subjects reported delayed recall of childhood sexual abuse. Although less frequent than in clinical samples (Briere & Conte, 1993; Herman & Schatzow, 1987), 42% of sexually abused subjects reported some level of amnesia for the abuse, with 20% of sexual abuse victims describing a period of time when they were completely amnesic for the abuse. There were no demographic differences between those who reported delayed versus continuous recall of abuse.

Second, it appears that among subjects with a sexual abuse history, those who report recovering memories of abuse within the two years prior to data collection are more symptomatic on certain scales than those whose memory of abuse was recovered less recently. The former group scored higher than the other groups on TSI measures of posttraumatic intrusion, avoidance, dissociation, and impaired self functioning, and endorsed more posttraumatic stress on the IES and SCL.

Third, subjects who reported delayed recall were more likely to have been threatened with harm by their perpetrator. They also perceived their abuse as more distressing than did subjects with continuous recall. In contrast to Briere and Conte (1993), however, age at abuse onset, abuse frequency and duration, number of perpetrators, presence of penetration, and actual use of physical force did not discriminate delayed from continuous memory of sexual abuse.

The finding of a relationship between recall status and current symptomatology is in agreement with those of Briere & Conte (1993), who also found that greater symptomatology was associated with reports of previous amnesia for abuse. The current study extends these findings by indicating

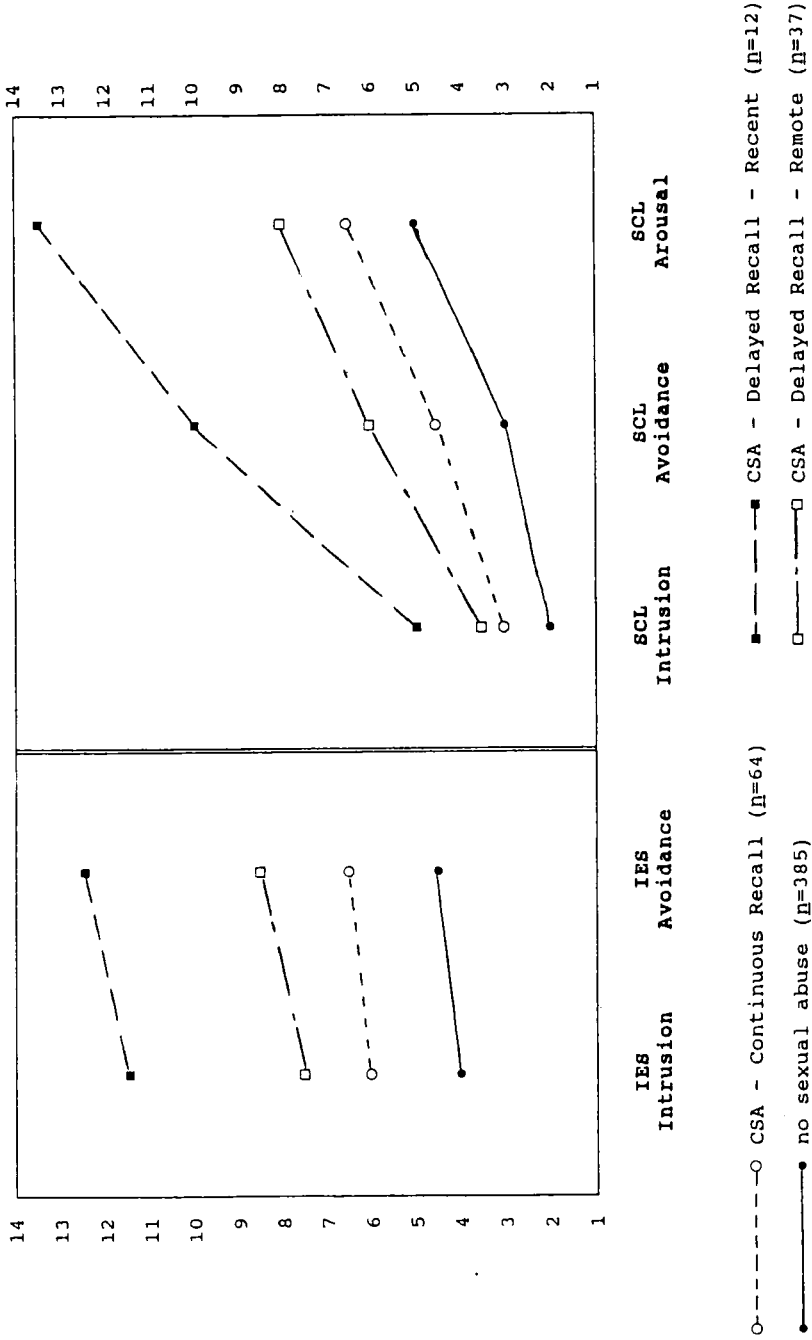


Figure 1. IES and SCL scale scores by sexual abuse history and recall status.

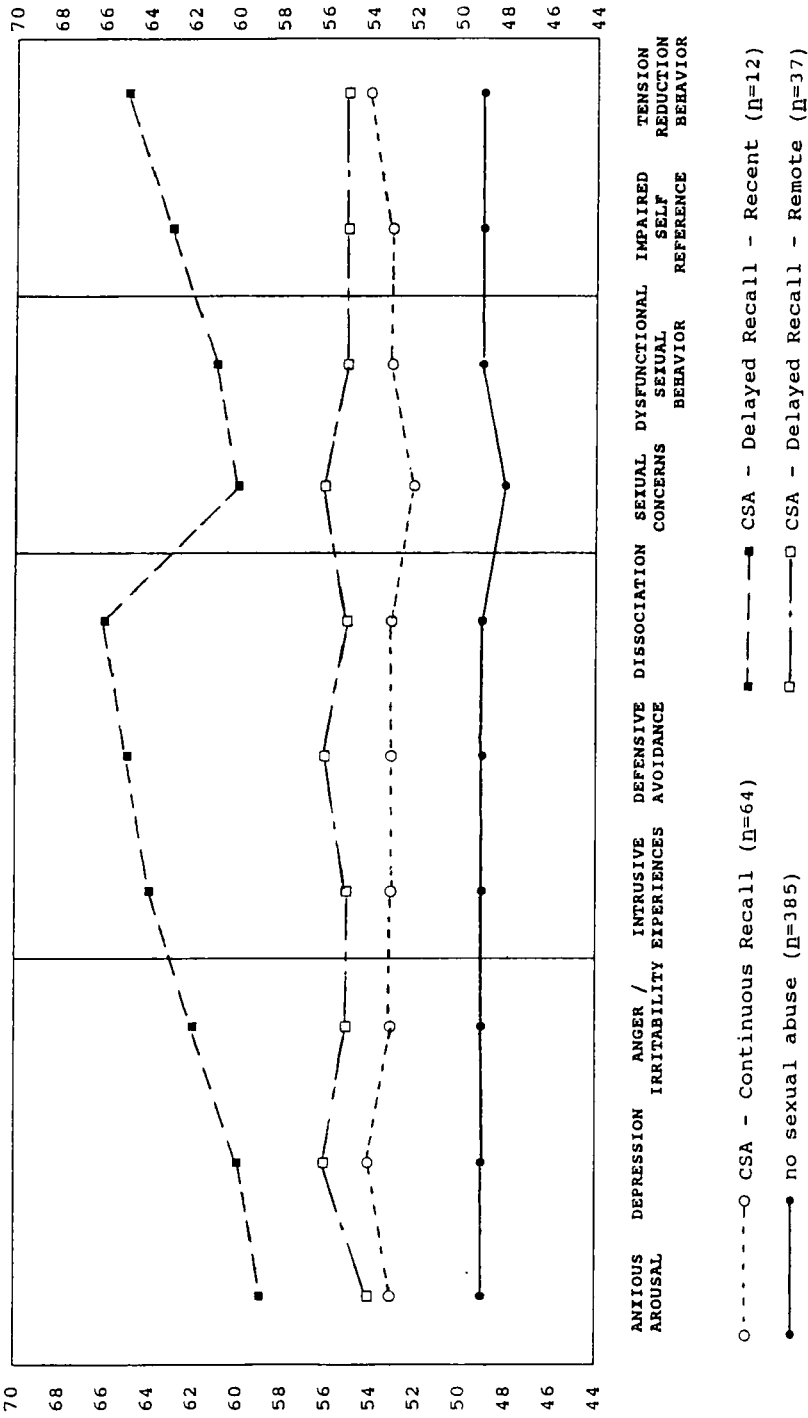


Figure 2. TSI T-scores by sexual abuse history and recall status.

that it is primarily recently recovered memory that is associated with greater symptomatology. In fact, symptomatology associated with more distant recovery of abuse memories was indistinguishable from that associated with continuous recall. This finding suggests that recollection of previously unremembered abuse occurs in the context of increased posttraumatic distress and self dysfunction, but that this symptom exacerbation may abate with time.

There are several possible reasons why symptomatology might be greater during the early stages of memory recovery. First, as suggested in the introduction, it may be that new access to disturbing memories prompts a resurgence of the affects originally associated with the memories. However, three affects seemingly most likely to accompany abuse recollections—*anxiety, depression, and anger*—were not higher for recent compared to more remote memory recovery. As well, sexual concerns and dysfunctional sexual behavior did not differ between subjects with recent versus remote recall. Thus, it is possible that recovered memories do not produce generalized distress, *per se*, but rather are associated with specific symptoms of posttraumatic stress and self difficulties.

The association between recent memory recovery and intrusive symptomatology may be evidence that memory has in fact returned and presents, by definition, as flashbacks. From this perspective, intrusive symptoms are not stimulated by returning memories; they *are* the memories, albeit sometimes accompanied or followed by narrative recollections. In turn, cognitive avoidance, dissociation, and tension reduction behaviors may be invoked by the individual to allow for continued psychological functioning in the face of such intrusion. These findings suggest that heightened intrusion and avoidance responses are especially characteristic of recent memory recovery because they are intrinsic to the process of recollecting traumatic material.

The greater level of self difficulties (i.e., *Impaired Self-Reference* and *Tension Reduction Behavior*) among recent (relative to remote) recall subjects is an unexpected finding, representing an area that has not been investigated or reported in the trauma or memory literature. However, various writers have described an increase in self difficulties (including identity and affect regulation problems) in acute trauma survivors (e.g., Herman, 1992). Additionally, the TSI manual suggests that elevations in *Impaired Self-Reference* scores can be expected during “acutely destabilizing stressor(s)” (Briere, 1995, p.14). Thus, it may be that the resurgence of traumatic memory and associated posttraumatic intrusion may produce self difficulties by disrupting the individual’s internal stability.

Although the present study documented a relationship between certain abuse characteristics and delayed recall, it failed to replicate Briere and Conte’s (1993) specific finding of a relationship between more violent

abuse and amnesia. Instead, the current data suggest that amnesia is related to the *threat* of violence and the subject's perceived level of distress at the time of the abuse. Interestingly, Williams (1994) prospective research found no relationship between use of force or violence and inability to recall abuse.

The failure to demonstrate a relationship between actual violence and self-reported delayed memory, both in the current study and in Williams (1994) study contradicts both Briere and Conte (1993) and Herman and Schatzow's (1987) findings from clinical samples. It may be that the non-clinical samples examined by the current authors and by Williams underestimate the range of abuse severity relative to that commonly present in clinical groups. If, as suggested by some, only very severe abuse is cognitively avoided or dissociated from memory, the less severe abuse found (on average) in nonclinical samples might neutralize the abuse-avoidance relationship potentially present at the extreme end of the abuse severity continuum.

Alternatively, it is possible that the specific characteristics of the abuse (e.g., penetration, chronicity) are less important to memory access than whether or not the traumatic qualities of the event exceeded the individual's internal resources (Briere, in press). If this is true, then the quantification of abuse severity, per se, might not correlate with recollection as well as a combination of variables including the actual severity of the traumatic event, the perceived level of distress created by the trauma, and internal resources of the individual at the time of the trauma. Interestingly, the relationship between subjects' assessment of their level of distress at the time of the abuse and subsequent delayed memory found in the present study *does* more directly tap the extent to which the aversive qualities of the abuse tended to overwhelm the subject's internal resources. An individual with relatively fewer internal resources might be more easily overwhelmed by a given level of abuse severity, rate the abuse as more distressing, and be more motivated to avoid abuse memories than someone with relatively greater internal resources.

### *Methodological Considerations*

As a general population retrospective study, the current research has both weaknesses and strengths. Weaknesses include its reliance on uncorroborated, retrospective data, as well as problems potentially associated with asking subjects to report on previous memory status. As with any study utilizing retrospective self-report, there is the possibility of bias and distortion, although the specific nature and direction of any bias created by the



passage of time is not always clear (Briere, 1992a). Further, because the response rate was not 100%, it is possible that subjects who responded to the questionnaire do not represent the 30% of subjects who did not. Finally, the relatively small size of the *recent* recall subsample may limit the generalizability of symptomatology findings for this group.

Strengths of the current study include its use of nontreatment seeking individuals from the general population and the use of trauma-sensitive measures. The nonclinical nature of the sample addresses one of the appropriate criticisms of some previous "dissociated memory" research studies conducted on clinical subjects (e.g., Briere & Conte, 1993; Herman & Schatzow, 1987; Loftus et al., 1994). Studies using clinical samples may be influenced by demand characteristics associated with therapist influence and the biasing effects of differential recruitment of subjects. By demonstrating a significant incidence of delayed recall of sexual abuse in a general population sample, the current study suggests that sample and/or demand characteristics do not intrinsically explain the "recovered memory" phenomenon.

### *Clinical Implications*

The clinical implications of these findings are at least threefold. First, there does not appear to be a "repressed memory" profile, as has been suggested by some. Wakefield and Underwager (1992), for example, suggested that adults who report recently recovered memories of child sexual abuse are predominantly highly educated females who have received psychotherapy as adults and who come from well-educated, affluent families. Instead, males, females, Blacks, Whites, affluent and relatively impoverished subjects all had an equivalent likelihood of reporting delayed memories of sexual abuse. Additionally, treatment status was not predictive of recall status; individuals recovering abuse memories were no more likely to be in psychotherapy than their cohorts with self-reported continuous memory. Given these findings, the clinician should (a) be receptive to the possibility of dissociated memories in trauma victims regardless of sex, age, race, or socioeconomic status, and (b) should not assume that abuse memory recovery is inherently an iatrogenic process.

Second, it appears that memory recovery is associated with posttraumatic stress and self difficulties. Thus, the therapist working with a patient who has recently recovered memories (either prior to or during therapy) must be prepared to treat a resurgence of posttraumatic symptoms and problems in the area of identity and affect regulation. As a result, the clinician should be ready to provide the additional support required by the

patient at such times. Because intrusion and avoidance appear to be especially prominent after improved access to abuse memories, the clinician should also expect the survivor to use cognitive, dissociative, and behavioral mechanisms in order to reduce his or her distress. Such avoidance strategies are self-protective, and should be respected as such by the clinician rather than interpreted solely as resistance or, in the case of tension reduction defenses, castigated as acting out behaviors.

Third, although the return of posttraumatic stress is aversive, it may be healing as well. The repetitive exposure to intrusive images and sensations via flashbacks or partially recovered memories may represent an attempt to systematically desensitize components of a traumatic memory that could be overwhelming if experienced in its entirety (Briere, in press). To the extent that this is true, the lower symptomatology reported by the remote recall group in the current study may reflect the psychological effectiveness of gradually recovering and reexperiencing previously avoided traumatic material.

## References

- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Astin, M. C., & Lawrence, K. J. (1993). Posttraumatic stress disorder among battered women: Risk and resiliency factors. *Violence and Victims, 8*, 17-28.
- Briere, J. (in press). A self-trauma model for treating adult survivors of severe child abuse. In J. Briere, L. Berliner, J. Bulkey, C. Jenney, & T. Reid (Eds.), *The APSAC handbook of child maltreatment*. Newbury Park, CA: Sage.
- Briere, J. (1995). *Manual for the Trauma Symptom Inventory*. Odessa, Florida: Psychological Assessment Resources.
- Briere, J. (1992a). Methodological issues in the study of sexual abuse effects. *Journal of Consulting and Clinical Psychology, 60*, 196-203.
- Briere, J. (1992b). *Child abuse trauma: Theory and treatment of the lasting effects*. Newbury Park, CA: Sage.
- Briere, J., & Conte, J. (1993). Self-reported amnesia for abuse in adults molested as children. *Journal of Traumatic Stress, 6*, 21-31.
- Briere, J., & Elliott, D. M. (1994). Immediate and long-term impacts of child sexual abuse. *The Future of Children, 4*, 54-69.
- Briere, J., Elliott, D. M., Harris, K., & Cotman (in press). The Trauma Symptom Inventory: Reliability and validity in a clinical sample. *Journal of Interpersonal Violence*.
- Browne, A., & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin, 99*, 66-77.
- Butler, R. W., Foy, D. W., Snodgrass, L., Hurwicz, M., & Goldfarb, J. (1988). Combat-related posttraumatic stress disorder in a nonpsychiatric population. *Journal of Anxiety Disorders, 2*, 111-120.
- Elliott, D. M. (1992). *Traumatic Events Survey*. Unpublished psychological test, UCLA School of Medicine, Los Angeles, CA.
- Elliott, D. M. (1995, August). *Trauma, memory loss, and subsequent recall: Prevalence and triggers to memory recall*. Paper presented at the annual meeting of the American Psychological Association, New York.

- Feldman-Summers, S., & Pope, K. S. (1994). The experience of "forgetting" childhood abuse: A national survey of psychologists. *Journal of Consulting and Clinical Psychology, 62*, 636-639.
- Foy, D., Sippelle, R. C., Rueger, D. B., & Carroll, E. M. (1984). Etiology of posttraumatic stress disorder in Vietnam veterans: Analysis of premilitary, military, and combat exposure influences. *Journal of Consulting and Clinical Psychology, 52*, 79-87.
- Gallars, J., Foy, D. W., Donahoe, C. P., & Goldfarb, J. (1988). Posttraumatic stress disorder in Vietnam combat veterans: Effects of traumatic violence exposure and military adjustment. *Journal of Traumatic Stress, 1*, 181-192.
- Herman, J. L. (1992). *Trauma and recovery*. New York: Basic Books.
- Herman, J. L., & Schatzow, E. (1987). Recovery and verification of memories of childhood sexual trauma. *Psychoanalytic Psychology, 4*, 1-14.
- Horowitz, M. J. (1976). *Stress response syndromes*. New York: Aronson.
- Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine, 41*, 209-218.
- Houskamp, B. M., & Foy, D. W. (1991). The assessment of posttraumatic stress disorder in battered women. *Journal of Interpersonal Violence, 6*, 367-375.
- Kilpatrick & Amick (1985). Rape trauma. In M. Hersen & C. G. Last (Eds.), *Behavior therapy casebook* (pp. 86-103). New York: Springer.
- Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Jordan, B. K., Hough, R. L., Marmar, C. R., & Weiss, D. S. (1990). *Trauma and the Vietnam war generation: Report of findings from the National Vietnam Veterans Readjustment Study*. New York: Brunner/Mazel.
- Lindsay, D. S., & Read J. D. (1994). Psychotherapy and memories of childhood sexual abuse: A cognitive perspective. *Applied Cognitive Psychology, 8*, 281-338.
- Loftus, E. (1993). The reality of repressed memories. *American Psychologist, 48*, 518-537.
- Loftus, E., Polonsky, S., & Fullilove, M. T. (1994). Memories of childhood sexual abuse: Remembering and repressing. *Psychology of Women Quarterly, 18*, 67-84.
- Lowenstein, R. J. (1993). Psychogenic amnesia and psychogenic fugue: A comprehensive review. In D. Spiegel (Ed.), *Dissociative disorders: A clinical review* (pp. 45-78). Lutherville, MD: Sidran Press.
- McCann, I. L., & Pearlman, L. A. (1990). *Psychological trauma and the adult survivor: Theory, therapy, and transformation*. New York: Brunner/Mazel.
- Pope, H. G., & Hudson, J. I. (in press). Can memories of childhood sexual abuse be repressed? *Psychological Medicine*.
- Runtz, M. (1990). *The influence of coping strategies and social support on recovery from child abuse*. Unpublished doctoral dissertation, University of Manitoba, Canada.
- van der Kolk, B. A. (1994). The body keeps the score: Memory and the evolving psychobiology of posttraumatic stress. *Harvard Review of Psychiatry, 1*, 253-265.
- van der Kolk, B. A., & Fislser, R. E. (1995). Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study. *Journal of Traumatic Stress, 8*, 505-525.
- Wakefield, H., & Underwager, R. (1992). Uncovering memories of alleged sexual abuse: The therapists who do it. *Issues in Child Abuse Accusations, 4*, 197-213.
- Williams, L. M. (1994). Amnesia for childhood trauma: A prospective study of women's memories of child sexual abuse. *Journal of Consulting and Clinical Psychology, 62*, 1167-1176.