*This study investigated the nature of the relationship between child sexual abuse, adult attachment style as measured by the Relationship Questionnaire, and psychological adjustment as measured by the Trauma Symptom Inventory. Participants were 307 female university students, including 85 women with a history of child sexual abuse. Results indicated that a history of child sexual abuse predicted both psychological adjustment and adult attachment style, and that adult attachment style predicted psychological adjustment. In addition, a mediational model in which attachment mediates between child sexual abuse and later psychological adjustment was supported. Results are discussed in terms of implications for conducting therapy with child sexual abuse survivors.*

# *Adult Attachment*

## *A Mediator Between Child Sexual Abuse and Later Psychological Adjustment*

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***Given that approximately one in six*** women in North America has experienced child sexual abuse (CSA) (Gorey & Leslie, 1997), research examining the link between CSA and later adjustment or distress has considerable implications for clinical intervention and social policy (Briere, 1992). A growing body of research on CSA indicates that although there is not a discrete set of symptoms that can be considered definitively characteristic of CSA, it is associated with a wide range of subsequent problems in a large proportion of victims (ranging from negative self-concept and relationship difficulties to depression and suicidal ideation), and it can be considered a serious mental health problem (Briere & Runtz, 1993; Browne & Finkelhor, 1986; Cole & Putnam, 1992; Kendall-Tackett, Williams, & Finkelhor, 1993). As evidence

Authors' Note: This research was partially supported by a doctoral studentship awarded to the first author by the British Columbia Health Research Foundation. An earlier poster based on this data set was presented at the 1996 annual meeting of the American Professional Society on the Abuse of Children (APSAC) in Chicago, IL. We thank each of the women who kindly volunteered to participate in this study. Correspondence concerning this article should be addressed to Diane N. Roche, M.A., or Marsha G. Runtz, Ph.D., Department of Psychology, University of Victoria, P.O. Box 3050, Victoria, British Columbia, Canada, V8W 3P5, (250) 472-4294 or sent via e-mail to droche@uvic.ca.

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for the link between CSA and negative sequelae becomes well established, the importance of fully understanding this link cannot be underestimated.

If we accept that the link between CSA and later symptoms has been established, we must next ask about the nature of this relationship. One possibility is that CSA leads directly to impaired adult psychological adjustment. Another possibility is that CSA leads indirectly to impaired adult psychological adjustment via its impact on other mediating variables. If we accept that the link between CSA and later difficulties is direct, we might be unnecessarily pessimistic about the prognosis for survivors of abuse because nothing can be done to change the fact that CSA has occurred in the lives of approximately one in six women. In contrast, if mediating variables that are amenable to intervention can be identified, we can be much more hopeful. A focus on the mediational factors that help to explain women's adjustment following CSA implies that addressing a mediating variable in therapy might allow an individual to improve her ability to cope with a difficult early history. Researchers are only beginning to focus on explaining the long-term sequelae of CSA via mediational factors (e.g., Conte & Schuerman, 1987; Runtz & Schallow, 1997), and it is not yet clear what the most important mediational factors might be. However, one domain that seems important to consider is that of interpersonal relationships. Because CSA occurs in the context of human relationships, sexual abuse can cause a disruption in the normal process of learning to trust, act autonomously, and form stable, secure relationships (Elliott, 1994). In turn, interpersonal relationships affect psychological adjustment (Runtz & Schallow, 1997).

Although there are many ways to understand relationship experiences, we have chosen to use an attachment framework because of the apparent usefulness of attachment theory for understanding the impact of CSA (Alexander, 1992). Attachment theory provides a useful theoretical perspective for conceptualizing relationship variables, such as one's models of self and others, and for understanding how they are related to the long-term sequelae of CSA (see also Alexander, 1993). Alexander (1992) theorizes that although long-term sequelae are clearly related to the specific nature of the abuse, the actual relationship context at the time of the abuse should determine the nature of the long-term sequelae seen in the adult survivor. Furthermore, childhood attachment history should exert a direct influence on subsequent interpersonal relationships and on the development of an adult attachment style that should also determine the nature of the abuse-related sequelae.

One way that attachment difficulties might be manifested in later relationships is through the development of the self. The development of the self can be seen to unfold in the context of attachment and the internalization of important others' perceptions and expectations; sustained and early trauma

arising from abuse can produce long-standing dysfunctions of self (Briere, 1992). Exactly how the "self" should be defined has not been clearly demonstrated, even by object relations and self psychology theorists for whom it is central (Briere, 1992). In general, the self can be understood as "the agent of actions, the experiencer of feelings, the maker of intentions, [and] the architect of plans" (Stern, 1985, p. 6), the development of which occurs in the context of attachment. Self-dysfunctions, or those related to this internal base, are purported to lead to difficulties such as identity confusion, boundary issues, and the inability to soothe oneself. Attachment theory (Ainsworth, 1985; Bowlby, 1973, 1980, 1982, 1988) suggests that early childhood experiences of parental support, nurturance, consistency, and responsiveness produce a secure attachment. Warm and responsive parenting, according to this model, is expected to result in positive models of both the self and others and hence to result in secure and fulfilling adult relationships.

Insecure attachment has been observed to a much greater degree among children who have experienced physical abuse and neglect than in cases where abuse and neglect are absent (Carlson, Cicchetti, Barnett, & Braunwald, 1989; Egeland & Sroufe, 1981). It is estimated that between 70% and 100% of maltreated children exhibit insecure attachment (versus a base rate of about 30% in general population samples) and that these children are more likely to demonstrate an impaired sense of self and an impaired ability to share information about their thoughts, feelings, and intentions (Cicchetti, 1987). Similarly, insecure attachment has been noted via clinical observations of sexually abused children (Friedrich, 1990, 1996) and in research conducted with adult women. For example, a much higher proportion of insecurely attached women was found in a group of women who were sexually abused within their families than the proportion that would be expected according to Bartholomew and Horowitz's (1991) normative sample (Alexander, 1993).

Patterns of adult attachment, or ways of being in relationships, can be organized in terms of Bowlby's (1982) conception of internal working models (Bartholomew, 1990, 1993). As Bartholomew describes them, models of the self can be dichotomized as either positive (positive self-concept, the self as worthy of love and attention) or negative (negative self-concept, the self as unworthy of love and attention). Similarly, models of the other can be viewed as positive (the other as trustworthy, caring, and available) or negative (the other as rejecting, uncaring, and distant (see Figure 1). The degree of positivity of one's self-model is associated with the degree of emotional dependence on others for self-validation; a positive self-model can be understood as an internalized sense of self-worth that is not dependent on others for validation. A positive other-model is reflective of expectations of others' availability and

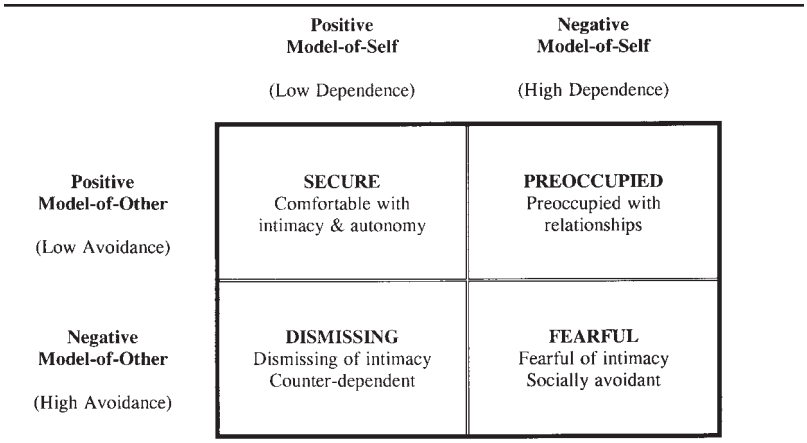


**Figure 1: Relationship Questionnaire (RQ) Four Category Model of Attachment (Bartholomew, 1990)**

supportiveness; a positive other-model facilitates actively seeking out intimacy and support in close relationships, whereas negative other-models lead to avoidance of intimacy and support (Bartholomew, 1990). Each working model of the self in combination with each working model of the other is hypothesized to define a particular adult attachment style (Secure, Fearful, Dismissing, and Preoccupied; see Figure 1).

With its focus on the relational context of abuse, attachment theory is very pertinent to conducting therapy with abuse survivors (Alexander, 1993). The therapist can probably be most helpful by serving as a reliable, secure base from which an individual can attempt to explore and modify her internal working models. A major goal in therapy might be the reappraisal of deficient models of self in relation to others, especially attachment figures (Bretherton, 1992). The fact that internal models are not simply determined by past relationships but also interact with current relationships (Kobak & Hazan, 1991), implies that current attachment relationships also offer survivors an opportunity to rework implicit expectations about the self, others, and relationships.

Clearly, it is important not only to investigate the prevalence of CSA and its associated sequelae, but to consider the mechanisms through which CSA might lead to long-term difficulties. If mediational variables that explain the relationship between CSA and psychological difficulties can be discovered, results from research in this area will be useful to women who are seeking relief from current psychological symptoms. That is, by focusing on making

changes to these mediational factors, women may be able to achieve higher levels of adaptive functioning. This study was an attempt to identify one possible mediator (i.e., adult attachment) of the relationship between CSA and adult psychological adjustment.

## METHOD

### Participants

Participants were 307 female undergraduate students at a mid-size western Canadian university. The average participant was about 22 years of age ($M = 21.9$, $SD = 6.5$); 84% of the participants were single, and 15% were married, living common-law, divorced, or remarried. About 66% of the participants were liberal arts students, and on average, participants were in their second year of university ($M = 1.9$, $SD = 1.1$). About 68% of the participants self-identified as Canadian, with no other specified ethnic or cultural ties; 16% identified themselves as of European or Scandinavian descent; 7% identified themselves as of Asian descent; the remainder were of (East) Indian, African, Jewish, or French Canadian descent, or were First Nations people[1] ($\leq 2\%$ for each group). Of the demographic variables, only age and marital status were related to CSA; compared to nonabused women, women who had experienced CSA tended to be older, $F(3, 327) = 5.80$, $p = .00$. The mean age of the No Abuse group was 21.3 years, the mean age of the Extrafamilial Abuse group was 22.9 years, and the mean age of the Intrafamilial Abuse group was 25.8 years. Women who had experienced CSA were also more likely to be married, $\chi^2(4) = 9.3$, $p = .05$. Where relevant, age and marital status were used as covariates.

Eighty-five participants (27.6%) reported a history of CSA, 222 participants (72.3%) did not report a history of CSA (No Abuse group). Thirty-one participants (10.1%) indicated a history of intrafamilial CSA (Intrafamilial Abuse group), and 54 (17.5%) indicated a history of extrafamilial CSA (Extrafamilial Abuse group). Of those women who experienced CSA and provided information about the severity of the incident ($n = 72$), 27 women (37.5%) indicated that the most severe CSA they experienced involved sexual touching, fondling, or being made to sexually touch or fondle the perpetrator; 45 women (62.5%) reported intercourse or attempted intercourse. The mean age of the participants at the onset of abuse was 8.9 years ($SD = 3.8$), and the mean age of the perpetrator at the onset of the abuse was 24.4 years ($SD = 17.7$). The mean age difference between the participant and the perpetrator at the time of abuse was 15.5 years ($SD = 17.9$). Of the women who

provided information about the duration of their CSA experiences ($n$ = 84), 58 (69%) reported that it lasted a few days or a few weeks, 11 (13.1%) reported that it lasted a few months, and 9 (17.8%) reported that the experience lasted from a few years to many years. For those participants who had previously disclosed their CSA experience ($n$ = 54), their mean age at the time of their disclosure was 12.4 years ($SD$ = 4.26).

## Procedure

Participants received partial course credit when they volunteered for a study about women's relationships. Groups of 5 to 15 participants completed an anonymous and confidential questionnaire. They were advised that some of the questions were sensitive and that they could withdraw at any time or hand in a blank questionnaire without penalty. Once participants provided informed consent, they spent about 1.5 hours completing a questionnaire that gathered information about demographics, family of origin characteristics, early sexual experiences (including CSA), adult attachment relationships, and current psychological adjustment. No participants chose to withdraw or hand in a blank questionnaire.

## Measures

### *Child Sexual Abuse History*

A modified version of Finkelhor's (1979) Survey of Childhood Experiences was used to assess CSA history. It included questions about the participant's sexual experiences as a child (e.g., *from another person fondling you in a sexual way to intercourse*), who the experiences were with (e.g., *a stranger, a friend of yours, your uncle/aunt*), and how often the experiences occurred (e.g., *from once or twice to between 26 and 50 times*). Runtz (1991) investigated the internal consistency of a similar modification of Finkelhor's survey and found coefficient alphas of .90 and .94 in university student samples.

For this study, CSA was defined as (a) sexual contact (fondling, oral-genital contact, or intercourse) between a child, age 15 or younger, and an adult who was 5 or more years older, (b) sexual contact between a child and a perpetrator who was not 5 or more years older than the victim but who used force or threats to ensure the victim's compliance, or (c) sexual contact at age 15 or younger with someone of any age if the experience was viewed by the participant as CSA. Consensual sexual relations between peers and

noncontact forms of unwanted sexual behavior (e.g., exposure) were not included as CSA in this study.

*Psychological Adjustment*

The Trauma Symptom Inventory (TSI; Briere, 1995) is a 100-item self-report questionnaire that measures trauma-related symptoms in adults. It represents a major revision and expansion of the Trauma Symptom Checklist-33 (TSC-33) and the subsequent TSC-40 (Briere & Runtz, 1989), which are abuse-oriented instruments that measure the long-term impact of traumatic events, particularly in the area of child abuse.

The TSI was designed to tap both the specific symptoms of post-traumatic stress disorder such as intrusive experiences and avoidance of events or stimuli that remind one of the trauma, and other more chronic post-traumatic sequelae such as dissociation, anger, and disturbance in self functions. It consists of 10 clinical scales and three scales designed to assist in identifying invalid profiles in clinical settings. Items are rated on a 4-point scale (0 = *never* to 3 = *often*). The clinical scales are as follows: Anxious Arousal, Anger/Irritability, Depression, Defensive Avoidance, Dissociation, Dysfunctional Sexual Behavior, Intrusive Experiences, Impaired Self-Reference, Sexual Concerns, and Tension Reduction Behavior. Reliability coefficients for the normative group of university students are reported to range from .77 for Dysfunctional Sexual Behavior to .90 for Anger/Irritability with a mean $\alpha$ of .84 (Briere, 1995). Cronbach's alphas for the individual TSI scales in the current sample were found to range from .64 for Tension Reduction Behavior to .89 for Anger/Irritability, with a mean $\alpha$ of .82. In discriminant function analyses conducted by the author of the scale to demonstrate construct validity, all four trauma types examined (adult interpersonal violence, adult disaster, childhood interpersonal violence, and childhood disaster) were significantly associated with elevated TSI scores (Briere, 1995).

*Adult Attachment Style*

The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) is an adaptation of a self-report measure of attachment developed by Hazan and Shaver (1987). It consists of four short paragraphs describing four attachment styles (Secure, Preoccupied, Dismissing, and Fearful). Participants are asked both to choose the style that is most like them and to make ratings on a 7-point scale (1 = *not at all like me* to 7 = *very much like me*) regarding the degree to which they resemble each of the four styles.

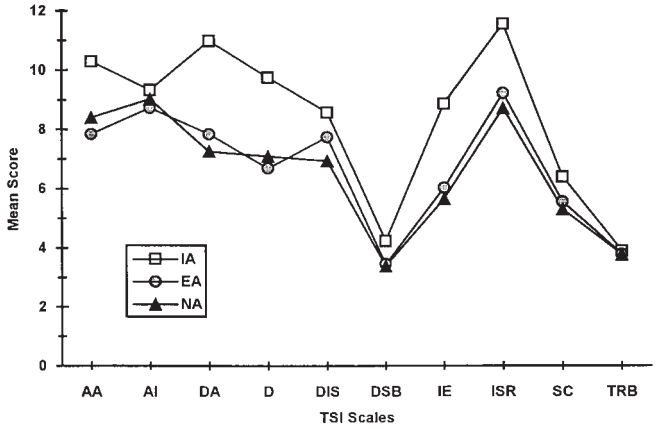


**Figure 2: Trauma Symptom Inventory (TSI) Profiles of Intrafamially Abused (IA), Extrafamilially Abused (EA), and Nonabused (NA) Women**
NOTE: Trauma Symptom Inventory Scales: AA = Anxious Arousal, AI = Anger/Irritability, DA = Defensive Avoidance, D = Depression, DIS = Dissociation, DSB = Dysfunctional Sexual Behavior, IE = Intrusive Experiences, ISR = Impaired Self-Reference, SC = Sexual Concerns, TRB = Tension Reduction Behavior.

Bartholomew and Horowitz's (1991) examination of the RQ indicated that the observed patterns of responses of the normative sample (i.e., university students) were consistent with the proposed four-category model of attachment and that the RQ's dimensional structure is consistent with the proposed two-dimensional structure (i.e., negative and positive models of self and others) described earlier (see Figure 1).

## RESULTS

Pairwise relationships among CSA, adult attachment style, and later psychological adjustment were examined using profile analyses and multivariate multiple regression. Relationships between CSA and adjustment with attachment partialed and between attachment and adjustment with CSA partialed, were examined using partial set correlation (Cohen, 1982). Results indicated that CSA predicted both attachment style and psychological adjustment and that attachment style predicted psychological adjustment. However, whereas attachment style continued to predict psychological adjustment when the effects of CSA were partialed, CSA no longer predicted psychological adjustment when attachment was partialed, indicating that

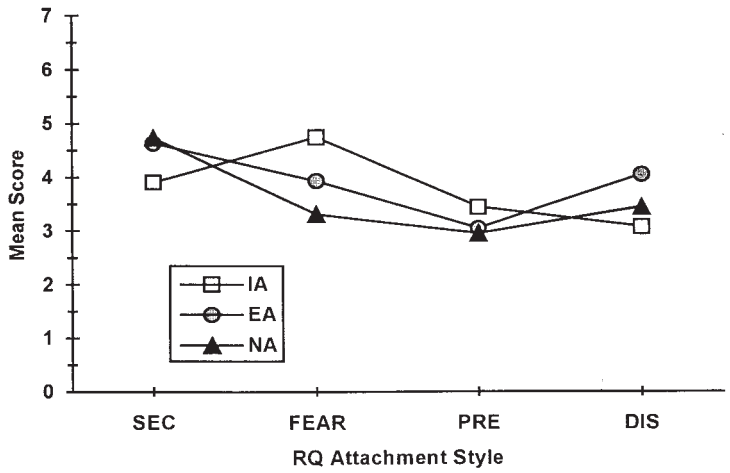


**Figure 3: Relationship Questionnaire (RQ) Profiles for Intrafamially Abused (IA), Extrafamilially Abused (EA), and Nonabused (NA) Women**
NOTE: Relationship Questionnaire Attachment Styles: SEC = Secure, FEAR = Fearful, PRE = Preoccupied, DIS = Dismissing.

adult attachment style mediated the relationship between CSA and psychological adjustment (Baron & Kenny, 1986). Preliminary analyses in which age and marital status were included as covariates did not alter these results.

### Child Sexual Abuse and Psychological Adjustment

The effect of sexual abuse history on psychological adjustment was evaluated using a 3 (CSA groups) by 10 (TSI scales) profile analysis. Profiles of mean TSI scores for the three groups of women (No Abuse, Intrafamilial Abuse, Extrafamilial Abuse) are presented in Figure 2. The profiles were found to be significantly nonparallel, $F(18, 582) = 1.70$, $p = .04$, $\varepsilon^2 = .10$, indicating different responses to the TSI depending on CSA history. These differences were probed using one-way ANOVAS on each of the TSI scales. Significant ANOVAS were followed by orthogonal comparisons between the No Abuse group and the two abuse groups combined, and between the Intrafamilial Abuse group and the Extrafamilial Abuse group. Significant differences between the No Abuse group and the two abuse groups were found on the Defensive Avoidance, Impaired Self-Reference, and Intrusive Experiences scales, due in each case to the abuse groups scoring higher than the No Abuse group. In addition, the Intrafamilial Abuse group scored significantly

higher than the Extrafamilial Abuse group on the Depression, Intrusive Experiences, Impaired Self-Reference, Anxious Arousal, and Defensive Avoidance scales. Detailed results are presented in Table 1.

### Child Sexual Abuse and Adult Attachment Style

The effect of sexual abuse history on adult attachment style was initially evaluated using a 3 (CSA groups) by 4 (RQ scales) profile analysis. Profiles of the mean RQ scores for the three groups of women (No Abuse, Intrafamilial Abuse, Extrafamilial Abuse) are presented in Figure 3. The profiles were significantly nonparallel, $F(6,594) = 3.48$, $p = .00$, $\eta^2 = .07$, indicating different attachment style profiles depending on CSA history. Separate ANOVAS and planned comparisons indicated that the No Abuse group was significantly more secure and less fearful than the combined abuse groups, and that the Intrafamilial Abuse group was less secure, more fearful, and less dismissing than the Extrafamilial Abuse group. Detailed results are presented in Table 2.

A second analysis compared the three groups on the hypothesized model-of-self and model-of-other dimensions of attachment (see Figure 1). This analysis fitted the same 3 (CSA groups) by 4 (RQ scales) model as in the previous analysis and then applied linear constraints that recombined the RQ scales into positive versus negative model-of-self contrasts (i.e., Secure and Dismissing scores vs. Preoccupied and Fearful scores), and into positive versus negative model-of-other contrasts (i.e., Secure and Preoccupied scores vs. Dismissing and Fearful scores). Means on these dimensions for each of the three groups are shown at the bottom of Table 2. The analyses produced significant CSA effects for model-of-self, $F(2, 299) = 7.14$, $p = .00$, and for model-of-other, $F(2, 299) = 2.96$, $p = .05$. Subsequent planned comparisons showed that the No Abuse group had a significantly more positive model-of-self than did the combined abused groups and that the Extrafamilial Abuse group had a more positive model-of-self than the Intrafamilial Abuse group. The No Abuse group also had a significantly more positive model-of-other than did the combined abused groups, but in this case the two abused groups did not differ.

### Adult Attachment Style and Psychological Adjustment

The relationship between adult attachment style and psychological adjustment was evaluated using multivariate multiple regression of the 10 TSI scales on the 4 RQ scales. A significant relationship was found, $F(40,$

**TABLE 1: Trauma Symptom Inventory (TSI) Scale Scores According to Child Sexual Abuse Group**

| | *No Abuse (NA)* | | *Extrafamilial Abuse (EA)* | | *Intrafamilial Abuse (IA)* | | *NA Versus EA/IA (ANOVA)* | | *EA Versus IA (ANOVA)* | |
|---|---|---|---|---|---|---|---|---|---|---|
| *TSI Scale* | M | SD | M | SD | M | SD | F | p | F | p |
| Anxious Arousal | 8.43 | 4.69 | 7.83 | 4.04 | 10.29 | 4.24 | 1.17 | ns | 5.65 | .02 |
| Anger/Irritability | 9.10 | 5.59 | 8.72 | 6.41 | 9.32 | 5.66 | 0.00 | ns | 0.21 | ns |
| Defensive Avoidance | 7.44 | 5.67 | 7.96 | 6.22 | 10.97 | 5.87 | 8.65 | .00 | 5.31 | .02 |
| Depression | 7.11 | 4.57 | 6.69 | 4.53 | 9.74 | 5.55 | 3.31 | ns | 8.31 | .00 |
| Dissociation | 6.95 | 4.36 | 7.74 | 4.18 | 8.58 | 3.96 | 4.73 | ns | 0.75 | ns |
| Dysfunctional Sexual Behavior | 3.55 | 3.58 | 3.44 | 3.98 | 4.23 | 5.05 | 0.75 | ns | 0.82 | ns |
| Intrusive Experiences | 5.73 | 4.79 | 6.02 | 4.89 | 8.87 | 6.36 | 7.86 | .01 | 6.57 | .01 |
| Impaired Self-Reference | 8.79 | 5.18 | 9.22 | 4.78 | 11.55 | 5.93 | 6.10 | .01 | 3.94 | .05 |
| Sexual Concerns | 5.46 | 5.23 | 5.56 | 4.88 | 6.39 | 5.94 | 0.94 | ns | 0.49 | ns |
| Tension Reduction Behavior | 3.89 | 2.94 | 3.78 | 3.39 | 3.90 | 3.10 | 0.02 | ns | 0.03 | ns |

**TABLE 2: Relationship Questionnaire (RQ) Scale Scores According to Child Sexual Abuse Group**

| | *No Abuse (NA)* | | *Extrafamilial Abuse (EA)* | | *Intrafamilial Abuse (IA)* | | *NA Versus EA/IA* | | *EA Versus IA* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD | F | p | F | p |
| RQ attachment style | | | | | | | | | | |
| Secure | 4.73 | 1.58 | 4.62 | 1.57 | 3.90 | 1.99 | 4.74 | .03 | 3.74 | .05 |
| Fearful | 3.31 | 1.82 | 3.92 | 2.12 | 4.74 | 1.71 | 17.43 | .00 | 3.74 | .05 |
| Preoccupied | 2.94 | 1.93 | 3.04 | 1.72 | 3.43 | 1.91 | 1.37 | ns | 0.86 | ns |
| Dismissing | 3.43 | 1.74 | 4.04 | 1.96 | 3.07 | 1.53 | 0.27 | ns | 5.82 | .02 |
| RQ attachment dimension | | | | | | | | | | |
| Model-of-self | 1.85 | 4.10 | 1.60 | 4.29 | –1.13 | 3.94 | 9.23 | .00 | 8.35 | .00 |
| Model-of-other | 0.94 | 4.08 | –0.29 | 4.09 | –0.40 | 4.36 | 5.53 | .02 | 0.02 | .91 |

1165) = 4.58, $p = .00$, adjusted multivariate $R^2 = .35$, and follow-up univariate regressions indicated that all 10 TSI variables were significantly predicted by the set of attachment variables (see the appendix).

The regression weights shown in the appendix reflect the contribution of each attachment style to the prediction of each of the adjustment variables after the remaining attachment styles have been partialed out. In this context, such unique contributions are difficult to interpret on their own. A more meaningful approach would be to incorporate into the analysis the two-dimensional structure of attachment hypothesized in Figure 1. Such an analysis involves two steps. First, a multivariate multiple regression model that incorporates linear constraints corresponding to the model-of-self and model-of-other dimensions of attachment is estimated. This model is then compared to the unconstrained multivariate multiple regression results presented previously (Johnson & Wichern, 1982). If the constrained model fits as well as the unconstrained model, then the hypothesized two-dimensional structure of attachment is supported and the second step of the analysis proceeds. This step evaluates how well each of the hypothesized attachment dimensions predicts psychological adjustment, both overall (as a set of variables) and separately for each scale.

The results of the first step in the analysis indicated that the constrained model fit the data as well as the unconstrained model, adjusted multivariate $R^2 = .35$ and .31 for the unconstrained and constrained models, respectively, $\chi^2(20) = 27.68$, $p = .12$, thus supporting the hypothesized two-dimensional structure of attachment. The second step found that the model-of-self dimension reliably predicted the set of psychological adjustment scales, $F(10, 315) = 12.95$, $p = .00$, Wilks' $\lambda = .71$, and so also did the model-of-other dimension, $F(10, 315) = 2.69$, $p = .00$, Wilks' $\lambda = .92$. Subsequent univariate regression analyses found that the model-of-self dimension significantly predicted all 10 adjustment scales and that the model-of-other dimension predicted Depression, Defensive Avoidance, Dissociation, Intrusive Experiences, Impaired Self-Reference, and Sexual Concerns. Detailed results are presented in Table 3.

### Adult Attachment as a Mediator Between CSA and Adjustment

To this point, the results have indicated that CSA is related to adult attachment style and to adult psychological adjustment and that attachment style is related to psychological adjustment. According to Baron and Kenny (1986), these pairwise relationships between constructs are required as a first step for evaluating a model in which attachment style mediates the relationship

**TABLE 3: The Relationship Between Model-of-Self/Model-of-Other and Adjustment**

| *Relationship Questionnaire, Attachment Dimension* | *Trauma Symptom Inventory Scale* | B | *Univariate* t *(324)* | p |
|---|---|---|---|---|
| Model-of-self | Anxious Arousal | –.40 | –7.86 | .00 |
| | Anger/Irritability | –.37 | –7.04 | .00 |
| | Defensive Avoidance | –.39 | –7.62 | .00 |
| | Depression | –.44 | –8.99 | .00 |
| | Dissociation | –.29 | –5.55 | .00 |
| | Dysfunctional Sexual Behavior | –.26 | –4.79 | .00 |
| | Intrusive Experiences | –.32 | –6.18 | .00 |
| | Impaired Self-Reference | –.43 | –8.74 | .00 |
| | Sexual Concerns | –.29 | –5.55 | .00 |
| | Tension Reduction Behavior | –.38 | –7.37 | .00 |
| Model-of-other | Anxious Arousal | –.04 | –0.82 | .41 |
| | Anger/Irritability | –.01 | –0.11 | .91 |
| | Defensive Avoidance | –.15 | –3.04 | .01 |
| | Depression | –.11 | –2.26 | .03 |
| | Dissociation | –.12 | –2.26 | .03 |
| | Dysfunctional Sexual Behavior | –.01 | –0.06 | .96 |
| | Intrusive Experiences | –.20 | –3.81 | .00 |
| | Impaired Self-Reference | –.11 | –2.17 | .03 |
| | Sexual Concerns | –.10 | –2.00 | .05 |
| | Tension Reduction Behavior | –.04 | –0.75 | .46 |

between CSA and adult psychological adjustment. The second step requires regressing psychological adjustment on CSA and attachment style simultaneously. In this way, the unique contribution of each of CSA and attachment style to the prediction of adult psychological adjustment can be evaluated. Moreover, a model in which attachment mediates the relationship between CSA and psychological adjustment will be supported if attachment style remains related to psychological adjustment independent of CSA, while CSA shows no independent relationship to adjustment.

Because each construct was measured by a set of variables, partial set correlation (Cohen, 1982) was initially used to evaluate the unique contributions of CSA and adult attachment style on adult adjustment. This multivariate approach was then followed by univariate multiple regression analyses. The results of the partial set correlation analysis indicated that adult attachment style predicted psychological adjustment independent of CSA, both when all four RQ scales were included, $F(36, 1077) = 4.27$, $p = .00$, adjusted multivariate partial $R^2 = .31$, and when attachment was constrained to reflect model-of-

self and model-of-other dimensions, $F(20, 576) = 6.77$, $p = .00$, adjusted multivariate partial $R^2 = .30$. However, CSA did not predict psychological adjustment independent of attachment style, $F(18, 574) = 1.38$, $p = .13$, adjusted multivariate partial $R^2 = .02$.[2] This pattern of results also held for the individual psychological adjustment scales. That is, all previously presented univariate effects of CSA on the 10 adjustment scales were reduced to nonsignificance after controlling for attachment, whereas all previously reported univariate effects of attachment on adjustment remained after controlling for CSA. Thus, in combining these results with those reported previously, a model is supported in which attachment mediates the relationship between CSA and current psychological adjustment.[3]

## DISCUSSION

In this examination of the relationship between child sexual abuse, adult attachment style, and adult psychological adjustment, we have demonstrated that attachment appears to mediate the relationship between CSA and psychological adjustment. Specifically, we found that CSA predicts both adult attachment style and psychological adjustment and that attachment also predicts psychological adjustment. In addition, attachment style continues to predict adjustment when the effects of CSA are controlled, whereas CSA no longer predicts adjustment when the effects of attachment are controlled, thus indicating that adult attachment style mediates the relationship between CSA and psychological adjustment.

As expected, our initial analyses indicated that a history of CSA was associated with poorer psychological adjustment in women; sexually abused women were more symptomatic than nonabused women on 3 of the 10 scales of the TSI (i.e., Defensive Avoidance, Impaired Self-Reference, and Intrusive Experiences). These findings are consistent with previous research (e.g., Bagley & Ramsay, 1986; Briere & Runtz, 1993; Browne & Finkelhor, 1986), which shows that CSA is associated with elevations on a variety of symptom measures. Similarly, studies that have used the TSI have also demonstrated that sexually abused and nonabused women differ on this measure (e.g., Briere, 1995; Briere, Elliott, Harris, & Cotman, 1995).

Although not all researchers agree about which characteristics of CSA are most likely to be associated with a poorer prognosis, one trend in the research suggests that abuse by fathers/stepfathers may lead to greater long-term effects (Beitchman et al., 1992). In the present study, when the degree of relatedness between victim and perpetrator is examined, it is apparent that the relationship between sexual abuse and adjustment is a function of the

influence of intrafamilial sexual abuse; women who were abused within the family reported significantly more difficulties than women who were abused by someone outside the family. Women abused by a family member were especially likely to report problems in the following areas: depression, post-traumatic stress (i.e., intrusive thoughts and defensive use of avoidance), anxiety, and an inadequate sense of self and personal identity.

Adult attachment style also varies as a function of CSA history; women who had experienced CSA were less secure and more fearful than women who had not experienced CSA. Along with reporting a greater number of psychological symptoms, women who were abused by a family member reported a less secure attachment pattern than women abused outside of the family. Specifically, women with a history of intrafamilial CSA were less secure and more fearful than women who had experienced extrafamilial CSA; women with a history of extrafamilial CSA were more Dismissing than women abused within the family. In an examination of women's endorsement of model-of-self versus model-of-other dimensions of attachment, it is evident that women abused by a family member were most likely to have incurred damage to their model-of-self, and to a lesser extent, to their model-of-other. That is, intrafamilially abused women rated themselves lower than the other two groups on the styles reflecting a positive model-of-self (i.e., Secure and Dismissing) and higher than the other two groups on the styles reflecting a negative model-of-self (i.e., Fearful and Preoccupied[4]).

Results from this study suggest that abuse occurring within the family may be significantly more detrimental than abuse occurring outside the family, both with regard to later psychological adjustment and with regard to later attachment relationships. However, it is nonetheless important to bear in mind that although women abused outside the family are affected differently than women abused within the family, they also experience the negative sequelae associated with CSA. Although causal relationships between the variables of interest in this study cannot be definitively established, it seems plausible that women who have been sexually abused by a family member sustain considerable damage their model-of-other and especially to their model-of-self and that these models negatively influence relationships (and later attachment patterns) in adulthood. Similarly, it seems plausible that women abused outside the family are somewhat spared with respect to their model-of-self but do sustain damage to their model-of-other, and that to a lesser extent, this model also negatively influences relationships in adulthood. We have demonstrated that these attachment patterns in adulthood influence the development of psychological symptoms. Although our view that attachment difficulties (measured by the RQ) precede and influence the

development of psychological symptoms (measured by the TSI) seems logical, one could also argue that the TSI and the RQ both reflect the same underlying adjustment variable. This issue is a conceptual one; it is not possible to distinguish statistically between these alternative interpretations by comparing the two models because the results of both analyses would be identical. In the future, longitudinal research would be useful to further address this question.

The most important impact of CSA, especially of intrafamilial abuse, seems to be its impact on the view of oneself as undeserving of the love and support of others. This interpretation fits with Cole and Putnam's (1992) theory that the effect of intrafamilial abuse is most pronounced in the domains of self functioning. That is, abuse by a family member violates the child's basic beliefs about safety and trust in important relationships; this likely disrupts the child's developing sense of self. The development of the self continues to be an important task throughout infancy, childhood, adolescence, and early adulthood (e.g., Ainsworth, Bell, & Stayton, 1974; Harter, 1983). Intrafamilial abuse may continue to negatively influence the continuing development of the model-of-self long after the abuse has ended and, therefore, may have a cumulative effect on the abuse survivor's ability to sustain satisfying relationships and secure attachments in adulthood (Cole & Putnam, 1992). Although the abuse experiences of women abused outside the family have affected their model-of-other, these women may have simultaneously experienced other positive attachment relationships (perhaps within the family) that have contributed to a relatively positive model-of-self. Perhaps, the tendency to be dismissing in attachment relationships indicates that although women abused outside the family experience difficulty trusting others and tend to avoid intimacy in relationships, they do not experience the additional feelings of dependence in relationships that are characteristic of intrafamilially abused women.

The importance of adult attachment style becomes most apparent when its association with psychological adjustment is examined. For the women in this study, adult attachment style predicted differences on all 10 dimensions of functioning on the TSI, accounting for about 40% of the variance in Anxious Arousal, Anger/Irritability, Defensive Avoidance, Depression, Dissociation, Dysfunctional Sexual Behavior, Intrusive Experiences, Impaired Self-Reference, Sexual Concerns, and Tension Reduction Behavior. Because sexual abuse is strongly associated with adult attachment style, the role of attachment in adjustment is particularly salient for sexually abused women. Contrary to Alexander's (1993) suggestion that attachment predicts basic personality structure but not symptoms associated with post-traumatic stress

disorder (such as intrusive thoughts, avoidance, and depression), the present study indicates that attachment is of central importance in predicting these symptoms. In particular, the most important attachment dimension for predicting the severity of symptoms is one's model-of-self. In addition, these results provide support for Bartholomew's (1990) conceptualization of the two dimensional nature of attachment and the implication of Bowlby's theory that the intersection of the underlying models of self and other is the basis for the four basic attachment styles.

When a model of attachment style as a mediator of CSA sequelae was tested, it was demonstrated that the relationship between CSA and psychological adjustment can be accounted for by the variation in attachment patterns. This suggests that attachment style (i.e., one's model-of-self and model-of-other) may be one mechanism through which the impact of CSA (especially intrafamilial abuse) operates on later psychological adjustment. It may be, as Alexander (1992) suggests, that insecure attachment is a preexisting risk factor for CSA or, it may be, as Cole and Putnam (1992) hypothesize, that CSA undermines earlier gains made in an individual's developing sense of self. In either event, it appears that CSA victims develop a less secure and more fearful attachment style that appears to compromise the process of psychological adjustment in adulthood.

This study may be limited somewhat by the use of a university student sample; however, in this case, we see our sample as a strength, rather than a liability. Use of a university sample allowed us to obtain a relatively large sample for a study of this type; in addition, our results are clear, even in this sample where abuse survivors are likely to be relatively higher functioning than in clinical samples. This implies that if we were to compare more extreme groups (i.e., a clinical sample of sexually abused women and a nonclinical group), our results would be even stronger. Another potential limitation of the study is the retrospective nature of its methodology. The participants are relatively high-functioning and their recall of past abuse experiences may have been influenced by the fallibility of memory. Therefore, it is possible that the mediational relationship suggested here would not apply equally as well to a population exhibiting more severe disturbance or to participants who could be studied prospectively. However, Brewin, Andrews, and Gotlib (1993) have demonstrated that adults' recollections of salient factual details of their own childhoods are generally accurate, especially concerning the experiences that were unique, unexpected, and consequential. It is, therefore, unlikely that the results here are unduly influenced by incorrect reporting of abuse experiences. Finally, the results of this study do not yet allow us to make conclusions about the specific findings regarding model-of-

self versus model-of-other relative to each TSI scale, but this could be an interesting area for further research. Additional ideas for further research in this area include the use of clinical or community samples, the use of interview methodology to gain more detailed information about abuse variables, longitudinal studies of attachment and CSA, and the use of multiple measures to examine both adult interpersonal relationships and adult sequelae.

The results of this study have important implications for therapy with women who have experienced CSA. If attachment to significant others is of central importance in determining psychological adjustment and if the effects of CSA are mediated by adult attachment style, ample opportunity for intervention exists. It may be possible to expose the survivor in therapy to new interpersonal experiences that help to modify her implicit expectations of self, others, and relationships, thereby altering her attachment style and ultimately improving her psychological adjustment. Although for some women a positive attachment with a trusted adult in childhood or adolescence or with a romantic partner in adulthood may mitigate the effects of problems in early attachment (Egeland, Jacobvitz, & Sroufe, 1988), for other women, a positive therapeutic relationship may effectively serve this role.

Although the benefit of a stable, positive therapeutic relationship has been demonstrated for therapy clients in general (Whiston & Sexton, 1993), this may be a particularly important aspect of therapy for women who have experienced early sexual abuse. If therapists can assist women with the development of a more positive self-model despite a history of CSA, this may facilitate the successful completion of much of the subsequent abuse-specific work that is necessary for the treatment of adult survivors. The results of this study suggest that sexually abused clients will likely experience considerable benefit simply from addressing issues related to the "self" in the context of abuse-focused therapy. For example, addressing identity, personal boundaries, dependence and autonomy, and the differentiation of self from others might provide some relief from psychological difficulties (particularly those within the realm of interpersonal relationships) that are related to a history of CSA.

Clearly, attachment is a central construct in our understanding of the long-term sequelae of CSA and especially of CSA that occurs within the family. It is important that sexual abuse researchers extend their investigations of sexual abuse outcomes by distinguishing between abuse that occurs inside versus outside the family, and by including more complex methodological designs aimed at uncovering mediating and moderating variables that influence long-term adjustment. It is essential that clinically relevant research be conducted that contributes to our knowledge of the most effective and efficient methods of treatment available to this group of therapy consumers. The

discovery, understanding, and use of factors that mediate the development and/or maintenance of psychological symptoms in adult survivors of sexual abuse may be essential for the further refinement of our intervention efforts to help women overcome the interpersonal difficulties and the problems in psychological adjustment often associated with CSA.

**APPENDIX**
**The Relationship Between Attachment and Psychological Adjustment**

| *Relationship Questionnaire Attachment Style* | *Trauma Symptom Inventory Scale* | *Univariate* B | *Univariate* F*(1, 316)* | *Univariate* p |
|---|---|---|---|---|
| Secure | Anxious Arousal | –.49 | 8.16 | .00 |
| | Anger/Irritability | –.29 | 1.68 | .20 |
| | Defensive Avoidance | –.31 | 2.03 | .16 |
| | Depression | –.56 | 10.27 | .00 |
| | Dissociation | –.22 | 1.58 | .21 |
| | Dysfunctional Sexual Behavior | .04 | 0.58 | .81 |
| | Intrusive Experiences | –.21 | 1.17 | .28 |
| | Impaired Self-Reference | –.44 | 5.00 | .03 |
| | Sexual Concerns | –.23 | 1.28 | .26 |
| | Tension Reduction Behavior | –.16 | 1.87 | .17 |
| Fearful | Anxious Arousal | .52 | 13.72 | .00 |
| | Anger/Irritability | .60 | 10.73 | .00 |
| | Defensive Avoidance | .97 | 29.60 | .00 |
| | Depression | .61 | 17.83 | .00 |
| | Dissociation | .53 | 14.18 | .00 |
| | Dysfunctional Sexual Behavior | .30 | 5.88 | .02 |
| | Intrusive Experiences | .92 | 33.44 | .00 |
| | Impaired Self-Reference | .79 | 23.94 | .00 |
| | Sexual Concerns | .51 | 9.30 | .00 |
| | Tension Reduction Behavior | .24 | 6.11 | .01 |
| Preoccupied | Anxious Arousal | .30 | 6.00 | .02 |
| | Anger/Irritability | .61 | 14.51 | .00 |
| | Defensive Avoidance | .60 | 14.26 | .00 |
| | Depression | .48 | 14.15 | .00 |
| | Dissociation | .27 | 4.57 | .03 |
| | Dysfunctional Sexual Behavior | .55 | 25.73 | .00 |
| | Intrusive Experiences | .19 | 1.87 | .17 |
| | Impaired Self-Reference | .54 | 14.22 | .00 |
| | Sexual Concerns | .58 | 15.50 | .00 |
| | Tension Reduction Behavior | .16 | 27.84 | .00 |
| Dismissing | Anxious Arousal | –.47 | 11.93 | .00 |
| | Anger/Irritability | –.32 | 3.30 | .07 |
| | Defensive Avoidance | .00 | 0.00 | .96 |

*(continued)*

**APPENDIX**
**Continued**

| *Relationship Questionnaire Attachment Style* | *Trauma Symptom Inventory Scale* | B | *Univariate* F*(1, 316)* | p |
|---|---|---|---|---|
| | Depression | –.20 | 2.09 | .15 |
| | Dissociation | –.08 | 0.32 | .57 |
| | Dysfunctional Sexual Behavior | .14 | 1.38 | .24 |
| | Intrusive Experiences | –.10 | 0.42 | .52 |
| | Impaired Self-Reference | –.25 | 2.51 | .11 |
| | Sexual Concerns | .16 | 0.95 | .33 |
| | Tension Reduction Behavior | –.12 | 1.55 | .21 |

## NOTES

1. *First Nations People* is the Canadian term equivalent to the American term *Native Americans.*

2. This analysis did not need to be reproduced using the hypothesized dimensions of attachment because a constrained model cannot possibly fit any better than an unconstrained model.

3. A more commonly seen technique for testing mediational models among sets of variables is Structural Equation Modeling as implemented in such software as LISREL, EQS, and AMOS. The philosophical distinction between that approach and the "softer" modeling approach implemented here turns on whether a model is being used for theory testing and development or for application and prediction (Anderson & Gerbing, 1988). The method we used reflected our greater interest in predicting psychological adjustment (multivariately and univariately), without making strong inferences regarding the latent causes of the covariances among the various adjustment scales.

4. Although not reaching significance in the initial profile analysis, scores on this scale were in the expected direction, and results of subsequent analyses of the model-of-self and model-of-other dimensions were significant.

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