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CHILD SEXUAL ABUSE, ATTACHMENT, DATING BEHAVIORS,
AND SEXUAL ASSAULT

by

Lucie Holmgreen, M.S.

A Dissertation submitted to the Faculty of the Graduate School,
Marquette University,
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy

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ABSTRACT
CHILD SEXUAL ABUSE, ATTACHMENT, DATING BEHAVIORS,
AND SEXUAL ASSAULT

Lucie Holmgreen, M.S.

Marquette University, 2014

The current study used survey methodology to investigate the relationships among child sexual abuse, adult attachment, risky dating behaviors, and sexual assault. Specifically, it tested a model whereby attachment mediates a hypothesized relationship between child sexual abuse and risky dating behaviors, thus partially explaining sexual abuse survivors' risk of sexual assault (or revictimization). Results indicate that child sexual abuse relates to attachment anxiety but not to avoidance or the dating behaviors studied. While risky dating behaviors are associated with increased rates of sexual assault, most of them were not predicted by attachment. Attachment avoidance does relate, however, to some key high-risk dating behaviors, and attachment anxiety is associated with higher rates of sexual assault. Clinical and research implications are discussed.

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Lucie Holmgreen, M.S.

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Erik, I hereby pass the dice . . . thus signifying the end of my turn.

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Child Sexual Abuse, Attachment, Dating Behaviors, and Sexual Assault

Introduction

Sexual Revictimization

Sexual assault of women having a history of child sexual abuse (sexual revictimization) occurs at rates two to three times higher than sexual assault of women without such a history. That is, child sexual abuse has been shown, in prospective as well as retrospective studies (e.g., Filipas & Ullman, 2006; Gidycz, Coble, Latham, & Layman, 1993; Livingston, Testa, & VanZile-Tamsen, 2007) and in community, clinical, and college samples (Filipas & Ullman; Jankowski, Leitenberg, Henning, & Coffey, 2002; Kearns & Calhoun, 2010; Livingston et al.; Miller et al., 1978; Wyatt, Guthrie, & Notgrass, 1992) to be a robust risk factor for sexual assault. In a review of relevant research, it was estimated that sexual revictimization is experienced by anywhere from 32% to 82% of child sexual abuse survivors (Grauerholz, 2000). Roodman and Clum (2001) performed a meta-analysis on revictimization and found an overall effect size of .59, indicating a robust association between child sexual abuse and adult sexual victimization. Given the high rate of sexual revictimization and the need to identify mediators that may be amenable to intervention, the goal of this study was to investigate adult attachment as a possible mediator of sexual revictimization or high-risk sexual behaviors in young women.

Theoretical accounts of sexual revictimization have evolved from early conceptualizations of the phenomenon as a manifestation of the “repetition compulsion” (e.g., Chu, 1992) to less victim-blaming and more operationalizable theories involving

learned helplessness (e.g., Peterson & Seligman, 1983), impaired threat detection and resistance abilities (e.g., Marx, Heidt, & Gold, 2005), social development (Cloitre, 2006) and ecological context (Grauerholz, 2000). Most recently, the Read-React-Respond (RRR) integrative model of sexual revictimization (Noll & Grych, 2011) proposes that adaptive responding to sexual threat requires the integrated function of biological and behavioral systems such that an individual correctly perceives threat and prioritizes self-protection (read), produces optimal, moderate levels of physiological arousal (react), and marshals effective behavioral strategies to attempt to end or escape the threat (respond). Attachment insecurity (for example, worrying about a partner's commitment) is hypothesized to cause impairment in reading sexual threat, especially by increasing the likelihood of prioritizing relationship maintenance over self-protection. Overall, current explanations of revictimization tend to involve factors contributing to one of five possible mechanisms.

First, a number of factors have been posited to increase a woman's general exposure to sexual assault. These factors of opportunity may be seen generally as causally related to sexual revictimization through their influence on the amount or type of men to whom women are exposed. Research does suggest that some of the factors increasing women's risk of sexual assault are predicted by child sexual abuse. For example, greater alcohol use and higher numbers of consensual sexual partners, both associated with child sexual abuse (see Arata, 2002, for a review) have both been found to increase women's risk of sexual assault (Koss & Dinero, 1989). The concept of traumatic sexualization, as described by Finkelhor and Browne (1985), may explain this finding. In traumatic sexualization, a child's developmentally appropriate needs for

attention and affection are influenced in developmentally inappropriate ways and associated with sexual responsivity and behaviors. In turn, the child's sexual feelings and attitudes develop in a dysfunctional manner. There are other possible explanations for child sexual abuse survivors' higher number of sexual partners, however. For example, Alexander (1993) points out that child sexual abuse is associated with insecure (and especially fearful) attachment. It is possible that women with an aversion to committed intimate relationships may have a higher number of sexual partners in order to satisfy their sexual needs as well as their attachment needs (i.e., to protect the self against dependence and vulnerability). Gold, Sinclair, and Balge (1999) suggest that greater numbers of sexual partners in child sexual abuse survivors may be explained by a combination of greater delinquent behaviors and substance use, ineffective coping, disturbed attachment, and hyperfemininity.

A second group of possible revictimization mechanisms involves factors which may make certain women seem either more vulnerable or more attractive to sexually aggressive men. It is unclear whether sexually aggressive men consciously select victims or whether something more akin to a normal process of sexual attraction leads them to the women they ultimately sexually assault. It is possible that predatory rapists (those who assault strangers) may consciously choose their victims (Stevens, 1994, as cited in Marx et al., 2005) while acquaintance rapists may simply find themselves attracted to certain types of women (e.g., Kanin, 1984). Regardless, however, a number of possible characteristics of child sexual abuse survivors have been posited to play a role in their targeting by sexual aggressors. Despite a paucity of empirical studies on these interpersonal processes, there are some intriguing findings in this area.

For example, there is some evidence that certain characteristics associated with child sexual abuse may cause women to be more appealing to sexually aggressive men, including posttraumatic symptomology and alexithymia (which may cause a woman to appear vulnerable), and greater numbers of consensual sexual partners (Holmgren & Oswald, 2010; Kanin, 1985). Findings linking sexual revictimization to low socioeconomic status (SES), transiency, and generally lower levels of adjustment also may shed light on targeting processes. For example, Ellis and colleagues (Ellis, Atkeson, & Calhoun, 1982) noted that multiply victimized women may be “singled out for attack because they are usually alone, perhaps identifiable as vulnerable, and less likely to be taken seriously by the police” (p. 224).

In addition, there is evidence that insecurely attached women may be more attractive to men with histories of psychological abuse in dating relationships (Zayas & Shoda, 2007), which raises the question of whether or not they may be more attractive to sexually aggressive men as well. It seems possible that the insecurity and neediness associated with anxious attachment may be attractive to aggressors in signaling a willingness to tolerate more transgression in the service of attachment needs – that is, to preserve a relationship.

A third posited mechanism of sexual revictimization includes those characteristics which render certain women more attracted to or less avoidant of sexually aggressive men. Zayas and Shoda (2007) found that women reporting a history of experiencing emotional abuse in romantic relationships showed a dating preference for men perceived by other women as potentially abusive. These findings suggest that previous abuse experiences may influence certain women’s attraction to certain men.

Messman and Long (1996) noted that social learning theory can illuminate this process in that child sexual abuse victims “may acquire an inappropriate repertoire of sexual behaviors and experiences through the perpetrator’s modeling, instruction, direction and reinforcement, and even punishment” (p. 398). Learned expectancies may simply affect survivors’ relationship choices by lowering their standards of what is acceptable in relationships. Cloitre and colleagues (Cloitre, Scarvalone, & Difede, 1997) pointed out that for child sexual abuse survivors, “boundary violations are ‘normative’ and intricately bound up with their expectations of close, intimate relationships” (p. 449). Seen from this angle, then, women may not necessarily be more attracted to sexually aggressive men, but they may find their sexually aggressive behavior to be more normal or acceptable and therefore less likely to act to protect themselves or leave a situation or relationship.

In addition to these situational and interpersonal processes, there is growing evidence for a fourth revictimization mechanism involving internal processes such as impaired threat detection. For example, Wilson, Calhoun, and Bernat (1999) found that women who reported a history of multiple sexual victimization experiences (either in childhood as well as adulthood, or multiple times in adulthood) were slower to indicate that a sexually aggressive man in a vignette had “gone too far” (p. 706) than were women who reported zero or one sexual victimization experience. Strikingly, two prospective studies using similar paradigms found that higher response latencies predicted sexual assault during follow-up periods (Marx, Calhoun, Wilson, & Meyerson, 2001; Messman-Moore & Brown, 2006). Messman-Moore and Brown, however, found that a response signaling a behavioral intention (that is, indicating when the participant would leave the

situation) was more predictive of later assault than was a response signaling simple threat detection. Possible explanations for this impairment include alexithymia, dissociation (e.g., Clotire et al., 1997), and posttraumatic symptomology (e.g., Sandberg, Matorin, & Lynn, 1999). However, evidence on these mechanisms remains quite mixed.

A fifth and final proposed mechanism for revictimization involves decreased resistance likelihood or ability. For example, there is evidence that sexually revictimized women have lower sexual assertiveness and sexual self-efficacy than women with single or no abuse history (Kearns & Calhoun, 2010) and that situation-specific assertiveness (i.e., assertiveness in resisting unwanted sexual advances) serves as a protective factor against rape (Greene & Navarro, 1998). Proposed explanations include learned helplessness (e.g., Coid et al., 2001), alexithymia (Cloitre, 2006), posttraumatic symptomology (Sandberg et al., 1999), and alcohol use (e.g., Grauerholz, 2000).

A number of the proposed mechanisms of revictimization may be related to risky sexual behaviors. For example, high numbers of casual sex partners may increase a woman's exposure to sexual assault through greater opportunity (e.g., Gidycz, Hanson, & Layman, 1995) or because men may perceive sexual aggression toward "promiscuous" women as more justifiable (e.g., Grauerholz, 2000). Additionally, higher risk behaviors such as heavy alcohol use before sexual encounters may contribute to revictimization through impaired threat detection or resistance ability (e.g., Atkeson, Calhoun, & Morris, 1989). As such, the roles of a variety of sexual behaviors in revictimization must be elucidated.

Sexual Behaviors

No one is ever responsible for being sexually victimized. In order to combat sexual aggression, steps must be taken to investigate and intervene with the men who perpetrate such offences. Until sexual assault does not exist, however, it remains crucial to investigate ways in which women may act to protect themselves, including the avoidance of behaviors which may increase their risk of assault. To this end, various investigators have examined behavioral correlates of sexual assault victimization to determine which behaviors may increase women's risk. Howard, Wang, and Yan (2007) investigated high school students and found increased numbers of consensual sexual partners, more regular alcohol use, use of drugs or alcohol prior to sexual behaviors, and unprotected sex to be associated with sexual assault. While the findings are correlational in nature, they suggest that some behaviors, if avoided, may decrease adolescents' risk of sexual assault.

Child sexual abuse survivors are more likely to engage in many of these higher-risk sexual behaviors. For example, compared to other women, survivors report younger ages at their first consensual sexual experience (or more early sexual experiences, e.g., Fergusson, Horwood, & Lynskey, 1997; Noll, Trickett, & Putnam, 2003; Wyatt, 1988), higher numbers of consensual sexual partners (or higher likelihood of multiple sexual partners, e.g., Fergusson et al.; Wyatt; Zierler et al., 1991), higher rates of teenage pregnancy (e.g., Noll et al.; Zierler et al.), more unprotected sex (Fergusson et al.) as well as higher rates of prostitution, sex with strangers, and heavy drug and alcohol use (Zierler et al.)

Linking attachment to the long-term effects of child sexual abuse, Alexander (1992, 1993) points out that avoidant attachment may increase one's likelihood of engaging in compulsive sex due to a combination of normative sexual needs and the avoidance of emotionally committed relationships; Gold, Sinclair, & Balge (1999) speculate that this may be one mechanism of revictimization. Marx, Heidt, and Gold (2005) further note that attachment avoidance may increase one's exposure to exploitative individuals. The role of attachment in revictimization risk is extremely important to discern as it is a factor which can be targeted in interventions with survivors (e.g., Carey, 1997; Reid & Sullivan, 2009). That is, the treatment of attachment insecurity in survivors of sexual victimization may be just as important as treatment of, for example, posttraumatic symptomology. Because attachment thus has possible implications for both the causes and the amelioration of sexual revictimization, further explication of the construct and its potential relationships to revictimization is warranted.

Attachment and Sexual Revictimization

Attachment theory suggests that bonding between infants and their caregivers enhances infants' ability to maintain proximity to their caregivers, thereby increasing their chances of survival (Bowlby, 1969, as cited in Fraley & Shaver, 2000). Young children, it is thought, subsequently develop *internal working models* (expectations about themselves and significant others) through their early experiences with caregivers. Furthermore, it is believed that these models guide expectations and behaviors in future significant (including romantic) relationships (Hazan & Shaver, 1987; see also Fraley & Shaver). Bartholomew (1990) conceptualized adult attachment as consisting of two orthogonal dimensions, described as "avoidance (discomfort with closeness and

dependency) and . . . anxiety (about abandonment)” (Brennan, Clark, & Shaver, 1998; p. 48). Low levels of avoidance and anxiety characterize a *secure*, healthy attachment style, while high levels of each characterize *fearful* attachment. A *dismissing* style results from low anxiety and high avoidance, while high anxiety and low avoidance differentiate a *preoccupied* style (Brennan et al.).

As noted, because child sexual abuse is associated with insecure (and especially fearful) adult attachment (e.g., Alexander, 1993; Aspelmeier, Elliott, & Smith, 2007; Roche, Runtz, & Hunter, 1999), some researchers have investigated whether it might play a role in revictimization. For example, it has been suggested that victims’ higher levels of fearful attachment may lead to their engagement in more casual or uncommitted sexual encounters to meet sexual needs while avoiding emotional intimacy (e.g., Gold et al., 1999; Marx et al., 2005). Irwin (1999) found evidence for a moderating role of attachment in the relationship between child abuse (physical, sexual, emotional, or neglectful) and violent (sexual or nonsexual) victimization of women; however, as this study included nonsexual victimization in childhood and adulthood, the exact implications for sexual revictimization are not known. Other studies have similarly found evidence supporting a possible role of attachment in violent interpersonal victimization. Alexander (2009) found that women “were significantly more likely to report multiple abusive relationships” than other women if they were found to have “unresolved attachment” (p. 84). In addition, Thelan, Sherman, and Borst (1998) found that rape victims reported greater fear of abandonment (that is, greater attachment anxiety) as well as less confidence in others’ dependability and less comfort with closeness (that is, greater attachment avoidance) than did other women. Fear of

abandonment remained significantly associated with rape victim status after controlling for trait anxiety. While the directionality of causal relationships cannot be determined from these data (and, indeed, it is possible that rape victims' levels of anxiety and avoidance increased because of their victimization experiences), they do raise the question of whether women's attachment may play some causal role in sexual victimization.

Insecure attachment, then, may play a mediating role in sexual revictimization in a number of ways. It may predispose women to having a higher number of consensual sexual partners (due either to anxiety or avoidance), thus raising their risk of exposure to sexually aggressive men. Alternatively, it may be attractive to sexually aggressive men, who may discern from a woman's fearful attachment, for example, that she is likely to be isolated from support systems and thus an "easier target," that she may be willing to engage in unwanted sex because of strong needs for affection or closeness, or that she has had sex with a greater number of men. Interestingly, Kanin (1985) found that over a quarter of college rapists reported that their reputation would be enhanced were they to rape a woman with a "loose reputation" (p. 225).

Study Overview

The current study used survey methodology to examine the child sexual abuse experiences of college women as well as their attachment styles and risky dating behaviors (i.e., dating behaviors associated with increased risk of sexual assault). While it was not expected that a large enough sample of child sexual abuse survivors would allow for meaningful analyses of revictimization experiences, data were collected in this area for exploratory purposes. It was hypothesized that women with a history of child

sexual abuse would report a greater degree of attachment anxiety and avoidance than would women without a history of abuse (see Figure 1). Attachment avoidance was expected to show a curvilinear relationship to risky dating behaviors such that those women reporting moderate levels of avoidance would report the riskiest sexual behaviors, while women who reported low and high levels of avoidance would report lower levels of risky dating behaviors. Furthermore, it was hypothesized that attachment avoidance and attachment anxiety would partially mediate the relationship between child sexual abuse history and risky dating behaviors such that women with a history of child sexual abuse who report moderately high levels of attachment avoidance and high levels of attachment anxiety would also report engaging in riskier dating behaviors. Risky dating behaviors were hypothesized to predict sexual assault rates.

Method

Sample and Procedure

A sample of 260 female college students was recruited from a medium-sized, private, Catholic university in the Midwest region of the United States (U.S.) to participate in a study on “life experiences and relationship behaviors.” Participants were recruited from psychology classes and received partial course credit for their participation. Each participant completed the study in a private room with a computerized survey. Participants were told that they could discontinue at any time or skip any items they chose; they were also provided with appropriate resources for support and clinical services upon debriefing.

The age of one participant, originally recorded as “29 or older,” was re-coded as 29. After this adjustment, participants reported an average age of 19.16 ($SD = 1.28$, range 18 – 29). Most participants (60.4%) were freshman, with 16.5% sophomores, 17.7% juniors, and 5.4% seniors. A slight majority of participants reported that they were not currently in a relationship (55%). Participants were asked to indicate all racial identities with which they identified (causing the sum of the following percentages to exceed 100); most participants (74.2%) identified as Caucasian or European American while an additional 9.2% identified as Latina, 7.7% as Asian American, 6.2% as biracial or multiracial, 5.4% as African American, and fewer than 5% each as Middle Eastern American, Pacific Islander American, Native American, and “Other.”

Measures

Child Sexual Abuse.

A modified version of Finkelhor's (1979) questionnaire was used to assess child sexual abuse. Specifically, participants answered questions about various types of sexual experiences they had before age 14, ranging from invitations to sexual acts to intercourse. Follow-up questions determined characteristics of the event such as the ages of the participants at the time, their relationship, whether or not force (or threat) was used, and duration of the event. The age of 14 was used as a cut-off for child experiences in order to be consistent with other research in this area (e.g., Finkelhor; Gidycz et al., 1993; Koss & Dinero, 1989). Additionally, sexually coercive/aggressive experiences occurring between ages 14 and 17 are more akin to adult sexual assault than to child sexual abuse (e.g., they usually occur with a dating partner, often in party settings; Livingston, Hequembourg, Testa, & VanZile-Tamsen, 2007). Women reporting unwanted sexual experiences involving contact as well as those reporting even consensual contact sexual experiences with someone at least four years older were considered victims of child sexual abuse. Modified versions of this measure are widely used in the literature on child sexual abuse and revictimization (e.g., Arata, 1999; Gidycz et al.; Roche et al., 1999).

Of the 260 women studied, 43% ($n = 112$) reported experiencing some sexual activity before age 14. Child sexual experiences were analyzed for categorization along several dimensions. All experiences involving force or threat were considered "unwanted;" additionally, they were considered "unwanted" if respondents indicated that

the activity was initiated by the other person *and* the respondent reacted with “fear” or “shock.” Experiences met criteria for child sexual abuse if they involved physical contact and were either unwanted or involved someone at least four years older. Of the entire sample, 11.9% ($n = 31$) met criteria for child sexual abuse.

Adult Attachment.

Participants completed the Experiences in Close Relationships – Revised (ECR-R; Fraley, Waller, & Brennan, 2000), a questionnaire designed to measure chronic adult attachment style. The measure consists of two subscales (one measuring attachment avoidance and the other measuring attachment anxiety), each with eighteen personal statement items. Participants indicate, on a Likert-scale ranging from 0 (strongly disagree) to 6 (strongly agree), the degree to which each item characterizes their romantic relationship experiences in general (i.e., not just a current relationship). Means for each subscale were calculated, with higher scores indicating higher levels of insecurity. The current sample demonstrated Cronbach’s alphas of 0.93 for Anxiety and 0.94 for Avoidance.

Sexual Assault.

Participants completed the Sexual Experiences Survey – Short Form Victimization (SES-SFV; Koss et al., 2007), an instrument designed to measure unwanted sexual experiences since the age of 14 as well as those occurring specifically within the last 12 months. Respondents indicated the frequency (0, 1, 2, 3+, both in the last 12 months and also from age 14 until one year ago) of experiencing specific, behaviorally described acts ranging from unwanted fondling to completed rape. For each

type of experience, respondents also indicated the tactics used by the perpetrator, which ranged from verbal coercion to physical force. For example, two frequencies were reported for the item, “Someone had oral sex with me or made me have oral sex with them without my consent by threatening to physically harm me or someone close to me” (p. 368). The measure contains several follow-up questions assessing, for example, the sex of the perpetrator and a victim’s rape acknowledgment status. Exploratory questions added for the current study also assessed the relationship between the victim and perpetrator and whether the incident was reported by the victim. The current sample had a Cronbach’s alpha of 0.92 (excluding several items with no positive responses and thus no variance).

Different levels of sexual victimization may carry somewhat different risk factors, occur in different circumstances, and lead to different behavioral responses and outcomes. For example, forcible rape is more likely than other forms of sexual assault to be committed by a stranger or acquaintance (as opposed to a steady dating partner; Abbey, Ross, McDuffie, & McAuslan, 1996), to involve alcohol (Abbey et al.; Messman-Moore, Coates, Gaffey, & Johnson, 2008), to elicit physical resistance tactics (Amick & Calhoun, 1987), to be associated with health risk factors (such as hypertension, high cholesterol, and obesity; Cloutier, Martin, & Poole, 2002) and to result in a victim labeling her experience as “rape” (Littleton, Axsom, & Grills-Taquechel, 2009). Importantly, a rape victim’s use of the word “rape” to describe her experience is itself associated with lower risk of revictimization (Littleton et al.). Verbally coerced sex, on the other hand, differs from forcible rape in its association with low levels of sexual

assertiveness (Walker, Messman-Moore, & Ward, 2011) and with greater self-criticism (Messman-Moore et al.).

Given the differences in antecedents and possible consequences between types of sexual victimization, victimization was operationalized in several different ways for the purposes of the study. “Serious sexual assault” victims included those women reporting penetrative (or attempted penetrative) acts obtained through force, threat, or intoxication. Victims of “less serious sexual assault” consisted of women reporting unwanted experiences that did not meet the above criteria (e.g., verbally coercive experiences) For some analyses, all victims were examined together.

Behavioral Responses to Sexual Assault.

For exploratory purposes, behavioral responses to adolescent and adult sexual victimization experiences (i.e., age 14 or older) were assessed using the scale developed by Macy, Nurius, and Norris (2006). This scale consists of 28 statements describing responses to sexual assault and consists of three subscales measuring Direct Responding (e.g., “Pushed him away”), Negotiation Responding (e.g., “Told him I had to leave”), and Frozen Responding (e.g., “Struggled at first, but stopped when I thought it was hopeless”). Items are rated on a scale from 0 (not at all like my response) to 4 (very much like my response), and subscale means are calculated with higher means indicating greater endorsement of a particular type of responding. Cronbach’s alphas for the Direct Responding, Negotiation Responding, and Frozen Responding subscales in the current sample were 0.78, 0.70, and 0.63, respectively.

Risky Dating Behaviors.

Risky dating behaviors were assessed using the Dating Behaviors Survey (DBS; Hanson & Gidycz, 1993), a 15-item questionnaire designed to measure endorsement of behaviors associated with increased risk for sexual assault in dating situations. It consists of statements about a participant's typical dating behaviors (e.g., "On the first few dates, I consume enough alcohol or drugs to become drunk or high"). Participants indicate the degree to which the statement applies to them from 0 (never) to 6 (always), and summary scores are calculated with higher scores indicating riskier dating behaviors. Two items were added to the measure to assess casual sex or "hookup" behaviors. The current sample had a Cronbach's alpha of 0.69.

Posttraumatic Symptomology.

Posttraumatic symptomology was measured so that its effects could be controlled for as a causal factor in risky dating behaviors or sexual assault/revictimization. This analysis was deemed necessary given that posttraumatic symptomology is associated with a history of child sexual abuse (e.g., Aspelmeier et al., 2007), sexual revictimization (e.g., Arata, 1999; Arata, 2000; Ullman, Najdowski, & Filipas, 2009), and problem drinking (e.g., Ullman et al.), which may have been partially captured by the measure of risky dating behaviors used in the current study.

The Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) measures posttraumatic symptoms (e.g., "I thought about it when I didn't mean to"). Statements describing posttraumatic symptoms of both an intrusive (e.g., symptoms involving intrusive thoughts, images, etc.) and avoidant (e.g., symptoms involving avoidance of

thoughts or places associated with the trauma) nature are presented to participants, who indicate on a scale from 1 (not at all) to 4 (often) how frequently they experience the given symptom. Overall means as well as two subscale means (Avoidance and Intrusion) are calculated, with higher scores indicating more posttraumatic symptomology. The IES was administered to all participants who responded affirmatively to a single question asking if they had ever experienced a “distressing or unwanted sexual experience.” Participants were asked to answer the questions on the IES with regard to the most distressing sexual experience they have had. The current sample demonstrated an overall Cronbach’s alpha of 0.95, with Avoidance and Intrusion subscale alphas of 0.93 and 0.91, respectively.

Demographics.

Finally, participants completed a demographics questionnaire including information on age, sexual orientation, year in college, race/ethnicity, and romantic relationship status.

Results

Sexual Abuse and Assault Experiences

Thirty-one women (11.9%) in the current sample met criteria for a history of child sexual abuse. Of those women, 21 reported only experiences with a child perpetrator (i.e., someone under the age of 16), four reported only experiences with an adult perpetrator (i.e., someone 16 or older), and six reported experiences with both child and adult perpetrators (see Table 1 for descriptive statistics). Of the total sample, 66% ($n = 172$) women reported at least one coercive sexual experience since age 14 on the SES-SFV (Koss et al., 2007), and 38% ($n = 98$) reported an experience that met criteria for a serious sexual assault (a penetrative or attempted penetrative act involving threat, force, or intoxication; see Table 2 for descriptive statistics).

Chi-square analyses were performed to determine whether, consistent with previous research, child sexual abuse was associated with any later sexual victimization). The chi-square analysis was significant, χ^2 Continuity Correction (1) = 8.00, $p < .01$, with child sexual abuse survivors more likely than other women to also report any type of sexual assault since the age of 14. Specifically, 90.3% ($n = 28$) of the child sexual abuse survivors also reported sexual assaults in adolescence or adulthood, whereas only 62.9% ($n = 144$) of the women without a history of child sexual abuse reported sexual assaults. Additionally, 9.7% ($n = 3$) of child sexual abuse survivors did not report a sexual assault, compared to 37.1% ($n = 85$) of women with no such abuse history. Of the women reporting a sexual assault, 11.9% ($n = 31$) also reported a history of child sexual abuse, compared to 83.7% ($n = 144$) who did not experience such abuse. Finally, 3.4% ($n = 3$)

Table 1

Descriptive Statistics for Child Sexual Abuse Experiences

		Child-Perpetrated Acts			Adult-Perpetrated Acts		
		<i>M</i>	<i>SD</i>	<i>Range</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
	Age	9.71	3.03	3 – 13	9.8	3.94	3 – 13
	Perp Age ^a	12.71	2.1	8 – 15			
	Age Difference ^{ab}	2.25	2.19	0 – 7			
		<i>N</i>	%		<i>N</i>	%	
Perp Sex	Male	24	86%		10	100%	
	Female	4	14%		0	0%	
Relationship	Stranger	0	0%		1	10%	
	Acquaintance	4	14%		1	10%	
	Friend	13	46%		2	20%	
	Grandparent	0	0%		2	10%	
	Cousin	7	25%		1	10%	
	Brother	2	7%		0	0%	
	Sister	1	4%		1	10%	
	Other	1	4%		2	20%	
Act ^c	Invitation	13	46.4%		5	50%	
	Kiss/hug	16	57%		5	50%	
	Shown	14	50%		5	50%	
	Show	6	21%		2	20%	
	Fondled	15	54%		6	60%	
	Fondle	6	21%		3	30%	
	Touched	15	54%		5	50%	

	Touch	9	32%	5	50%
	Intercourse	2	7%	1	10%
Threat or Force	No	12	43%	1	10%
	A Little	12	43%	6	60%
	Yes	4	14%	3	30%

Note. Statistics are based on $N = 28$ for child-perpetrated acts and $N = 10$ for adult-perpetrated acts. Perp = perpetrator; Invitation = Invitation to do something sexual; Kiss/hug = Kissing or hugging in a sexual way; Shown = Another person showing his/her sex organs to you; Show = You showing your sex organs to another person; Fondled = Another person fondling you in a sexual way; Fondle = You fondling another person in a sexual way; Touched = Another person touching your sex organs; Touch = You touching another person's sex organs.

^aExcludes data from 4 respondents who reported that the perpetrator was under age 8. Adult perpetrator data was collected too generally to present in table form given concerns about respondents' access to such information (e.g., ages reported by decade after age 40).

^bPositive numbers represent older perpetrator.

^cSum of percentages exceeds 100 because respondents were asked to indicate every act which occurred.

Table 2

Descriptive Statistics for Adolescent/Adult Sexual Assault Experiences

		<i>All Experiences</i>		<i>Serious Experiences</i>	
		<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Perp Sex	Male	157	91%	94	96%
	Both Males and Females	2	1.2%	2	2%
	Female	0	0%	0	0%
Relationship	Friend	46	27%	29	30%
	Acquaintance	41	24%	30	31%
	Steady Dating Partner	38	22%	21	21%
	Casual Date	22	13%	11	11%
	Stranger	9	5%	4	4%
	Other Family Member	2	1.2%	1	1%
	Spouse	1	1%	0	0%
	Reporting	Did Not Report	145	84%	89
	Reported to Campus Authority	2	1%	2	2%
	Reported to Police	2	1%	1	1%
	Friend(s)	3	2%	2	2%

Note. Statistics are based on $N = 172$ for all sexual assault experiences and $N = 98$ for “serious” sexual assault experiences. Perp = perpetrator; Steady Dating Partner = steady or ex-dating partner; Spouse = spouse or ex-spouse; Other Family Member = Family member other than parent, stepparent, or parent’s dating partner.

of the women who did not report a sexual assault did report a history of child sexual abuse, compared to 96.6% (n = 85) who did not experience sexual abuse. The chi-square analysis became non-significant when only serious sexual assault experiences were included, χ^2 Continuity Correction (1) = 3.62, $p = .06$.

Exploratory Analyses on Characteristics of Women with Varying Victimization Histories

Exploratory independent samples t-tests were performed to evaluate the relationship of child sexual abuse to the dependent variables of attachment, behavioral responses to sexual assault, risky dating behaviors, and posttraumatic symptomology (see Table 3). As these analyses were of an exploratory nature only, no Bonferoni corrections were used. Of note, women reporting a history of child sexual abuse were marginally more likely to report using a negotiating strategy in response to a later sexual assault than were women with no such history.

An exploratory one-way ANOVA was performed with sexual assault history (none, less serious sexual assault, or serious sexual assault) as the independent variable and attachment, behavioral responses to sexual assault, risky dating behaviors, and posttraumatic symptomology as dependent variables (see Table 4). There was no observed difference between women with varying sexual assault histories with regard to attachment avoidance, direct or negotiating responses to sexual assault, overall posttraumatic symptomology, or posttraumatic avoidance symptomology. However, significant differences were found with respect to attachment anxiety, risky dating behaviors, and freezing responses.

Specifically, Tukey post hoc tests revealed that women with a history of serious sexual assault reported higher levels of attachment anxiety and riskier dating behaviors

Table 3

Characteristics of Participants with and without Child Sexual Abuse Histories

	No Sexual Abuse		Sexual Abuse		<i>t</i>	df	<i>p</i>	<i>d</i> ^a
	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>				
Attachment Anxiety	3.45 (1.11)	229	3.88 (1.2)	31	-2.01	258	.05	-0.39
Attachment Avoidance	2.93 (1.07)	229	3.23 (1.12)	31	-1.46	258	.15	-0.28
Risky Dating Behaviors	48.96 (11.93)	215	50.54 (8.06)	28	-.68	241	.50	-0.14
Direct Responses	1.73 (.64)	127	1.79 (.57)	27	-.43	152	.67	-0.10
Negotiating Responses	2.59 (.9)	127	2.92 (.82)	27	-1.77	152	.08	-0.37
Frozen Responses	1.92 (.93)	127	2.2 (1.03)	27	-1.41	152	.16	0.30
Overall PTSD Symptoms	2.05 (.89)	59	2.03 (.95)	25	.10	82	.92	0.02
Intrusion Symptoms	1.76 (.79)	59	1.84 (.86)	25	-.42	82	.67	-0.10
Avoidance Symptoms	2.3 (1.04)	59	2.19 (1.1)	25	.45	82	.66	0.10

^aCohen's *d* measure of effect size.

Table 4

Participant Attachment, Risky Dating Behavior, Behavioral Responses to Sexual Assault, and Posttraumatic Symptomology by Sexual Assault (SA) History

	No Sexual Assault		Less Serious SA		Serious SA		<i>F</i> (<i>df</i>)
	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	
Att Anx	3.26 _a (1.09)	88	3.54 _{ab} (1.09)	74	3.70 _b (1.15)	98	3.71* (2, 257)
Att Avo	2.94 (1.06)	88	3.03 (1.04)	74	2.95 (1.12)	98	0.15 (2, 257)
Risk Bx	45.58 _a (12.43)	78	49.31 _{ab} (8.65)	72	52.01 _b (12.01)	93	6.92** (2, 240)
Dire Res			1.66 (.57)	58	1.79 (.65)	96	1.48 (1, 152)
Neg Res			2.63 (.93)	58	2.65 (.88)	96	.02 (1, 152)
Free Res			1.76 (.71)	58	2.10 (1.05)	96	4.59 (1, 152)
PT Sx	1.13 _a (.23)	3	2.12 (.95)	28	2.05 (.88)	53	1.66 (2, 81)
Intru Sx ^a	1.05 (.08)	3	1.90 (.86)	28	1.76 (.79)	53	27.33** (2, 38.16)
Avo Sx	1.21 (.36)	3	2.32 (1.09)	28	2.30 (1.04)	53	1.61 (2, 81)

Note. Att Anx = Attachment Anxiety; Att Avoid = Attachment Avoidance; Risky Bx = Risky Dating Behaviors; Dire Resp = Direct Responses; Neg Resp = Negotiating Responses; Free Resp = Freezing Responses; PTSD Sx = Overall Posttraumatic Symptomology; Intru Sx = Posttraumatic Intrusion Symptomology; Avoid Sx = Posttraumatic Avoidance Symptomology. Different subscripts within a row indicate significant differences between or among groups.

^aWelch correction for heterogeneity of variance

* $p < .05$. ** $p < .01$.

than did women with no history of sexual assault. Additionally, women with serious sexual assault histories reported more freezing behavioral responses to their assaults than did women with less serious assaults.

Exploratory correlational analyses were performed to evaluate the relationships among attachment, behavioral responses to sexual assault, risky dating behaviors, and posttraumatic symptomology (see Table 5). Results indicated that attachment anxiety was associated with attachment avoidance as well as freezing responses and posttraumatic avoidance symptoms. Attachment avoidance was associated with both kinds of posttraumatic symptoms (intrusion as well as avoidance). While direct and negotiating responses were unrelated to posttraumatic symptomology, freezing responses were associated with both kinds of posttraumatic symptoms. Finally, posttraumatic intrusion symptoms were associated with posttraumatic avoidance symptoms.

Attachment and Risky Dating Behaviors Regression

It was hypothesized that attachment would show a relationship to risky dating behaviors. Specifically, it was believed that attachment anxiety would be associated with risky dating behaviors and that attachment avoidance would show a curvilinear relationship to risky dating behaviors such that moderate levels of avoidance would be associated with the highest endorsement of risky behaviors. To test these hypotheses, a hierarchical regression analysis was performed with risky dating behaviors as the dependent variable and child sexual abuse (dichotomous), attachment anxiety (centered), and attachment avoidance (centered) in the first block. The second block contained the square term for attachment avoidance (centered). The regression was not significant, $F(4, 238) = .46, p = .77$; see Table 6 for summary statistics.

Table 5

Descriptive Statistics and Correlations among Attachment, Risky Dating Behavior, Behavioral Responses to Sexual Assault, and Posttraumatic Symptomology

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Att Anx	3.5	1.12	-	.34***	.08	-.01	.12	.17*	.20	.25*
2. Att Avo	2.97	1.07		-	.02	.02	.00	-.05	.35**	.32**
3. Risk Bx	49.14	11.54			-	-.08	.03	.06	.18	.20
4. Dire Res	1.74	.62				-	.35***	.23**	.01	.06
5. Neg Res	2.65	.89					-	.26**	.18	.10
6. Free Res	1.97	.95						-	.38**	.31**
7. Intru Sx	1.78	.81							-	.84***
8. Avo Sx	2.27	1.05								-

Note. Att Anx = Attachment Anxiety. Att Avo = Attachment Avoidance. Risk Bx = Risky Dating Behaviors. Dire Res = Direct Responses. Neg Res = Negotiating Responses. Free Res = Freezing Responses. Intru Sx = Posttraumatic Intrusion Symptoms. Avo Sx = Posttraumatic Avoidance Symptoms. Attachment items were rated on a scale from 0 (strongly disagree) to 6 (strongly agree). Risky dating behaviors were rated by frequency on a scale from 0 (never) to 6 (always) and summed over 17 items. Behavioral responses to sexual assault were rated (only by those women reporting a sexual assault experience) on a scale from 0 (not at all like my response) to 4 (very much like my response). Posttraumatic symptomology was rated (only by participants reporting a “distressing or unwanted sexual experience” at any age) on a scale from 1 (not at all) to 4 (often).

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6

Summary of Hierarchical Regression and Intercorrelations for Attachment and Risky Dating Behaviors after Entry of All Independent Variables

Variables						SE		β
	1	2	3	4	5	B	B	
1. Child Sexual Abuse (Dichotomous)	-	.12*	.09	.04	.04	1.29	2.32	.04
2. Attachment Anxiety (Centered)		-	.34***	-.18**	.08	.73	.74	.07
3. Attachment Avoidance (Centered)			-	.21***	.02	-.08	.77	.01
4. Att Avoid (Centered) Square Term				-	.03	-.21	.66	.02
5. Risky Dating Behaviors					-			

Note. Att Avoid = Attachment Avoidance.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Path Model

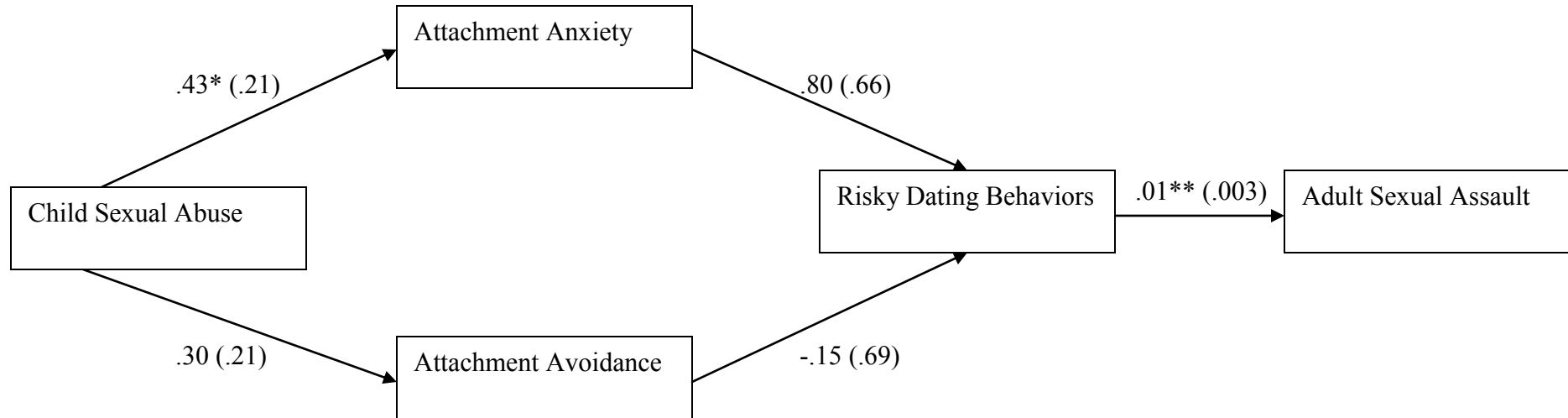
Because the standard regression failed to reveal a curvilinear relationship between attachment avoidance and risky dating behaviors, a path analysis (see Figure 1) was performed to evaluate the model without an assumption of curvilinearity; descriptive statistics and correlations are presented in Table 7. Attachment anxiety, attachment avoidance, and risky dating behaviors were all normally distributed. Multicollinearity was not a problem as there were no extremely high correlations among variables. AMOS version 19 was used to test the proposed path model. As hypothesized, there was a significant positive pathway from child sexual abuse to attachment anxiety ($B = .43, p < .05$); however, there was no significant pathway from child sexual abuse to attachment avoidance, $B = .30, p = .15$. Neither attachment anxiety nor attachment avoidance was significantly related to risky dating behaviors, $B = .80, p = .22$, and $B = -.15, p = .83$, respectively. As predicted, risky dating behaviors were positively related to sexual assault, $B = .01, p < .01$. The proposed model did not fit the data well, $\chi^2(5) = 39.65, p < .01$.

Exploratory T-Tests on Attachment and Sexual Assault

Given the nonsignificant findings of the path analysis, exploratory independent samples t-tests were conducted to determine whether attachment may relate to sexual assault experiences independent of risky dating behaviors. Women who had experienced serious sexual assaults reported higher levels of attachment anxiety ($M = 3.70, SD = 1.15$) than did women who had not ($M = 3.38, SD = 1.1$), $t(258) = -2.2, p < .05$, Cohen's $d = -0.29$. In contrast, there was no difference in attachment avoidance for women who were

($M = 2.95$, $SD = 1.12$) and were not ($M = 2.98$, $SD = 1.05$) survivors of serious sexual assault $t(258) = .19$, $p = .85$, Cohen's $d = 0.03$.

Figure 1



* $p < .05$. ** $p < .01$.

Note. Unstandardized regression coefficients are reported (*SE*).

Table 7

Descriptive Statistics and Zero-Order Correlations for Attachment and Dating Behaviors

	<i>M</i>	<i>SD</i>	Range	1	2	3
1. Attachment Anxiety	3.5	1.12	1 – 6.39	-	.34***	.08
2. Attachment Avoidance	2.97	1.07	1 – 5.67		-	.02
3. Risky Sexual Behaviors	49.14	11.54	2 – 80			-

*** $p < .001$.

Discussion

Victimization Histories

Consistent with the literature, a relationship was found in the current sample between child sexual abuse and adult sexual assault (that is, sexual revictimization). Notably, this relationship became non-significant when only serious sexual assaults were included in the analysis (i.e., when less serious sexual assaults were excluded), highlighting the importance of examining different levels of assault in revictimization studies. Interestingly, the number of participants reporting a history of child sexual abuse in the current sample was quite low (11.9%, $n = 31$) compared with the 20% or more U.S. women in large community and college samples typically found to meet criteria (e.g., Aspelmeier et al., 2007; Finkelhor, 1994; Gidycz et al., 1993; Roche et al., 1999; Russell, 1983), even for contact-only abuse definitions like the one used herein. In a study of Canadian college women using a very similar definition of child sexual abuse as that used in the current study, higher rates of child sexual abuse were reported by older students, and the mean age of the sample ($M = 21.9$, $SD = 6.5$) was about two years older than that of the current sample (Roche et al.). It is possible, then, that a developmental effect might account for the current sample's low rate of abuse. For example, perhaps college women who are slightly older are more comfortable reporting child sexual abuse than are younger ones (although this seems unlikely as it is inconsistent with extant literature). A more likely explanation is that the current sample, consisting of private university students, benefited from the small protective effect of higher socioeconomic status on child sexual abuse (e.g., Finkelhor, 1994; Huang & Mossige, 2012).

However, the current sample's reported rate of child sexual abuse (11.9%) is quite similar to the rate, 10.3%, found in a very recent U.S. sample of college women (White & Buehler, 2012). While the exact abuse criteria used in that study are unclear, the rate of child sexual abuse found suggests that the current findings are not extreme. It is possible that the current sample, coming from a private religious university, represents a particularly high-functioning group of women coming from relatively privileged family backgrounds. It would be expected that individuals suffering from significant ramifications of child sexual abuse may be less likely to attend college, or to attend a selective private university. Indeed, child sexual abuse survivors are known to suffer from academic difficulties in childhood (e.g., Daignault & Hébert, 2009; Huang & Mossige, 2012). Mullen, Martin, Anderson, Romans, and Herbison (1994) point out that such early impairment may be expected to negatively affect survivors' later academic achievement and, eventually, socioeconomic status. The authors found just that; survivors of child sexual abuse were found to have lower socioeconomic status relative to their family of origin than were other women. Additionally, the Catholic nature of the university at which the study was conducted may have influenced reported rates of abuse; specifically, Mullen and colleagues found that the lack of commitment to a particular religion or regular worship in one's family of origin was a risk factor for child sexual abuse. It is possible, then, that the current sample also benefited from the protective effects associated with religious affiliation. Together, these data suggest that the current sample may have, for various reasons, contained particularly high-functioning and privileged women who were somewhat protected from the experience of child sexual abuse.

In contrast to child sexual abuse, participants in the current sample reported adolescent/adult sexual assault experiences at alarmingly high rates. Specifically, 66% ($n = 172$) of the women in this study reported that they had experienced some form of coercive sexual act since age 14. In contrast, Krebs, Lindquist, Warner, Fisher, and Martin (2009) studied a large probability sample of female students at two large U.S. universities and found that 28.5% of their participants had experienced a sexually coercive act. However, other recent studies of college women have found the higher lifetime prevalence rates of sexual assault victimization of 37.3%, 46%, and 54% (Mouilso, Fischer, & Calhoun, 2012; Katz, May, Sörensen, & DelTosta, 2010; Walker, Messman-Moore, & Ward, 2011, respectively).

For comparative purposes, the rate of reported rape (completed penetrative acts involving threat, force, or severe intoxication) was calculated from participants' responses on the SES-SFV (Koss et al., 2007). The current sample reported a very high lifetime prevalence (24%, $n = 63$) of completed rapes. Other recent findings from college samples are commensurate with this figure. For example, Walker, Messman-Moore, and Ward (2011) found a lifetime prevalence rate of 25.1% for completed rapes. Katz, May, Sörensen, and DelTosta (2010) found that 16% of their college sample reported a history of completed rape upon initial data collection, but 8% of the total sample reported experiencing a rape in the next 6 months (although it is unclear how much of the 8% were revictimized participants). Finally, in just a 3-month study period, Mouilso, Fischer, and Calhoun (2012) found that 9.7% of their sample reported a completed or attempted rape. These data suggest that, while the current sample's reported rates of

sexual assault were somewhat high, they should not be construed as extreme or particularly unexpected.

Child Sexual Abuse and Attachment

As hypothesized, child sexual abuse in the current sample was associated with higher levels of attachment anxiety. It is unclear whether child sexual abuse causes attachment anxiety or accompanies it along with other maladaptive family dynamics (Alexander, 1992). (And, in fact, causality may flow the other direction such that attachment anxiety may render children more vulnerable to sexual abuse by fostering a neediness for adult attention; e.g., Alexander; Troy & Sroufe, 1987). Alexander (1992) explains that family characteristics associated with “the intergenerational transmission of insecure attachment” (p. 188) often precede, accompany, and follow child sexual abuse. For example, she notes that parentification of a child (whereby child and parent roles are reversed) is associated with attachment anxiety and also likely increases risk for child sexual abuse directly (by reducing supervision or even by promoting the child’s meeting of the parent’s sexual needs, for example).

Alternatively, child sexual abuse may itself lead to attachment anxiety. Briere and Elliott (1994) note that experiencing such negative events in the context of relationships can lead to an impaired sense of self (consistent with the concept of attachment anxiety as a negative view-of-self) and to “concerns about abandonment” (p. 61), i.e., attachment anxiety. The traumagenic dynamics model of Finkelhor and Browne (1985) posits that the interpersonal difficulties suffered by adult survivors of child sexual abuse stem largely from the experience of betrayal inherent in the abuse. This experience

can leave survivors with unmet needs for relational security which may be frantically pursued at the cost of independence and interpersonal boundaries.

There is also evidence that attachment anxiety mediates some of the negative long-term effects of child sexual abuse. Specifically, it has been found to mediate or partially mediate the relationships between child sexual abuse and later dyadic adjustment (Godbout, Lussier, & Sabourin, 2006) as well as psychological adjustment (Limke, Showers, & Ziegler-Hill, 2010; Roche et al., 1999). Clearly, attachment anxiety has implications for domains other than intimate relationships. This suggests that attachment anxiety is an important consequence (or, at the least, accompanying phenomenon) of child sexual abuse and that it is an integral part of the negative outcomes experienced by many survivors. More research is clearly needed in this area to disentangle the complicated relationships among abuse, attachment anxiety, and family characteristics. However, the current findings underscore the need for researchers and clinicians alike to take attachment anxiety into account when studying or treating child sexual abuse survivors.

Contrary to the prediction that child sexual abuse would predict greater attachment avoidance, child sexual abuse in the current sample was not associated with attachment avoidance. Previous studies have found a link between child sexual abuse and insecurity in both attachment dimensions. For example, Aspelmeier, Elliott, and Smith (2007) found that, in a sample of college women, a history of child sexual abuse was associated with higher likelihood of all categories of insecure attachment (preoccupied, dismissing, and fearful). Furthermore, they found that child sexual abuse was associated with lower levels of trust and higher levels of alienation in peer

relationships. Roche, Runtz, and Hunter (1999) similarly found that female college students with a history of child sexual abuse had more negative models of self and others (analogous to the anxiety and avoidance dimensions of attachment, respectively; e.g., Brennan et al., 1998).

On the other hand, a number of studies have yielded results consistent with the current findings on the relationship between child sexual abuse and adult attachment. In particular, Whiffen, Judd, and Aube (1999) found that child sexual abuse (largely extrafamilial in their community sample as in the current college sample) was associated with anxious, but not avoidant, attachment. Similarly, Godbout and colleagues (2006) found a link between child sexual abuse and anxious, but not avoidant, attachment in a representative sample of French-Canadian couples.

Attachment avoidance, then, may not be related to the experience of child sexual abuse. This finding is important as it can increase our understanding of which dynamics inherent in the experience of sexual abuse are most impactful for future interpersonal development. If, for example, survivors tend to develop high attachment anxiety but not avoidance, it may indicate that sexual abuse has greater impacts on victims' views-of-self than on their views-of-other. Understanding why this is (or what other variables may modulate these dynamics) is crucial to developing interventions for survivors which address the most affected aspects of functioning. For example, therapeutic interventions focusing on core beliefs about the self may be more important for this population than those focusing on core beliefs about others.

It seems likely that differing attachment instruments account for the above differences in findings regarding child sexual abuse and avoidance. The Relationship

Questionnaire (RQ; Bartholomew & Horowitz, 1991) was used to assess adult attachment in the two studies finding relationships between child sexual abuse and both anxiety and avoidance (Aspelmeier et al., 2007; Roche et al., 1999). In the RQ, participants read four paragraphs, each describing one of the four categories of attachment (secure, preoccupied, fearful, and dismissing) and rate their similarity to the qualities described. The current study as well as the two studies finding only relationships between child sexual abuse and anxiety (i.e., not avoidance; Whiffen et al., 1999; Godbout et al., 2006) used dimensional scales with multiple items that together make up the two subscales representing avoidance and anxiety. Brennan, Clark, and Shaver (1998) compared their dimensional measure (used in the current study) to the categorical measure, using the same participants. They note that their scaled dimensional instrument demonstrates higher sensitivity to varying levels of insecurity, categorizing far fewer individuals as secure than does the paragraph-based categorical measure of Bartholomew and Horowitz (1991).

The reasons for the discrepancy between measures of adult attachment are unclear, but it seems possible that an effect similar to that noticed in assessment of sexual assault experiences is at work. Specifically, an amalgamation of participants' responses on a list of specific items may be less affected by top-down processing than their responses on more global descriptions or concepts. Schemas, and in particular, rape scripts, seem to play a large part (e.g., Phillips, 2000, as cited in Kahn, Jackson, Kully, Badger, & Halvorsen, 2003) in most rape victims' tendency not to identify their experiences as such (e.g., Bondurant, 2011; Kahn et al.). In contrast, these same women endorse specific behavioral experiences meeting the legal definition of rape. Similarly,

participants' responses to a paragraph describing a whole set of characteristics may be more affected by schemas (such as self-concept) than an amalgamation of their responses on specific, discrete items. It is possible, then, that participants' responses on the RQ (Bartholomew & Horowitz) are more reflective of participants' perceptions of their attachment than of their actual attachment styles.

While the current findings suggest that child sexual abuse is not related to attachment avoidance, it is possible that aspects of the current study, independent of measurement, may have occluded a real relationship between the two variables. The small number of child sexual abuse survivors ($n = 31$) in the current sample may have rendered statistical power too low to detect real differences between their levels of avoidance and those of non-victims. Additionally, the effects of potentially important aspects of abuse on attachment should be studied in large samples of survivors. For example, one's relationship to the perpetrator of child sexual abuse may play a crucial role in subsequent interpersonal development. Alexander (1993) found that survivors of incestuous sexual abuse were especially likely to exhibit fearful attachment in adulthood, indicating that they had high levels of attachment avoidance as well as anxiety. Perhaps a closer relationship to the perpetrator is more likely to foster an avoidant approach to relationships later in life because of the higher degree of betrayal associated with such experiences (e.g., Finkelhor & Browne, 1985). Extrafamilial abuse survivors, on the other hand, may be somewhat protected from this particular outcome.

Another sample characteristic which may be relevant to the current findings on abuse and avoidance is the high-functioning nature of the current participants, inferred from their status as students at a private university. It could be that more avoidant

attachment is associated with worse outcomes that may preclude participation in higher education; in fact, Aspelmeier, Elliott, and Smith (2007) found that parental and peer alienation, as well as lower parental and peer trust, were predictive of trauma symptomology; they concluded that secure attachment is at least somewhat protective in regards to trauma outcomes for victims of child sexual abuse. Consistent with this hypothesis, Roche, Runtz, and Hunter (1999) found that worse models-of-other (analogous to more avoidant attachment) mediated the relationships between child sexual abuse and some aspects of later psychological adjustment (with worse models-of-other associated with more negative outcomes). Here again, worse attachment outcomes were more strongly associated with intrafamilial than extrafamilial abuse (but see Limke et al., 2010, for contrasting findings regarding avoidance). Finally, abuse characteristics such as shorter duration (itself associated with extrafamilial perpetrators; Hulme & Agrawal, 2004; Kendall-Tackett, Williams, & Finkelhor, 1993), or family characteristics such as low divorce rates or mothers' positive responses to abuse may have kept levels of attachment avoidance relatively low in the current sample of survivors. As some of these variables may be amenable to intervention (e.g., mothers' responses), their potential buffering effects on attachment should be further delineated. Ultimately, further research, preferably using dimensional attachment measures, will be necessary to determine whether or not a relationship exists between child sexual abuse and avoidant attachment.

Attachment and Risky Dating Behaviors

It was predicted that a relationship between child sexual abuse and riskier dating behaviors would be mediated by attachment anxiety and avoidance. Specifically, it was

thought that higher levels of attachment anxiety and moderately high levels of attachment avoidance would be associated with riskier dating behaviors. In the case of avoidance, it was reasoned that individuals with extremely high levels of avoidance might be unlikely to engage in any types of dating or sexual relations. In contrast, and consistent with Gold, Sinclair, and Balge's (1999) model of revictimization, it was thought that those women who were moderately avoidant might engage in repeated casual (i.e., emotionally distant, non-committed) sexual encounters in an effort to have both their sexual and intimacy avoidance needs met. These predictions were not supported by the data, however, suggesting that neither attachment nor child sexual abuse is related to the group of risky behaviors assessed by the DBS (Hanson & Gidycz, 1993).

The RRR integrative model of sexual revictimization (Noll & Grych, 2011) also posits a role of attachment insecurity in revictimization but suggests mechanisms other than risky dating behaviors. In particular, it emphasizes the role that attachment anxiety may play in the Read phase, whereby a potential victim of sexual assault must correctly perceive sexual threat. Noll and Grych suggest that attachment anxiety may increase one's attention to attraction cues (signs that another person may be sexually interested) but decrease attention to threat or coercion cues (signs that another person may pose a danger). This allocation of attention is thought to reflect the greater prioritization of the goal of maintaining close relationships over the goal of protecting the self. Thus, child sexual abuse survivors in the current sample who are anxiously attached may in fact be more vulnerable to sexual assault, due in part not to their own dating behaviors but rather to cognitive-perceptual mechanisms. Consistent with the RRR model, exploratory analyses found that women reporting serious sexual assault were more likely to report

higher levels of attachment anxiety than were other women, but they did not differ on levels of attachment avoidance. This suggests that other indicators of sexual behavior might mediate an attachment-sexual assault association to the extent that sexual experiences are sought out (or tolerated) to gratify interpersonal needs of acceptance and affection in anxiously attached women. This hypothesis is also consistent with the traumagenic dynamics model of child sexual abuse effects (Finkelhor & Browne, 1985), which posits that various interpersonal effects of child sexual abuse interact to negatively impact individuals' sexual, relational, and self-related development. The theory would predict that, through traumatic sexualization, sexually abused women would learn to associate sexual behaviors with gratification of relational needs in developmentally inappropriate ways. Additionally, the experience of betrayal is hypothesized to lead to relational dependency and neediness as efforts to "regain trust and security" (Finkelhor & Browne, p. 535). Thus traumagenic dynamics and the RRR model would suggest that child sexual abuse should relate to interpersonal behaviors, including sexual behaviors, through the attachment dimension of anxiety.

Two risk-related variables seem particularly likely to illuminate this issue in the future. Specifically, attachment may be implicated in the tendency of child sexual abuse survivors to report greater numbers of consensual sexual partners (e.g., Alexander & Lupfer, 1987; Himelein, 1995; Mandoki & Burkhart, 1989; Mayall & Gold, 1995) and younger age at first consensual sexual intercourse (e.g., Noll et al., 2003; Tyler & Johnson, 2006). Examination of these and other risky sexual behaviors may after all prove useful in expanding our understanding of the relationships among child sexual abuse, attachment, and revictimization.

Child Sexual Abuse, Risky Dating Behaviors, and Sexual Assault

As hypothesized (and consistent with the literature), risky dating behaviors in the current sample were associated with higher rates of sexual assault. This suggests that efforts aimed at intervening with women to reduce their risk of sexual assault are well-founded. In particular, it highlights the need (e.g., Söchting, Fairbrother, & Koch, 2004) for prevention efforts that focus on educating women about behavioral risk factors and changing specific risk-related behaviors (such as heavy alcohol consumption with unknown dating partners).

Unexpectedly, child sexual abuse was not related to riskier dating behaviors despite its expected relationship to higher sexual assault rates. It is possible that aspects of the current sample (which, as noted, likely consisted of relatively privileged and high-functioning women) may have limited the degree of negative child sexual abuse effects reported. For example, to the extent that the women in this sample were exposed to child sexual abuse, they may also have been characterized by protective factors such as secure relationships to non-abusers or access to mental health care. Additionally, most survivors in the current sample reported extrafamilial abuse, which is associated with less severe outcomes than is intrafamilial abuse.

However, it seems more likely that the greater risk of sexual assault faced by child sexual abuse survivors does not result from the kinds of dating behaviors studied herein. This is a particularly significant finding given that, as noted, the dating behaviors assessed are associated with increased risk of sexual assault (including in the current sample; see also Macy, Nurius, & Norris, 2006). This raises the intriguing possibility that sexual assault risk factors may differ for women with and without histories of child

sexual abuse. This idea is supported by intriguing findings from the rape prevention literature. For example, while college women who participated in a sexual assault prevention program reported lower levels of risky dating behaviors (on the same measure as that used in the current study; Hanson & Gidycz, 1993) and lower rates of sexual assault (compared to a control group) 9 weeks later, women with a history of sexual abuse in the treatment group did not show the same decrease in sexual assault rates. While it is not clear whether the abuse survivors' risky dating behaviors decreased following the prevention program, these findings suggest a possible difference in risk factors for previously victimized and non-victimized women. Furthermore, the DBS may measure risk factors for non-survivors but not for survivors. That is, the DBS may assess behaviors associated with risk of sexual assault in women without abuse histories but not necessarily in women with a history of child sexual abuse.

Similarly, the DBS (Hanson & Gidycz, 1993) may not measure important attachment-relevant sexual behaviors in which contemporary college students engage. Specifically, it seems possible that participants who engage in risky drinking behaviors (e.g., getting drunk at fraternity parties, getting drunk at bars and losing track of friends) may not endorse many items on the DBS because they ask about "dates," a construct which may not apply to many students' "hookup" behaviors (sexual encounters between strangers or brief acquaintances). Indeed, exploratory analyses indicated that, while avoidant women did not endorse items more highly overall on the DBS, they did endorse the alcohol-related and "hookup" items to a greater extent than did other women (with anxiously attached women endorsing these items at only a marginally higher rate). These findings are, in fact, consistent with the findings of Paul, McManus, and Hayes (2000),

who studied hookup behavior in a large college sample. They found that individuals who engaged in hookups were more likely to have avoidant attachment and fears of intimacy than were other individuals. They also tended to get more intoxicated when they drank alcohol. These data strongly suggest that a more modern approach to alcohol- and sex-related behaviors may be more successful at discerning attachment-related differences in risky sexual behaviors among college students.

Clinical and Theoretical Implications

The current findings highlight once again the importance of assessing sexual assault history in college students. Nearly one-quarter of the current sample of college women had experienced a completed rape since age 14; this suggests that the most severe form of sexual assault presents an enormous risk to college women. As sexual assault is associated with numerous negative psychosocial outcomes, (e.g., Resick, 1993), it is imperative that clinicians working with college populations (as well as any clinicians working with adolescent girls or women) be comfortable and competent assessing history in this area.

The clinical assessment of risky dating behaviors may be somewhat more complicated. It is essential that clinicians develop ways to assess for risky behaviors without implying blame for future or past assaults. That is, clinicians should adopt a risk-reduction stance in their work with clients exhibiting high levels of behaviors that increase their risk of sexual assault (e.g., drinking heavily with unknown dating partners, hookup behaviors, etc.). Sensitivity to the functions of such behaviors (e.g., sex or alcohol as coping strategies, casual sex as substitute for intimacy, or binge drinking as a way to have needs for acceptance and belonging met) is vital in empowering clients to

understand their past choices without judgment and, crucially, to make healthy choices for themselves in the future.

Another important implication of the current findings is the need for clinicians to assess and address attachment in survivors of child sexual abuse and women with other risk factors for sexual assault. Attachment anxiety, in particular, was reaffirmed as a characteristic associated with sexual abuse history in the current study and was also associated with higher rates of sexual assault. This suggests that worries about abandonment and behaviors that may increase vulnerability to assault (such as tolerating some degree of unwanted sexual advances in the service of relationship maintenance) should be assessed by clinicians and discussed with clients in the context of empowerment and risk reduction. Attachment avoidance, on the other hand, while not associated with child sexual abuse, was associated with increased engagement in some high-risk behaviors (i.e., intoxication with unknown dates and hookup behaviors). This suggests that clinicians should attend to the behavioral implications of clients' aversion to intimate relationships, regardless of abuse history. In particular, the coping functions of behaviors such as binge drinking or casual sex should be assessed and addressed in therapy with women at higher risk for sexual assault. Importantly, the current findings regarding attachment, risk behaviors, and sexual assault were found in a presumably high-functioning college sample, which suggests that these issues must be assessed even in clients whose functioning is relatively high and who may be seeking treatment for reasons other than those directly related to victimization.

The current findings also have important theoretical implications, highlighting the importance of adult attachment in areas such as sexual abuse recovery, behaviors related

to risk of sexual assault, and sexual assault/revictimization. In particular, child sexual abuse seems to have negative implications for attachment anxiety, but not for avoidance, suggesting that the experience may have a greater impact on views-of-self than on views-of-other. This is extremely important in our understanding of the effects of sexual abuse as it underscores survivors' tendency to internalize blame for the experience instead of rightfully placing responsibility for the experience on the perpetrator.

The current findings also suggest that, while attachment may not relate to many sexual assault risk behaviors, attachment avoidance in particular seems related to the important risk behaviors of getting drunk with unknown dating partners and engaging in casual sex with strangers or brief acquaintances. It will be important to understand whether this relationship is due to more globally avoidant coping strategies or to the more specific needs of avoidantly attached individuals to engage in behaviors that help them to avoid emotional intimacy with sexual partners. Attachment anxiety, on the other hand, was associated with sexual assault rates, suggesting that worries about abandonment and doubts about one's romantic adequacy somehow increase one's risk of sexual assault. Since attachment anxiety did not relate to the risky dating behaviors studied herein, the mechanisms of this relationship remain unknown. It is possible, for example, that the mechanism lies in attracting sexually aggressive men to women with anxious attachment and not at all in the behaviors of the women themselves.

Finally, the current study underscores our relative lack of understanding of the phenomenon of sexual revictimization. While previous research has suggested that there are links between child sexual abuse, attachment, risky sexual behaviors, and sexual revictimization, the model as a whole was not supported. This suggests that child sexual

abuse does not lead to revictimization through increased engagement in most of the risky dating behaviors studied, highlighting the continued need for theories accounting for the variability in sexual assault risk factors for women with and without a history of sexual abuse.

Limitations and Directions for Future Research

Although some empirical studies have investigated sexual revictimization and/or sexual assault risk behaviors in the context of parental attachment (e.g., Fergusson et al., 1997; Jankowski et al., 2002) or risk of more general revictimization in the context of adult attachment (e.g., Irwin, 1999; Tyler & Johnson, 2006), the current study represents the first known study of sexual assault risk behaviors and sexual revictimization in the context of adult attachment. It thus represents an important step in our understanding of the complicated relationships among child sexual abuse, adult attachment, and sexual revictimization. However, the current study does have several important limitations. As the study was limited to a sample of college women from a private, Catholic, Midwestern university, its generalizability to other college women (and young women more generally) is unknown. Additionally, the study was cross-sectional in nature and relied on retrospective self-reports; these methodological characteristics mean that causal conclusions cannot be drawn from the data, which may also have been subject to social desirability and memory biases. Finally, the small size of the current sample of sexually abused women rendered statistical power lower than would have been ideal. Thus, caution should be used when interpreting the study's findings.

Future research should use measures that are consistent with modern college students' hookup behaviors and alcohol use when studying sexual risk. While the current

study did not detect overall differences in sexually abused women's risky dating behaviors, it is well established that this group of women is at greater risk for a number of negative sexual outcomes, including younger ages of consensual sexual activity, greater numbers of sexual partners, and greater likelihood of teenage pregnancy (e.g., Mayall & Gold, 1995; Noll et al., 2003; Zierler et al., 1991). This highlights the need for a comprehensive measure capable of capturing the variability of sexual assault risk behaviors in women with and without sexual abuse histories. Future studies should then continue to explore whether other measures of risky sexual or dating behaviors may relate to attachment, a central concept in our understanding of all relational behaviors. Such research should continue to use dimensional scales of adult attachment instead of categorical, paragraph-based measures which do not adequately measure the full spectrum of attachment insecurity.

Longitudinal studies will, of course, be needed to infer causality in any relationships among child sexual abuse, attachment, and risky behaviors (or, ultimately, revictimization). For example, it remains unclear whether attachment anxiety may predispose some children to sexual abuse victimization, result from dysfunctional family characteristics that accompany sexual abuse, or result from child sexual abuse itself. Understanding these relationships will be vital in guiding intervention efforts aimed at sexual abuse prevention and recovery and, potentially, efforts to decrease sexual assault risk. Finally, such longitudinal research can delineate abuse characteristics which most affect later development, including attachment and revictimization risk.

Conclusions

The current study found that child sexual abuse is associated with attachment anxiety in adulthood but may not be similarly associated with attachment avoidance. Furthermore, attachment shows no association with many dating behaviors themselves associated with increased risk of sexual assault. Attachment avoidance, however, seems related to specific risk behaviors such as heavy alcohol use on early dates and casual sex. Additionally, attachment was associated with higher rates of sexual assault. Future research into sexual assault risk behaviors should continue to explore the relationships among child sexual abuse, risky dating behaviors, and revictimization in the context of adult attachment, incorporating modern measures of college students' risky "hookup" and binge drinking behaviors. Clinical work with women should involve comprehensive assessment of child sexual abuse and sexual assault history, and risk-enhancing coping behaviors should be assessed and addressed in the context of attachment insecurity. Finally, clinicians must find ways to assess and intervene with risky sexual behaviors in ways that empower clients instead of assigning blame for past or future sexual assaults.

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