

The Pathway to Revictimization: An Attachment Perspective

by

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Dissertation in Partial Fulfillment
of the Requirements for the Degree of
DOCTOR OF PHILOSOPHY

in the

Department of Psychology
Faculty of Arts and Social Sciences

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SIMON FRASER UNIVERSITY

Summer 2010

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Abstract

It is well established that childhood sexual abuse (CSA) increases the risk for subsequent sexual victimization. However, it is unclear why women with a CSA history may engage in risky behaviours and vulnerability-increasing cognitions that put them at risk for revictimization to a greater degree than women without a CSA history. I proposed and tested a model that uses attachment theory to interpret the increased involvement in risk factors for unwanted sex among women with a CSA history. The proposed model suggests that the extent to which women with a CSA history rely on insecure attachment strategies predicts their involvement in risk factors (sexual activity, substance use, and risk perception deficits) that, in turn, increase the likelihood of unwanted sexual experiences in adolescence and adulthood. Three hundred and eight university women completed measures of childhood and adolescent/adult sexual victimization, attachment strategies, sexual activity, substance use, and risk recognition in a date rape scenario. Among the risk factors assessed, only sexual activity mediated between CSA and unwanted sex. Substance use was not associated with CSA; but it was associated with sexual activity and was a risk factor for unwanted sex. Attachment insecurity was not associated with increased involvement in risk factors, and thus did not mediate the revictimization process as proposed. However, avoidant attachment strategies, especially in the context of low attachment anxiety, were associated with an increased risk for unwanted sexual experiences independent of the other risk factors. Discussion focuses on the potential value of attachment theory as an organizational framework for understanding sexual revictimization.

Keywords: Revictimization, attachment, unwanted sex, childhood sexual abuse

for Martin

without you, this would not be possible

with you, it is worthwhile

for Seth and Finnian

may you also fulfill dreams

Acknowledgements

There is not a sufficient way to acknowledge my gratitude to Kim Bartholomew. Her supervision and support are the primary reason I have three little, yet meaningful, letters behind my name. When needed, she was there; when not needed, she was available. I am a better writer, a better researcher, a better scholar, and a better person due to her presence in my life. Thank you so much for your time, efforts, patience, and entertaining conversation.

A sincere thank you to the other members of my committee: Dr. Marlene Moretti and Dr. Becky Cobb. Your feedback, thoughtful comments, and keen eye for relevant research were immensely helpful. I admire your choice to be educators.

Thanks to Jill Logan, my research coordinator extraordinaire. Your organization and communications skills were sufficient to reassure me across the country.

To friends and family whom I am so lucky to have in my life: Your support, encouragement, and generous offers of time (e.g., childcare) got me through the rough times and the slog of it all. Thank you for believing in me and backing me up when needed.

Special thanks to Martin Bühler for his support, sacrifice, patience, care, and editing skills.

Thank you to Seth and Finnian for your make-it-all-better hugs and giving me perspective.

This work was supported by the Social Sciences and Humanities Research Council of Canada. Thank you for supporting arts education. May you continue to do so.

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The Pathway to Revictimization: An Attachment Perspective

Women sexually abused as children are 1.5 to 3 times more likely to be sexually assaulted as adolescents or adults than women without child sexual abuse (CSA) histories (Arata, 2002; Rich, Combs-Lane, Resnick, & Kilpatrick, 2004). Evidence of revictimization is strong: Meta-analytic results reveal an average effect size of .59 (Roodman & Clum, 2001), and revictimization is found among college samples, U.S. national probability samples, and clinical samples (e.g., Messman-Moore & Long, 2003; Rich et al., 2004). Early research focused on prevalence rates and correlates of revictimization such as substance use, risky sexual behaviours, and maladjustment. More recently, researchers have developed explanatory models of how CSA increases risk for subsequent sexual victimization. For instance, Arata (2002) proposes that the behavioural, cognitive, and affective sequelae of CSA lead individuals to act in ways that increase their risk for further sexual assault. Recently, Messman-Moore and colleagues found that emotion regulation may be a mechanism linking CSA and unwanted sex (Messman-Moore, Walsh, & DiLillo, in press). Though a number of researchers have speculated that emotion regulation is fundamental to the revictimization process (e.g., Cloitre & Rosenburg, 2006; Marx, Heidt, & Gold, 2005), they have not provided a coherent organizational framework to interpret findings and direct future research. In the current study, I propose and test an organizational framework based on attachment theory to interpret the role of behavioural, cognitive, and affective factors that appear to contribute to revictimization. Before explaining this framework, I briefly review risk factors for revictimization and the relevance of attachment theory for understanding sexual victimization and risk factors for unwanted sex.

Risk Factors and Revictimization

In Macy's (2008) research agenda for the revictimization field, she identified sexual activity, substance use, and risk perception capacity as key risk factors for revictimization. Among these, sexual activity has the most empirical support as a potential risk factor for revictimization. Sexual activity may increase women's exposure to coercive partners and may increase the threshold of their own and their partners' perception of acceptable and safe behaviour in sexual situations. Numerous studies demonstrate an association between CSA and levels of sexual activity (e.g., age of first intercourse, number of sexual partners, number of brief sexual relationships; e.g., Arriola, Loudon, Doldren, & Fortenberry, 2005; Batten, Follette, & Aban, 2001; Senn, Carey, Vanable, 2007). Moreover, there is some evidence that level of sexual activity partially mediates the relation between CSA and subsequent sexual assault (e.g., Arata, 2002; Messman-Moore et al., in press). However, some studies fail to confirm these associations and it is unclear whether specific types of sexual activity are associated with different levels of risk (e.g., Gidycz, Orchowski, King, & Rich, 2008; Orcutt, Cooper, & Garcia, 2005).

Substance use, another potential risk factor for revictimization, may increase vulnerability for adult victimization by lowering inhibitions and thereby increasing the chances of women's involvement in risky situations and/or limiting women's ability to stop unwanted sexual experiences (Pumphrey-Gordon & Gross, 2007). Numerous studies, including three twin studies, demonstrate that substance use is higher among women with a history of CSA than among non-victimized women (Dinwiddie et al., 2000; Kendler et al., 2000; Nelson et al., 2002; Testa, Hoffman, & Livingston, 2010). A

number of studies also indicate that substance use is a risk factor for experiencing adult sexual assault (e.g., Kaysen, Neighbors, Martell, Fossos & Larimer, 2006; Testa & Parks, 1996). However, substance use also may be a consequence of sexual assault (e.g., Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004; Kaysen et al., 2006). As well, it is not clear the degree to which substance use may mediate the association between CSA and unwanted sex (Mayall & Gold, 1995; Merrill et al., 1999).

Sexual activity and substance use are strongly associated (e.g., Floyd & Latimer, 2010; Merrill et al., 1999). For example, adolescents who report the highest level of substance use also report the most risky sexual behaviour (Tubman, Windle, M., & Windle, R., 1996). Prospective studies reveal that substance use predicts later risky sexual activity (Brook, Adams, Balka, Whiteman, Zhang, & Sugerman, 2004; Tapert, Aarons, Sedlar, & Brown, 2001). Thus, substance use may indirectly influence revictimization through its relation with sexual behaviour (cf. Mayall & Gold, 1995). High levels of sexual activity and substance use, especially when combined, may expose women to potentially dangerous situations and limit their capacity to evaluate safety.

Risk perception, the third key risk factor identified by Macy (2008), is a relative new comer to the field and its role in revictimization is not yet determined. Risk perception deficits may limit women's ability to evaluate the safety of potential sexual partners and/or to leave a risky situation before it escalates. Repeatedly victimized women are slower to perceive risk in hypothetical sexual assault situations (Marx, Calhoun, Wilson, & Meyerson, 2001; Wilson, Calhoun, & Bernat, 1999). Although some studies indicate that limited risk perception capacity predicts subsequent sexual assault (Marx et al., 2001), other studies fail to support this relation (see review by

Gidycz, McNamara, & Edwards, 2006). Methodological differences between studies may explain these inconsistencies: The connection between risk perception and unwanted sex has been found when risk perception is assessed with audiotaped vignettes (Marx et al., 2001; Soler-Baillo, Marx, & Sloan, 2005; Wilson et al., 1999), but not when assessed with videotape or written vignettes (Breitenbecher, 1999; Messman-Moore & Brown, 2006; Vanzile-Tamsen, Testa, & Livingston, 2005).

Though it is not surprising that sexual activity, substance use, and risk perception deficits may be associated with unwanted sex, it is unclear why women with a CSA history may exhibit these risky behaviours and vulnerability-increasing cognitions to a greater degree than women without a CSA history. Researchers have proposed that the sequelae of CSA can be understood in terms of affect regulation: Women with a CSA history tend to have difficulties with affect regulation, and most of the identified risk factors for adult sexual assault can serve to regulate affect (Cloitre, Miranda, Stovall-McClough, & Han, 2005; Messman-Moore et al., in press). For instance, sexual activity and substance use may regulate negative affect by providing temporary distraction from distress (e.g., Messman-Moore, Ward, & Brown, 2009; Mikulincer & Shaver, 2007). Similarly, when individuals limit their perceptions of threat, they avoid experiencing fear and distress. To the extent that women with a CSA history use sexual activity and substances to regulate affect and have a diminished capacity to perceive risk, they may be at increased risk for subsequent sexual victimization. As a theory of affect regulation, attachment theory may provide a useful organizational framework to understand how CSA may alter behaviour, cognition, and affect in ways that increase the risk for future sexual victimization. Below, I briefly review attachment theory before proposing how

insecure attachment strategies may combine with behavioral and cognitive factors to increase the risk of subsequent sexual victimization among women with CSA histories.

Attachment Theory

Attachment theory proposes that children develop affect regulation strategies based on their experiences of seeking proximity to their caregivers when under stress (Bowlby, 1969/1982). To the extent that children experience their caregivers as available, reliable, and responsive to their needs, they learn that approach oriented attachment strategies regulate distress (Mikulincer, Shaver, & Pereg, 2003). Children's distress-reducing proximity seeking facilitates the development of affect regulation skills and felt competence about their ability to alleviate distress. In contrast, when children experience caregivers as unresponsive, inconsistently responsive or threatening, they learn that proximity seeking is an unreliable and potentially unsafe affect regulation strategy and that others cannot be relied on to soothe distress. To the extent that children's proximity seeking does not alleviate distress, they are less likely to learn affect regulation skills and are less likely to develop confidence regarding their ability to self-soothe. In response, some children develop avoidant attachment strategies involving an avoidance of proximity seeking and a defensive self-reliance (a deactivation of the attachment system). Other children develop anxious attachment strategies involving hyper-vigilance to potential threats, lack of trust in attachment figures, and an inability to rely on themselves to soothe distress (hyperactivation of the attachment system).

In sum, attachment strategies encompass cognitions and interpersonal patterns that serve to regulate distress when security is threatened. These strategies reflect and shape behaviour, cognitions, and emotions in close relationships and continue to develop

throughout the lifespan. Security-based strategies involve the capacity to appropriately rely on external attachment figures for support and to engage in effective self-soothing. In contrast, insecure-based strategies involve either anxious preoccupation with threats or avoidant attempts to minimize reliance on others and deactivate the attachment system (Mikulincer et al., 2003).

Attachment and Victimization

Attachment insecurity is a common factor in explanatory models of revictimization (e.g., Gold, Sinclair, & Balge, 1999; van der Kolk, 1989), but its role in revictimization has not been empirically tested. This omission is surprising given the numerous studies that document a link between CSA and insecure attachment. Children with maltreatment histories are more likely to be assessed as insecurely attached than children in the general population (e.g., Carson, Cicchetti, Barnett, & Braunwald, 1989; Cicchetti, 1987). Among adults, CSA is associated with insecure attachment in clinical and community samples (e.g., Aspelmeier, Elliot, & Smith, 2007; Fergusson, Lynskey, & Horwood, 1996; Mickelson, Kessler, & Shaver, 1997). Moreover, attachment strategies appear to mediate the link between CSA and psychological adjustment (e.g., depression; Shapiro & Levendoksy, 1999; maladjustment; Rosenthal, Rasmussen Hall, Palm, Batten, & Follette, 2005; trauma symptoms; Aspelmeier et al., 2007; Roche, Runtz, & Hunter, 1999). However, with few exceptions, the research linking CSA and attachment insecurity relies on retrospective CSA reports and therefore cannot speak to causal processes.

In contrast, few studies have examined the link between insecure attachment and unwanted sex in adolescence or adulthood. Three studies suggest a link between

attachment anxiety and adult sexual victimization (Flanagan & Furman, 2000; Sandberg, Sues, & Heaton, 2010; Young & Furman, 2008). Further, fear of abandonment, a component of attachment anxiety, was higher among rape survivors than women with no history of sexual coercion (Thelen, Sherman, & Borst, 1998). The association between attachment avoidance and unwanted sexual experience is less clear. There is some indication that attachment avoidance is associated with sexual victimization (Thelen et al., 1998), though some studies fail to confirm this association (Flanagan & Furman, 2000; Sandberg et al., 2010).

Attachment and Risk Factors

Attachment needs and attachment-related strategies for coping with negative affect may influence the motivation for sexual activity (Mikulincer & Shaver, 2007). Attachment security likely fosters the capacity to engage in mutually satisfying sexual relations that involve intimacy and open communication about sexual desires (Mikulincer & Shaver, 2007). Attachment insecurity may influence individuals' sexual motives, behaviours and cognitions in predictable ways depending on the utilized attachment strategy (Feeney & Noller, 2004).

For individuals high in attachment anxiety, sexual activity may be a means of meeting their intense desires for security and acceptance, potentially leading them to comply with their partners' or potential partners' sexual needs as a means of meeting their own attachment-related needs. Attachment anxiety relates to various indicators of women's sexual risk-taking behaviours including multiple sexual partners (Ciesla, Roberts, & Hewitt, 2004), early first intercourse, and more lifetime partners (Bogaert & Sadava, 2002). As well, anxious attachment is positively associated with women's

participation in unwanted sex to avoid abandonment by romantic partners (Impett & Peplau, 2002).

Avoidant individuals' discomfort with closeness and defensive denial of attachment needs may lead to an avoidance of sexual contact with others, but also may encourage a preference for uncommitted short-term sexual relations (Feeney & Noller, 2004; Mikulincer & Shaver, 2007). Consistent with this speculation, attachment avoidance is positively associated with favorable attitudes towards casual sex (see Mikulincer & Shaver, 2007). In addition, women's use of sex to cope with negative emotions was associated with a greater number of sexual partners and partially mediated the relation between CSA and prospective adult sexual victimization (Orcutt et al., 2005). Depending on whether women seek sexual contact to gain others' support or to distract themselves from negative affect, these findings may suggest a role for anxious and/or avoidant strategies in predicting levels of sexual activity.

Substance use may also serve an emotion regulation function among those prone to insecure attachment strategies (Flores, 2001; Mikulincer & Shaver, 2007). As an anxious strategy, substance use may soothe distress and impede anxious rumination; as an avoidant strategy, substance use may facilitate distraction from distressing emotions (Mikulincer & Shaver, 2007). Correspondingly, insecure attachment is consistently linked to substance use in adolescents (e.g., Branstetter, Furman, Cottrell, 2009; Elgar, Knight, Worrall, & Sherman, 2003; Gerevich & Bácskai, 1996). However, research examining the connection between substance use and specific forms of attachment insecurity is inconsistent, perhaps in part due to different conceptualizations of insecure attachment (Schindler, Thomasius, Sack, Gemeinhardt, Küstner, & Eckert, 2005). As

well, there is some indication that a combination of avoidant and anxious strategies has an especially strong association with substance use (Schindler et al., 2005).

No research to date directly assesses the association between attachment security and perception of risk for sexual assault. Conceptually, attachment anxiety may limit risk perception if the drive to meet attachment needs through pursuing romantic relationships takes precedence over the evaluation of physical safety cues (Alexander, 1992). For instance, women highly motivated to seek a romantic partner and/or to maintain an existing relationship may be less vigilant to cues indicating potential threat. Avoidant attachment strategies involve inhibiting awareness of threat cues and affect numbing (Mikulincer & Shaver, 2007), thereby limiting the capacity to perceive risk. Dissociation and emotional numbing, strategies associated with avoidant attachment (Anderson & Alexander, 1996; Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997), may limit conscious access to negative affective cues that signal threat, thus increasing the risk of revictimization (e.g., Chu, 1992).

Model of Revictimization

As illustrated in Figure 1, I proposed that the extent to which women with a CSA history rely on insecure attachment strategies predicts their involvement in risk factors that, in turn, increase the likelihood of unwanted sexual experiences in adolescence and adulthood. This model integrates several of the established correlates of revictimization and explains the interplay among them from an attachment perspective. This model organizes four potential steps in the revictimization process: *childhood sexual abuse* contributes to *individual factors* (attachment anxiety and avoidance), which in turn are associated with *risk factors* (sexual activity, substance use, and risk perception) that

increase vulnerability to *unwanted sexual experiences*. Thus, I hypothesized that anxious and avoidant attachment strategies, at least in part, mediate the association between CSA and risk factors for subsequent victimization. As well, I proposed that the risk factors mediate the association between the attachment strategies and unwanted sex. However, revictimization is a complex phenomenon that is unlikely to be fully explained by the proposed risk factors in this model. To account for this unexplained variance, a direct path between CSA and unwanted sex was included in the model. Further, direct paths between attachment strategies and unwanted sex were included to assess the potential direct contributions of attachment strategies.

I tested this model in a cross-sectional study of ethnically diverse university undergraduate women. Undergraduate women are at considerable risk for sexual assault (Smith, White & Holland, 2003). As well, a history of CSA among undergraduates is associated with several indicators of maladjustment including high-risk sexual behaviour (e.g., Batten et al., 2001), substance misuse (see Polusny & Follette, 1995 for a review), and adult sexual assault (e.g., Messman-Moore & Long, 2000).

Secondary Research Questions

Interaction of anxiety and avoidance. I examined whether the interaction between attachment anxiety and avoidance was associated with risk factors and unwanted sex. For instance, perhaps women who rely on avoidant strategies and who experience little attachment anxiety (i.e., high avoidance in the context of low anxiety) are especially prone to seek casual sexual encounters and, as a result, to be at increased risk for unwanted sex. As there is no basis for specific predictions regarding how attachment interactions may be associated with risk factors or unwanted sex, these analyses were

exploratory.

The role of parenting practices. Disentangling the influence of CSA from family environment has proven difficult (Nelson et al., 2002; Westen, 1994). Dysfunctional family patterns and less than adequate parenting may produce the same signs of maladjustment as childhood abuse (Westen, 1994). In addition, dysfunctional family environments and resulting insecure attachment may leave children more vulnerable to sexual abuse and less able to cope with the experience (van der Kolk, 1989). On the other hand, CSA may influence the development of insecure attachment because CSA occurs early in development and often in the context of a close relationship (Elliott, 1994; Roche et al., 1999).

Meta-analytic results reveal that CSA and family environment are interrelated, but that family environment explains nine times more variance in adult adjustment than does CSA (Rind, Tromovich, & Bauserman, 1998). However, CSA may influence adjustment independently of family environment. Among CSA-discordant twin pairs, CSA-negative twins reported less maladjustment than their abused siblings, but greater maladjustment than twins growing up in families without any CSA history (Nelson et al., 2002). Thus, both CSA and the family environment of children who have been sexually abused may be risk factors for maladjustment. As well, though family environment appears to be a risk factor for adult victimization (Stermac, Reist, Addison, & Millar, 2002), it does not fully explain the relationship between CSA and adult sexual assault (Fergusson, Horwood & Lynskey, 1997). Family environment is important in development and in coping with traumatic experiences; however, the intent of my study was to clarify the pathway from CSA to subsequent sexual victimization. Therefore, family environment is not included

in the proposed model. Instead, follow up analyses were conducted to assess whether the associations among CSA, attachment insecurity, risk factors, and unwanted sex exist independently of family environment.

Method

Participants

Three hundred and eight female participants, recruited from the psychology subject pool, completed all components of the study. Participant age ranged from 17 to 39 years with an average age of 20.19 years ($SD = 3.24$). Participant ethnicity was 35.4% Chinese/East Asian, 24.4% British/Irish/Scottish/Welsh, 20.5% other European, 5.8% East Indian/Pakistani/South Asian, 3.6% South East Asian, 3.6% West Asian/Arabic/Middle Eastern, and 6.7% other. Sexual orientation was assessed on a 7-point scale from 1 “exclusively heterosexual” to 7 “exclusively gay”. Ninety-one percent of women reported a primarily heterosexual orientation (1 or 2), 8% a bisexual orientation (3, 4 or 5), and 1% a primarily lesbian or gay sexual orientation (6 or 7). The vast majority (90.6%) of these women had some form of relationship experience (including dating) and 61.2% were currently in a romantic relationship.

Procedure

Upon arrival at the Social Psychology Lab at Simon Fraser University (SFU), participants received general information about the purpose and requirements of the study and then provided informed consent. Women first completed a package of self-report measures and then, in a private room, listened to an audio vignette of a date rape by a man of a woman. Following completion of the measures, participants received detailed information about the purpose of the study. Participants who indicated a history of

sexual assault, who reported current emotional difficulties for any reason, or who reported an emotional reaction to their participation in this study were provided with information about psychological support available at SFU.

Measures

Childhood sexual abuse and parenting practices measure. The *Family Background Questionnaire* (FBQ; McGee, Wolfe, & Wilson, 1997) is a self-report retrospective measure of maltreatment and parenting practices experienced during childhood and adolescence. Three subscales were used in this study (sexual abuse, constructive parenting practices, and psychological maltreatment). Participants rated the frequency of behaviours on a 0 “*it never happened*” to 3 “*it happened often or very often*” scale.

The sexual abuse subscale is a 14-item measure of unwanted sexual behaviours by mothers, fathers, and others (see items in Table 1). This subscale was modified to specify sexual experiences that occurred *before the age of 14 with a parent or other person at least 5 years older*. An age limit was required to avoid overlap with the measure of adolescent/adult unwanted sexual experiences. Sexual experiences before 14 were specified because 14 years was the Canadian age of sexual consent at the time that the study began. Specifying an age difference of 5+ years between the child and the instigator of the sexual act is a common method to avoid inclusion of consensual sex play or sexual exploration among peers (Hulme, 2004). Severity of childhood sexual abuse was computed by summing the number of different types of abusive sexual contact reported ($M = .33$; $SD = 1.45$; range = 0 - 12; $\alpha = .88$).

To assess parenting practices of mothers and fathers, I created a composite of 23

items assessing constructive parenting practices and 22 items assessing psychological maltreatment (reverse scored).¹ Example items are “Showed you affection” and “Ridiculed or made fun of you in front of others.” Means and reliabilities were as follows: mothers’ quality of parenting: $M = 2.55$, $SD = .37$; $\alpha = .93$ and fathers’ quality of parenting: $M = 2.50$, $SD = .40$; $\alpha = .94$. Mothers’ and fathers’ quality of parenting were strongly correlated, $r(308) = .62$, $p < .001$, and therefore all of the parenting items were combined into a general measure of quality of parenting ($M = 2.52$; $SD = .35$; $\alpha = .96$).

Attachment measure.

Experiences in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000). The ECR-R, a revised version of Brennan, Clark, and Shaver's (1998) *Experiences in Close Relationships*, is a 36-item self-report measure of adult attachment. Participants rated each item on a 7-point scale indicating the extent to which they *strongly disagree* to *strongly agree* with a statement about their experiences in romantic relationships. The ECR-R produces two subscale scores: 1) *Anxiety* assesses fear of rejection and abandonment and lack of confidence in partners’ responsiveness (e.g., “I am afraid I will lose my partner’s love”; $\alpha = .92$), and 2) *Avoidance* assesses discomfort with closeness and with dependency on others (e.g., “I prefer not to show a partner how I feel deep down”; $\alpha = .95$). Women reported moderate levels of attachment anxiety ($M = 3.16$; $SD = 1.11$) and avoidance ($M = 2.84$; $SD = 1.11$). The attachment dimensions were positively correlated ($r(308) = .41$, $p < .001$).

¹ Two questions, one from each subscale, were deleted due to numerous missing answers. Question 14 asked participants to evaluate if their parents “Provided proper supervision when [that] parent was away.” Perhaps some participants did not rate their parents’ behaviour on this question as it was not their parents who were providing the supervision. Question 34 included the word “denigrated” without supplemental information to clarify the definition. As several participants underlined or put a question mark near this word, it appeared that the language complexity of this question was too difficult for many participants.

Risk factor measures.

Sexual activity. Questions assessing sexual activity were adapted from Meston, Heiman, Trapnell, and Paulhus' (1998) survey of sexual behaviour. Although most participants reported some sexual experience, 35 women (11.4%) had not had any sexual contact with another person. Participants were asked the age at which they first had sexual intercourse ($M = 17.13$; $SD = 1.93$; range 12-24 years), how many people they "made out" with in the past year ($M = 1.97$; $SD = 2.71$; range 0 – 20), the total number of sexual partners involving genital contact ($M = 3.00$; $SD = 4.74$; range 0 - 30), and the number of one-night stands involving genital contact ($M = .67$; $SD = 2.13$; range 0 - 20). I created a sexual activity composite of the number of made out partners, the number of genital contact partners, and the number of one-night stands by standardizing and then averaging the variables ($\alpha = .87$). Age of first sexual intercourse was not included in inferential analyses because 35% of women reported that they had not engaged in sexual intercourse.

Substance use. Participants' use of 13 recreational drugs over the past year and general pattern of alcohol consumption were assessed. Forty-seven percent of women reported recreational drug use and 86% reported alcohol use. Recreational drug use was indicated by a composite poly-drug use score of number of drugs used ($M = .82$; $SD = 1.14$). Among those who reported recreational drug use, the mean of different types of drugs tried was 1.76 ($SD = 1.07$). The most commonly reported recreational drugs were marijuana (32%), tobacco (23%), mushrooms (8%), cocaine (6%), ecstasy (5%), and prescription drugs (5%). Alcohol use was assessed as a product of quantity per occasion (ranging from 1 to more than 6 drinks) and frequency of drinking alcohol (9-point scale

ranging from *never* to *more than once per day*; $M = 13.91$; $SD = 8.94$). Among participants who reported that they drink alcohol, the average level of consumption was *three or four* drinks ($M = 3.58$; $SD = 1.12$) about *once a month* ($M = 4.30$; $SD = 1.41$). As well, six problematic behaviours associated with substance use were assessed on a true/false scale. The questions follow Haberman's (1994) methodology and were originally part of The Survey of Selected Health Practices of College Students (Haberman, 1988). An example item is "I have missed academic classes after a night of alcohol or other drug use." The total score indicates the negative influence of substance use in participants' lives ($M = 1.20$; $SD = 1.43$; $\alpha = .64$). I created a substance use composite of poly-drug use, alcohol use, and problems resulting from substance use by standardizing and then averaging the three variables ($\alpha = .76$).

Risk perception. Participants listened to an audio vignette developed by Marx and Gross (1995) that portrayed conversation between a woman and a man and then sexual activity leading to the man forcing intercourse on the woman. The couple, who appear to be on a date, return to the man's apartment after seeing a movie. A brief conversation occurs before physical contact begins at approximately 30 seconds. Physical intimacy, indicated by dialogue and breathing and kissing sounds, is initially consensual but as the sexual activity progresses, the woman states that she does not want to engage in specific sexual activities. On three occasions, she indicates discomfort with going further sexually and then they mutually re-engage in sexual activity. The woman's first resistance becomes clear at 80 seconds and increases in intensity from reasoning to pleading and crying. The man initially uses verbal persuasion, but eventually threatens and physically forces intercourse. The vignette lasts 390 seconds. Participants pressed a

button when they felt the man “had gone too far” and then pressed a second time to stop the recording. Response latency of the initial button press was recorded in milliseconds and rounded to the second to indicate risk perception. Response latencies varied widely from 10 seconds (i.e., when he requests to turn down the lights) to 375 seconds (i.e., when she states he raped her). The average latency of 113.57 seconds ($SD = 54.09$; median = 98.42) occurs after the woman’s initial resistance but during resumed mutual sexual activity which was initiated by the woman.

Unwanted sexual experiences measure.

Sexual Experiences Survey-Modified (SES-M, Testa, VanZile-Tamsen, Livingston, & Koss, 2004). The SES-M is an 11-item self-report behaviourally-specific measure of unwanted sexual experiences since age 14 (see items in Table 2). Total unwanted sexual experiences were indicated by the sum of the different types of experiences reported ($\alpha = .67$).

Results

Descriptive Analyses

Childhood sexual experiences. Twenty-eight women (9.1%) reported childhood sexual abuse under the age of 14 years. These women experienced an average of 3.68 different types of contact ($SD = 3.35$; Range 1 - 12). The majority of these experiences (89.3%) were with someone other than a parental figure. There were no reports of childhood sexual abuse by mothers and 3 reports of childhood sexual abuse by fathers. Of the three women sexually abused by their fathers, two also reported being sexually abused by another person. Women reported a variety of experiences (see Table 1). The most commonly reported type of abusive sexual contact was a clothed body part being

fondled for a sexual purpose.

Unwanted sexual experiences. One hundred and fourteen women (37%) reported unwanted sexual experiences since the age of 14 years. Although the types of unwanted sexual experiences varied, women most commonly reported experiencing unwanted sexual touching or kissing (27.3%), or unwanted sexual intercourse when they felt overwhelmed by another's continual arguments and pressure (17.2%; see Table 2). Of the women who reported an unwanted sexual experience, close to half ($n = 56$, 49.1%) reported experiencing only one type of unwanted sexual contact. The other 59 women reported between 2 and 7 different types of unwanted sexual contact.

Sixteen women (57% of those who had reported CSA) reported both childhood sexual abuse and an unwanted sexual experience after the age of 14, thus meeting the common definition of revictimization (Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007). In contrast, 35% of the women who did not report a history of CSA reported an unwanted sexual experience after 14 years of age. Thus, women with a CSA history had a 1.63 greater probability of an unwanted sexual experience than women without a history of childhood sexual abuse.

Zero-order Correlations

Associations between background factors and attachment, risk factors, and unwanted sexual experiences. Women with a history of childhood sexual abuse reported less positive perceptions of the quality of parenting received ($r(308) = -.20, p < .001$). CSA was associated with attachment anxiety ($r(308) = .17, p < .01$), but not avoidance ($r(308) = .05, n.s.$). As expected, quality of parenting and the attachment dimensions were negatively correlated (anxiety: $r(308) = -.42, p < .001$; avoidance:

$r(308) = -.33, p < .001$). That is, as perceptions of parenting practices became more negative, reports of attachment insecurity increased.

As shown in Table 3, childhood sexual abuse was generally related to sexual activity but was not related to substance use or risk perception. Parenting practices were not related to sexual activity, substance use or risk perception.

A history of child sexual abuse was positively associated with reports of unwanted sexual experiences ($r(308) = .26, p < .001$), whereas positive perceptions of parenting practices were associated with fewer reports of unwanted sexual experiences ($r(308) = -.25, p < .001$).

Associations between attachment and risk factors and unwanted sexual experiences. As shown in Table 4, the attachment dimensions were generally unrelated to the risk factors: sexual activity, substance use and risk perception. Attachment avoidance ($r(308) = .22, p < .001$), but not attachment anxiety ($r(308) = .06, n.s.$), was associated with unwanted sexual experiences after the age of 14 years.

As predicted, the sexual activity and substance use risk factors and their composites were consistently associated with reports of unwanted sexual experiences (see Table 4). In contrast and contrary to expectations, risk perception was not significantly related to reports of unwanted sexual experiences.

Path Analyses

Table 5 provides the intercorrelations between variables in the model. Abuse experiences and high-risk behaviours are relatively uncommon experiences in non-clinical populations; as a result, the distributions of these variables were not normal.

Therefore, it was necessary to transform the abuse and the risk factor variables.²

I tested all path models using LISREL 8.8 (Jöreskog & Sörbom, 2006) and maximum likelihood estimation. The chi-square goodness of fit test is greatly influenced by sample size and can inaccurately suggest poor fit even when the model fits the data well (Kline, 1998). Therefore, I examined the root mean square error of approximation (RMSEA) and the comparative fit index (CFI) as additional fit indices. Convention suggests that an acceptable level of fit is indicated by an RMSEA \leq .08 and a CFI \leq .95 (Hooper, Coughlan, & Mullen, 2008).

For the full model (see Figure 2) to achieve an acceptable level of fit to the data, it was necessary to include an error covariance³ between sexual activity and substance use and between attachment anxiety and avoidance ($\chi^2(2) = 6.08, p < .05$; RMSEA = .08, 90% CI [.02, .16]; CFI = .99). Of the risk factors proposed to mediate between CSA and unwanted sex, only sexual activity had direct paths from CSA and to unwanted sex. There was not a significant path between CSA and substance use, but there was a path from substance use to unwanted sex. No significant paths between CSA and risk perception or between risk perceptions and unwanted sex were observed.

Examination of the path coefficients indicate that attachment strategies did not mediate between CSA and the risk factors as proposed. There was a direct link from CSA to attachment anxiety, but not between CSA and attachment avoidance. Only two significant paths were observed between attachment strategies and risk factors, and neither in the positive direction as proposed: There were negative paths from attachment anxiety to sexual activity and from attachment avoidance to risk perception. CSA had a

² CSA and unwanted sex were transformed using the square root transformation. The sexual activity and substance use composites and risk perception were transformed using the natural log transformation.

significant indirect effect on sexual activity through attachment anxiety (Sobel test: $z = 2.07, p < 0.5$). Thus, attachment anxiety served as a protective factor for level of sexual activity rather than a risk factor as proposed. Further, there was a significant indirect path from attachment anxiety to unwanted sex through sexual activity, also suggesting a protective role for attachment anxiety (Sobel test: $z = 2.40, p < 0.5$). There was also a significant indirect path from substance use to unwanted sex through sexual activity (Sobel test: $z = 3.71, p < 0.001$). Finally, there were significant direct paths between attachment avoidance and unwanted sex and between CSA and unwanted sex.

Based on the results of the full model, I examined a simplified model (see Figure 3). Risk perception was dropped from the model because it did not act as a mediator between CSA and unwanted sex in the full model. Although there was a significant path from attachment avoidance to risk perception in the full model, this path does not clarify the process of revictimization. Substance use operated as a direct and indirect risk factor for unwanted sex; however, it was not associated with CSA or attachment strategies and thus did not serve as a mediator between CSA and unwanted sex. Therefore, all the paths to substance use were dropped, as was the expectation that it acts as a mediator between CSA and unwanted sex. As a result of these changes, substance use became an exogenous variable which cannot have an error covariance with an endogenous variable (i.e., sexual activity). Thus, a direct path from substance to sex was specified.⁴

This simplified model had a good fit to the data ($\chi^2(2) = 3.25, p = .20$; RMSEA =

³ These error covariances reflect the known relations among these variables and identify their correlations.

⁴ Specifying a direct path between two variables is equal to specifying their error covariance; both identify their correlation. The path direction chosen is consistent with prospective evidence that substance use predicts sexual activity (e.g., Brooks et al., 2004).

.045, 90% CI [.00, .12]; CFI = 1.00)⁵. The pattern of path coefficients was similar to the full model. CSA continued to have direct and indirect links (through sexual activity) with unwanted sex (Sobel test: $z = 2.81, p < 0.1$). As well, substance use continued to have direct and indirect links (through sexual activity) with unwanted sex (Sobel test: $z = 3.90, p < 0.001$). Regarding the role of attachment, the direct paths between CSA and attachment anxiety and between attachment anxiety and sexual activity remained; however, the indirect path from CSA to sexual activity through attachment anxiety was no longer significant (Sobel test: $z = 1.90, n.s.$). In contrast, the indirect path between attachment anxiety and unwanted sex through sexual activity remained significant (Sobel test: $z = 2.16, p < 0.5$). Finally, the direct path from attachment avoidance to unwanted sex remained significant.

Secondary Analyses. To evaluate the possible interaction between attachment anxiety and avoidance, I included an interaction term in the simplified model and specified this variable to have the same relations as the attachment variables (see Figure 4). This model had an excellent fit to the data ($\chi^2(5) = 3.98, p = .55$; RMSEA = .000, 90% CI [.00, .07]; CFI = 1.00). The pattern of the original relations remained. As well, there was a significant direct path from the interaction term to unwanted sexual experiences. To explore the nature of the attachment interaction, I re-ran the simplified model separately for subgroups high and low on anxiety as recommended by Kline and Dunn (2000). In the subsample above the median on anxiety, the path between avoidance and unwanted sexual experiences was minimal ($\beta = .06, n.s.$). In the subsample below the median on anxiety, the path between avoidance and unwanted sexual experiences was

⁵ All analyses were repeated with women reporting a primarily bisexual or lesbian orientation not included, and the pattern of results was unchanged.

moderate ($\beta = .32, p < .05$). Thus, attachment avoidance in the context of relatively low attachment anxiety was associated with unwanted sex.

To evaluate whether the process of revictimization and the relationships proposed in this study exist independently of the influence of parenting, I included the quality of parenting variable in the simplified model and specified this variable to have all the same relations as CSA (see Figure 5). This model had a comparable fit to the previous models ($\chi^2(2) = 3.34, p = .19$; RMSEA = .047, 90% CI [.00, .13]; CFI = 1.00)⁶ and revealed the same pattern of relations as the simplified model. Only the path between CSA and anxiety changed slightly (from $\beta = .16, p < .05$ to $\beta = .09, n.s.$). Regarding parenting, there were significant negative paths from quality of parenting to attachment anxiety and avoidance. Although quality of parenting was not directly related to sexual activity, there was an indirect path from parenting to sexual activity through attachment anxiety (Sobel test: $z = 2.53, p < 0.5$). As well, quality of parenting had both direct and indirect paths (through attachment avoidance) to unwanted sex (Sobel test: $z = 2.60, p < 0.01$).

Discussion

Although revictimization is a well-established phenomenon, research has only recently begun to explore the underlying mechanisms. In this study, women with a history of CSA had a 1.63 increase in risk for a subsequent unwanted sexual experience (cf. Van Bruggen, Runtz, & Kadlec, 2006). I examined whether insecure attachment helped to explain why a history of CSA is associated with increased involvement in three risk factors for unwanted sexual experiences: sexual activity, substance use, and risk perception. Of the three risk factors, only sexual activity mediated the revictimization

⁶ I found the same pattern of results when quality of parenting was inserted into the full model and into the simplified-interaction model.

process. Attachment insecurity was generally not significantly related to the risk factors and thus did not explain increased involvement in the risk factors for revictimization as proposed. Instead, avoidant attachment was associated with an increased risk for unwanted sexual experiences independent of the risk factors. Overall, the pattern of findings provides insight into risk factors for unwanted sexual experiences and appears consistent with an emotion regulation perspective.

Risk Factors for Revictimization

Consistent with previous literature, level of sexual activity, as indicated by the number of partners in various types of sexual encounters, was a significant risk factor for unwanted sex and partially mediated the revictimization process (cf. Fargo, 2009; Messman-Moore et al., in press). A history of CSA was associated with a moderate increase in sexual activity. Further, the strength of the association between CSA and specific types of sexual encounters (i.e., made out, genital contact, and one-night stand) increased as the degree of permissiveness of these sexual encounters increased. Permissive sexual activity (defined as liberal sexual behaviours relative to current social norms) may involve an element of risk-taking that may serve a defensive function of masking or compensating for feelings of vulnerability. It is possible that “traumatic sexualization” (Finkelhor & Browne, 1985), in which CSA leads to dysfunctional sexuality, partially develops when women engage in sexual activity as a coping mechanism for distress. To further understand increased sexual activity among women with a history of CSA, a functional analysis of the motives and the purposes served by their sexual activity may be beneficial.

The association between sexual activity and unwanted sex was strong, indicating

the considerable significance of this risk factor (cf. Messman-Moore et al., in press). A greater number of partners may increase the chance of encountering a coercive partner. As well, women's sexual history and/or reputation may influence men's perceptions of a women's willingness to engage in sex in a current situation. Notably, the associations between types of sexual activity (i.e., the number of partners with whom women had made-out, had genital contact and had one-night stands) and unwanted sex were consistent for all types of activity. Thus, a greater number of sexual partners rather than permissiveness of the types of sexual activity seem to contribute to increased risk for unwanted sex.

The second risk factor, substance use, was not associated with CSA. This lack of association is difficult to understand given previous evidence of associations between CSA and various indicators of substance use and abuse (e.g., Wilsnack, Vogeltanz, Klassen, & Harris, 1997). However, consistent with previous findings (e.g., Abbey et al., 2004; Testa, VanZile-Tamsen, & Livingston, 2007), substance use was a significant risk factor for unwanted sex. Substance use may increase risk for unwanted sex in multiple ways: Intoxication may contribute to women putting themselves in risky situations (e.g., Testa, VanZile-Tamsen, Livingston, & Buddie, 2006); substance use may compromise social skills required to escape threatening circumstances (Pumphrey-Gordon & Gross, 2007); and intoxicated women may be perceived as more sexually available (e.g., George, Gournic, & McAfee, 1998).

Substance use was strongly associated with sexual activity – a well established finding (Floyd & Latimer, 2010; Laska, Pasch, Lust, Story, & Ehlinger, 2009). This association may reflect a common motivation of some individuals to distract themselves

from negative feelings through various means (Briere & Runtz, 1993). Alternatively, personality dispositions such as openness to experience or sensation-seeking may underlie this association. The overall pattern of associations with these two risk factors may clarify the role of substance use in revictimization. Rather than mediating the association between CSA and unwanted sex, substance use may play an indirect role by increasing risk for victimization through its influence on sexual activity (cf. Mayall & Gold). Prospective studies reveal that substance use predicts risky sexual behaviours (Brook et al., 2004; Tapert et al., 2001). Under the influence of substances, women may be more open to participating in sexual activity and may let sexual activity go on longer before they attempt to stop the encounter. Moreover, the combination of substance use and sexual activity may expose individuals to potentially dangerous situations while limiting their capacity to perceive and respond to threat cues.

The third risk factor in this study, risk perception, was not associated with either CSA or unwanted sexual experiences and thus was removed from the model and from further analyses. The lack of associations with risk perception was somewhat surprising, especially given that the experimental procedures and mean response latency were consistent with previous studies (Marx & Soler-Baillo, 2005; Loiselle & Fuqua, 2007). However, some other studies using this measure also note a lack of associations between risk perception and sexual victimization (e.g., Pumphrey-Gordon & Gross, 2007). Only one modest negative association between attachment insecurity and risk perception was observed: Contrary to expectations, the higher women rated themselves on avoidant attachment, the quicker they were to indicate that the man had gone too far in the dating scenario. Although these results call into question the relevance of threat perception to

revictimization, additional research is required before eliminating risk perception as a potential risk factor. In the measure used, the woman's inconsistent responses towards the man's sexual advances may have unnecessarily complicated the interpretation of the man's inappropriate behaviour. Thus, other measures of risk perception may better assess the relevance of this factor.

In sum, of the three risk factors evaluated as potential mediators of the association between CSA and unwanted sexual experiences, only sexual activity was related to both CSA and unwanted sex. The other two, substance use and risk perception, were not associated with CSA or unwanted sexual experiences (in the case of risk perception) and thus did not function as mediators. Notably, the direct path between CSA and unwanted sex (independent of these risk factors) indicates that there are other important contributors to the revictimization process. Other potential risk factors worthy of exploration are experiential avoidance (Palm & Follette, 2008), situation-specific assertiveness (Greene & Navarro, 1998), and sexual refusal skills (Pumphrey-Gordon & Gross, 2007; Testa et al., 2007). In addition, because victimization necessarily includes two people, it may be useful to consider the process from the perspective of the perpetrator as well as the victim. Moreover, given that some form of relationship commonly exists between victim and perpetrator, it may be useful to examine revictimization from a relationship perspective. As well, peer group norms, values such as religiosity, and dispositional variables such as sensation seeking may influence the extent to which women are sexually active and are vulnerable to unwanted sex.

Role of Attachment Insecurity in the Revictimization Process

I proposed that insecure attachment might explain why a history of CSA is

associated with increased involvement in risk factors for unwanted sexual experiences. However, insecure attachment proved of limited value in clarifying the associations between CSA and risk factors.

First, CSA was modestly associated with anxious, but not avoidant, attachment strategies. Although these associations were expected to be stronger, they mirror the findings of the only other comparable study of a non-clinical Canadian sample (cf. Godbout, Sabourin, & Lussier, 2009). The link between CSA and attachment insecurity may be weak because of the many factors that contribute to attachment insecurity, prior to, concurrent with, and subsequent to CSA. For instance, attachment strategies would be expected to be influenced by temperament, family environment, caregiving experiences outside the family, peer relations, and so on (Mikulincer & Shaver, 2007). Especially in cases in which CSA is an isolated experience occurring outside the family (the most common occurrence in this sample), it may be unreasonable to expect a strong influence on characteristic attachment strategies years later. Moreover, CSA-survivors who go on to university are likely to have strengths and protective factors that support their adjustment and possibly ameliorate the effects of CSA (e.g., intelligence, career aspirations, higher SES). In clinical populations, the associations between CSA and attachment insecurity may be stronger because of the increased variability in severity of CSA experiences and maladjustment. Given evidence that women with extrafamilial abuse experiences are more similar in attachment security to women with no history of abuse than to women with intrafamilial abuse experiences (Roche et al., 1999), the associations between CSA and attachment strategies may be stronger in samples characterized by intrafamilial sexual abuse.

Second, attachment insecurity was not associated with higher reports of sexual activity (the only risk factor found to mediate the revictimization process). Contrary to expectations, anxious attachment strategies had a modest negative association with sexual activity. Perhaps women with greater attachment anxiety tend to be more hesitant participants in romantic situations, thereby limiting their overall level of sexual activity. Conversely, given that sexual experimentation is normative among university students, those with low attachment anxiety may engage in more sexual activity because they are more confident and comfortable making social connections (Mikulincer & Shaver, 2007). However, the weak association between attachment anxiety and sexual activity is inconsistent with some previous research (Mikulincer & Shaver, 2007) and, therefore, cautious interpretation is warranted.

In contrast, avoidant attachment strategies were unrelated to sexual activity. This finding may reflect two contrary patterns: 1) initial avoidance of sexual activity, and 2) upon sexual initiation, a pattern of short-term uncommitted sexual activity (Brassard, Shaver, & Lussier, 2007). Given that a third of this sample had not had sexual intercourse, the failure to confirm an association between attachment avoidance and sexual activity may reflect a nullifying effect of two tendencies. Qualitative research exploring the patterns of sexual activity among women with differing attachment strategies may clarify this finding (cf. Bogaert & Sadava, 2002).

Growing evidence that emotion regulation mediates the link between CSA and sexual activity makes the lack of associations between attachment insecurity and sexual activity puzzling. Two studies indicate that using sex to reduce distress may partially mediate the link between CSA and unwanted sex (Orcutt et al., 2005; VanBruggen et al.,

2006). Further, Messman-Moore et al. (in press) found that emotion dysregulation partially mediated the association between CSA and sexual activity. Thus, to the extent that attachment experiences trigger emotion regulation efforts and are the context in which emotion regulation strategies develop (Mikulincer & Shaver, 2007), attachment insecurity should mediate between CSA and sexual activity. The interpersonal context of sexual activity also suggests a role for attachment processes. I therefore question if the approach I took to conceptualizing attachment strategies, which focused on strategies only in the context of romantic relationships, was optimal. Almost 10% of the women in the current sample had no experience in romantic relationships. As well, unwanted sexual experiences can take place in a broad range of social situations, including dating and interactions with individuals in positions of influence (such as teachers and work supervisors). In future, it may be more useful to focus on the attachment system's general functioning rather than functioning within romantic relationships.

Although attachment insecurity did not explain increased involvement in sexual activity among women with CSA histories as proposed, avoidant attachment proved to be an independent risk factor for unwanted sex. In addition, avoidance in the context of low attachment anxiety was associated with unwanted sex. Women characterized by high avoidance and low anxiety may select lesser known, and therefore riskier, sexual partners with whom to engage in casual sexual relationships that need not require commitment and intimacy. In addition, the attachment strategy of denying or avoiding distress may limit women's perception of threat cues because to acknowledge threat is to acknowledge fear (Mikulincer & Shaver, 2007). Further, the reluctance to acknowledge vulnerability associated with attachment avoidance may preclude the evaluation of

romantic partners for the possibility of coercive tendencies. Avoidant attachment may also contribute to inadequate social skills, compromising the capacity of women to remove themselves from threatening situations (Mikulincer & Shaver, 2007). For instance, highly avoidant women who are in ongoing relationships may comply with unwanted sex to avoid the conflict associated with refusing sexual advances or may simply see compliance as fulfilling relationship obligations (Impett & Peplau, 2002). Notably, 45% of the unwanted sexual experiences in this study involved succumbing to continual arguments and pressure, indicating that understanding sexual compliance is an important subject for future research.

Given the direct associations between attachment insecurity and unwanted sex, further evaluation of attachment in the process of revictimization is warranted. For instance, it is possible that attachment insecurity may moderate the link between CSA and sexual activity. The emotion regulation difficulties associated with attachment insecurity may heighten the tendency to use sexual activity as a coping mechanism among those with a CSA history. As well, a direct measure of emotion regulation may be useful because the revictimization process may involve general emotional functioning rather than functioning in the context of romantic relationships.

Quality of Parenting and Victimization

Given that specific traumatic experiences and general family environment contribute to adjustment, it is important to determine the relative role of each in the revictimization process. Positive perceptions of one's parents served as a protective factor against attachment insecurity and sexual victimization independently of CSA. Healthy family relationships foster the intra- and inter-personal skills fundamental to

meeting attachment needs in healthy and safe ways; in doing so healthy family relationships may reduce the risk for unwanted sex. Nonetheless, quality of parenting was unrelated to the risk factors assessed and did not clarify the potential revictimization processes examined in this study. Only the relations between CSA and attachment strategies became weaker with the inclusion of parenting practices – not surprising given that attachment strategies originally develop within the family environment. Further, the association between CSA and unwanted sexual experiences remained even when controlling for quality of parenting. Thus, CSA and parenting appear to be independent risk factors for unwanted sexual experiences and quality of parenting does not explain the link between CSA and unwanted sex. However, these findings may not generalize to samples in which intrafamilial sexual abuse is more common. In family environments involving intrafamilial sexual abuse, parenting practices and CSA are inexorably intertwined and quality of parenting may have a stronger influence upon the revictimization process.

Limitations and Future Directions

This evaluation of attachment theory as an organizational framework for revictimization must be considered within the context of the study design. The cross-sectional design limits conclusions about causal relationships. Moreover, the proposed model is a simplification of the likely complex reciprocal associations between predictor and outcome variables. For example, women may increase their level of substance use to cope with the distress of victimization, thereby increasing their risk for further victimization (Kaysen et al., 2006). As well, repeated distressing sexual experiences may undermine women's trust in potential romantic partners and thereby contribute to

attachment insecurity. Therefore, to the extent possible, it is important for future research to utilize prospective designs to clarify the direction of effects.

The current study is also limited by a reliance on retrospective reports of all key variables. Reports of attachment strategies may be strongly influenced by current romantic relationships and/or by recent salient relationship experiences. It is also possible that participants' perceptions of unwanted sexual experiences were influenced by whether their attachment needs were met by those encounters. For example, consensual sexual activity in the pursuit of establishing a relationship and/or meeting attachment needs may be negatively reframed as unwanted if the goal of the encounter was not met. Further, some of the reported unwanted sexual experiences since 14 years of age may have taken place prior to women's reported experiences of sexual activity and substance use.

Sample selection may also limit the generalizability of these findings. This sample only included women, although men are also vulnerable to revictimization (Hines, 2007). Given considerable evidence of gender differences in sexual attitudes and functioning (Peplau, 2003), the revictimization process may be different for men. As well, previous research indicates that revictimization rates and sexual activity differ among ethnic groups (e.g., revictimization: Classen, Paresh, & Aggarwal, 2005; sexual activity: Ahrold & Meston, 2010; Meston, Trapnell, & Gorzalka, 1996). Despite the ethnic diversity of this sample, the study was not designed for ethnicity-based analyses and thus I am unable to evaluate the role of ethnicity in the revictimization process.

The rate of unwanted sex was comparable to that found in the general female population (e.g., Testa et al., 2004). In contrast, the rate of CSA in this sample was

somewhat lower than common estimates of CSA in the general female population (i.e., 15% to 33%; see Polusny & Follette, 1995). However, the present CSA rate is consistent with rates reported by British Columbian adolescents (13%; McCreary Centre Society, 2004) and with some prevalence rates found among female university samples (e.g., 6.3%; Messman-Moore et al., in press). Nevertheless, it is possible that the conservative definition of CSA in this study – sexual experiences before the age of 14 with a perpetrator at least 5 years older – may have attenuated the reported rate of CSA and the association between CSA and unwanted sex. Lower age limits for CSA and specifying a victim-perpetrator age difference of at least five years tend to result in lower CSA rates; however, only the latter appears to marginally reduce the association between CSA and unwanted sex (Roodman & Clum, 2001).

Although, the revictimization rate falls within the range of rates noted in two review papers (Arata, 2002; Messman & Long, 1996), the relatively low rate of CSA, and especially the low rate of intrafamilial CSA, may have attenuated obtained associations with the other variables in the proposed model of revictimization. Future research may benefit from a CSA definition that specifies an age difference plus includes any sexual experiences prior to 14 that women consider abusive; thereby, including clearly coercive sexual experiences by peers or others closer in age. In addition, this model should be examined in clinical samples where sexual victimization rates may be higher (Kimerling et al, 2007).

Conclusions

This is the first study to test an attachment-based organizational framework of sexual revictimization. I assessed whether insecure attachment mediated the association

between CSA and risk factors that increase vulnerability to unwanted sexual experiences. Overall, findings provided mixed support for the proposed model. Of the three risk factors examined, only level of sexual activity mediated the revictimization process. The chance of encountering a coercive partner may be higher if women have a greater number of sexual partners. Substance use was a risk factor for unwanted sex and appeared to indirectly increase risk for unwanted sex through its impact on sexual activity. However, risk perception was not associated with victimization in this sample, calling into question its relevance to the revictimization process.

Contrary to expectations, attachment insecurity was not associated with increased involvement with risk factors for unwanted sexual experiences; but avoidant attachment, especially in the context of low attachment anxiety, was associated with unwanted sexual experiences. Perhaps women who tend to avoid distress and to minimize emotional reliance on others also tend to limit their awareness of relevant safety-related information and to seek riskier social activities. Given recent findings suggesting that emotion regulation serves as a mechanism underlying the revictimization process (e.g., Messman-Moore et al., in press), it is surprising that insecure attachment did not mediate between CSA and risk factors. I speculated that this test of attachment theory as an organizational framework for revictimization may have been compromised by considering attachment strategies only in the context of romantic relationships.

In sum, attachment theory may be a useful conceptualization of the intrapersonal and interpersonal aspects of the revictimization process. However, the mixed and, to some extent, unexpected pattern of findings in this study indicate further research is required to clarify the role of attachment processes in sexual revictimization. Although

these findings provide some insight into revictimization and risk for unwanted sexual experiences, the significant and direct link between CSA and unwanted sex highlights that there are other important contributors to sexual revictimization. Revictimization is a complicated process that cannot be fully understood from a victim-focused, intrapersonal perspective. To better understand revictimization, a broader perspective that considers the role of perpetrators, other interpersonal factors (e.g., situation-specific assertiveness), and various sociological factors is required.

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Table 1

Number of Participants Reporting Unwanted Childhood Sexual Experiences

Types of Unwanted Childhood Sexual Experiences	Perpetrator	
	Father	Other
1. Fondled your unclothed private areas for sexual purpose	3	9
2. Engaged in anal intercourse with you (includes unsuccessful attempts)	0	0
3. Simulated intercourse (over your clothed genitals)	1	6
4. Exposed genitalia to you (for sexual purpose)	3	8
5. Invited you to engage in sexual behavior	2	10
6. Engaged in vaginal intercourse with you (includes unsuccessful attempts)	2	3
7. Had you perform oral sex on him / her	2	6
8. Performed oral sex on you	2	6
9. Fondled your clothed private areas for sexual purpose	2	14
10. Forced you to participate in pornography (e.g., photo, film, etc.)	1	0
11. Engaged in open mouthed kissing with you	2	8
12. Made you view sexual explicit material	2	3
13. Molested you by digital penetration (e.g., inserted fingers)	3	7
14. Instructed you to fondle or touch his/her genitals	2	7

Note. $N = 308$.

Table 2

Number of Participants Reporting Unwanted Sexual Experiences

Types of Unwanted Sexual Experiences	
1. Have you ever been fondled, kissed, or touched sexually when you didn't want to because you were overwhelmed by another person's continual arguments and pressure?	84
2. Have you ever been fondled, kissed, or touched sexually when you didn't want to because someone used their position of authority to make you?	10
3. Have you ever been fondled, kissed, or touched sexually when you didn't want to because someone threatened or used some degree of physical force to make you?	24
4. Have you given in to sexual intercourse when you didn't want to because you were overwhelmed by another person's continual arguments and pressure?	53
5. Have you given in to sexual intercourse when you didn't want to because someone used their position of authority to make you?	2
6. Have you had a man attempt to insert his penis (but intercourse did not occur) when you didn't want him to by threatening or using some degree of force?	7
7. Have you had a man attempt to insert his penis (but intercourse did not occur) when you didn't want him to by getting you intoxicated on alcohol or drugs without your knowledge or consent?	11
8. Have you had sexual intercourse when you didn't want to because someone made you intoxicated by giving you alcohol or drugs without your knowledge or consent?	9
9. Have you been in a situation in which you were incapacitated due to alcohol or drugs (that is, passed out or unaware of what was happening) and were not able to prevent unwanted sexual intercourse?	20
10. Have you had sexual intercourse when you didn't want to because someone threatened you or used some degree of physical force to make you?	7
11. Have you had sex acts (anal or oral intercourse or penetration by objects other than penis) when you didn't want to because someone threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	5

Note: $N = 308$.

Table 3

Zero-order Correlations among Background Variables and Risk Factors

Risk Factors	Background Variables	
	Childhood Sexual Abuse	Parenting Practices
Sexual Activity		
Number of “made out” partners	.04	-.03
Number of “genital contact” partners	.17**	-.07
Number of “one-night stand” partners	.30**	-.04
Sexual activity composite	.21**	-.06
Substance Use		
Different types of recreational drugs tried	.04	-.08
Level of alcohol consumption	.07	.05
Problems associated with alcohol consumption	.03	-.02
Substance use composite	.06	-.02
Risk Perception	.07	-.10

Note: $N = 308$. ** $p < .01$.

Table 4

Zero-order Correlations among Attachment Dimensions and Unwanted Sexual Experience, and Risk Factors

Risk Factors	Attachment Anxiety	Attachment Avoidance	Unwanted Sexual Experience
Sexual Activity			
Number of “made out” partners	-.11*	.08	.32**
Number of “genital contact” partners	-.07	.03	.41**
Number of “one-night stand” partners	-.02	.10	.30**
Sexual activity composite	-.08	.08	.41**
Substance Use			
Different types of recreational drugs tried	.00	.07	.41**
Level of alcohol consumption	-.12*	-.06	.32**
Problems associated with substance use	-.01	.14*	.32**
Substance use composite	-.05	.06	.43**
Risk Perception	.05	-.07	.05

Note. $N = 308$. * $p < .05$. ** $p < .01$.

Table 5

Correlation Matrix, Means and Standard Deviations of Observed Indicators

	CSA (Sqrt)	Parenting	Anx	Avd	Interaction	Sex (Ln)	Subs (Ln)	Risk (Ln)	USE (Sqrt)
Parenting	-0.18**								
Anx	0.16**	-0.42**							
Avd	0.05	-0.33**	0.41**						
Interaction	0.09	0.07	-0.00	-0.06					
Sex (Ln)	0.19**	-0.04	-0.11	0.03	-0.02				
Subs (Ln)	0.06	-0.01	-0.06	0.03	0.02	0.57**			
Risk (Ln)	0.09	-0.06	0.04	-0.09	-0.00	0.11	0.14*		
USE (Sqrt)	0.25**	-0.25**	0.07	0.21**	-0.10	0.43**	0.41**	0.10	
<i>M</i>	1.10	2.52	3.16	2.84	0.51	1.07	1.06	5.01	1.26
<i>SD</i>	0.37	0.35	1.11	1.11	1.22	0.21	0.26	0.21	0.40

Note. $N = 308$. CSA = childhood sexual abuse; Sqrt = square root transformation; Parenting = quality of parenting; Anx = attachment anxiety; Avd = attachment avoidance; Interaction = interaction term for attachment anxiety and avoidance; Sex = sexual activity; Ln = natural log transformation; Subs = substance use; Risk = risk perception; USE = unwanted sexual experiences * $p < .05$. ** $p < .01$.

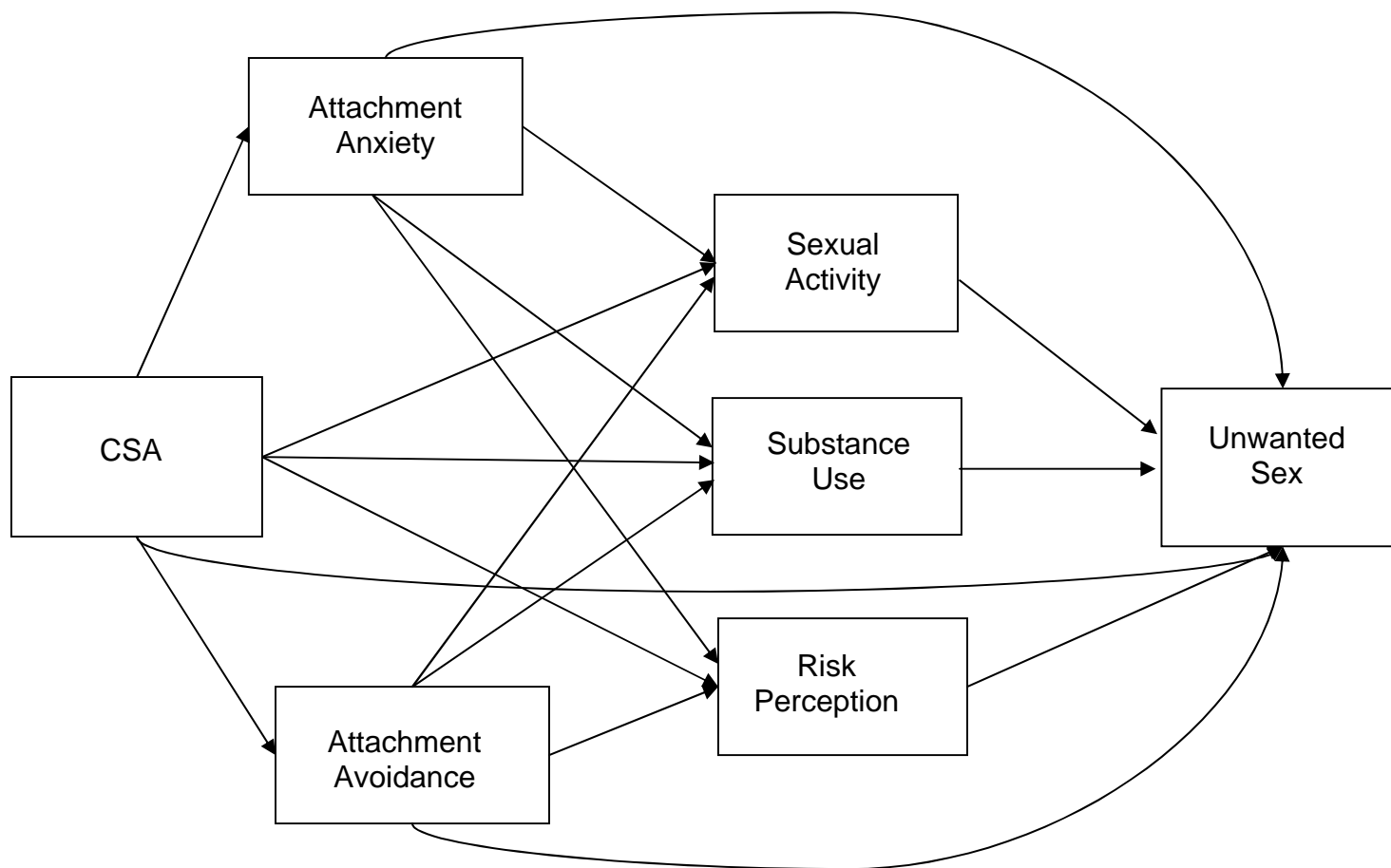


Figure 1. Hypothesized attachment-based model of factors influencing revictimization.

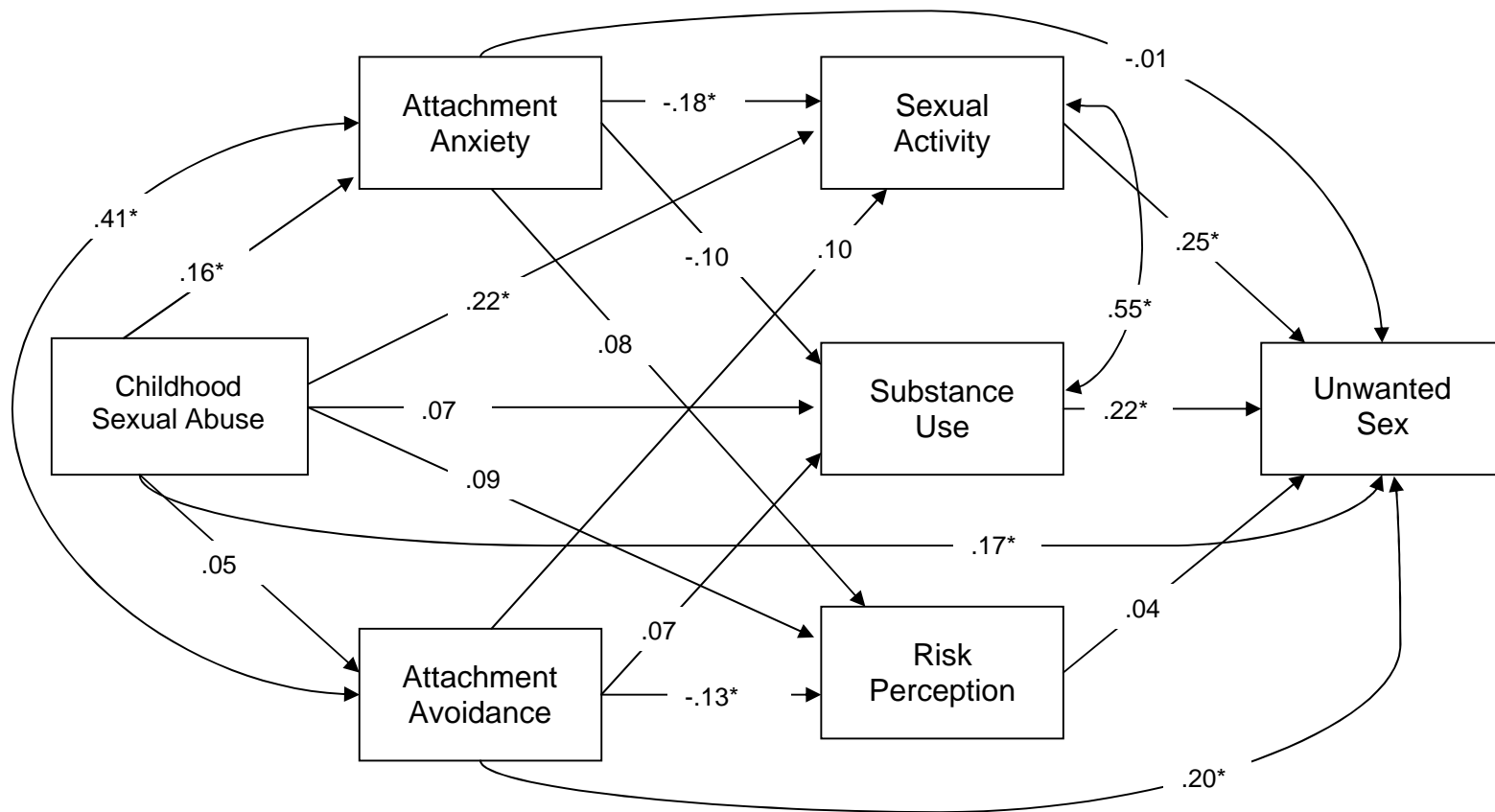


Figure 2. Path analysis of full attachment-based model of revictimization. All coefficients are standardized. * $p < .05$

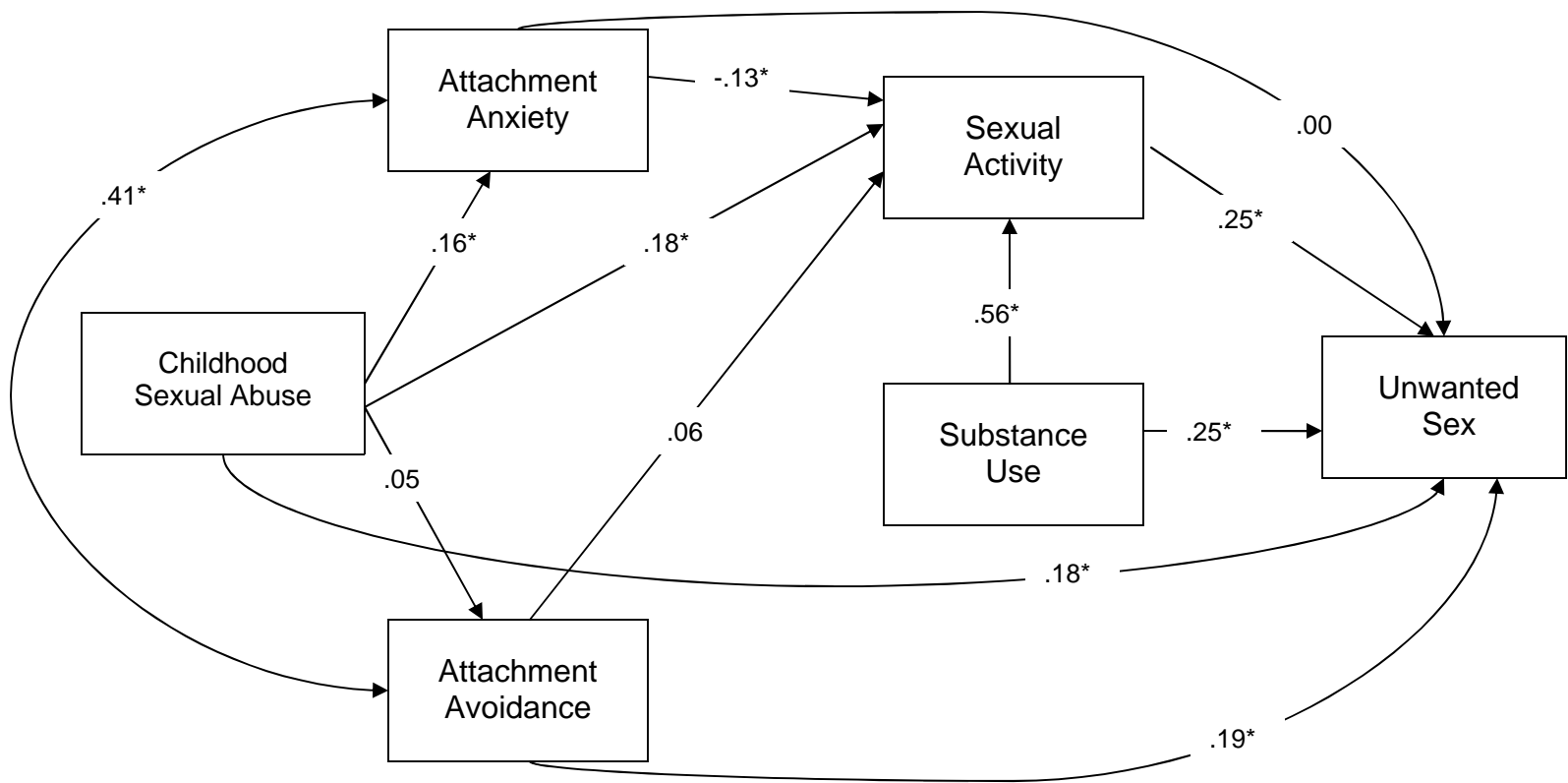


Figure 3. Path analysis of simplified attachment-based model of revictimization. All coefficients are standardized. * $p < .05$

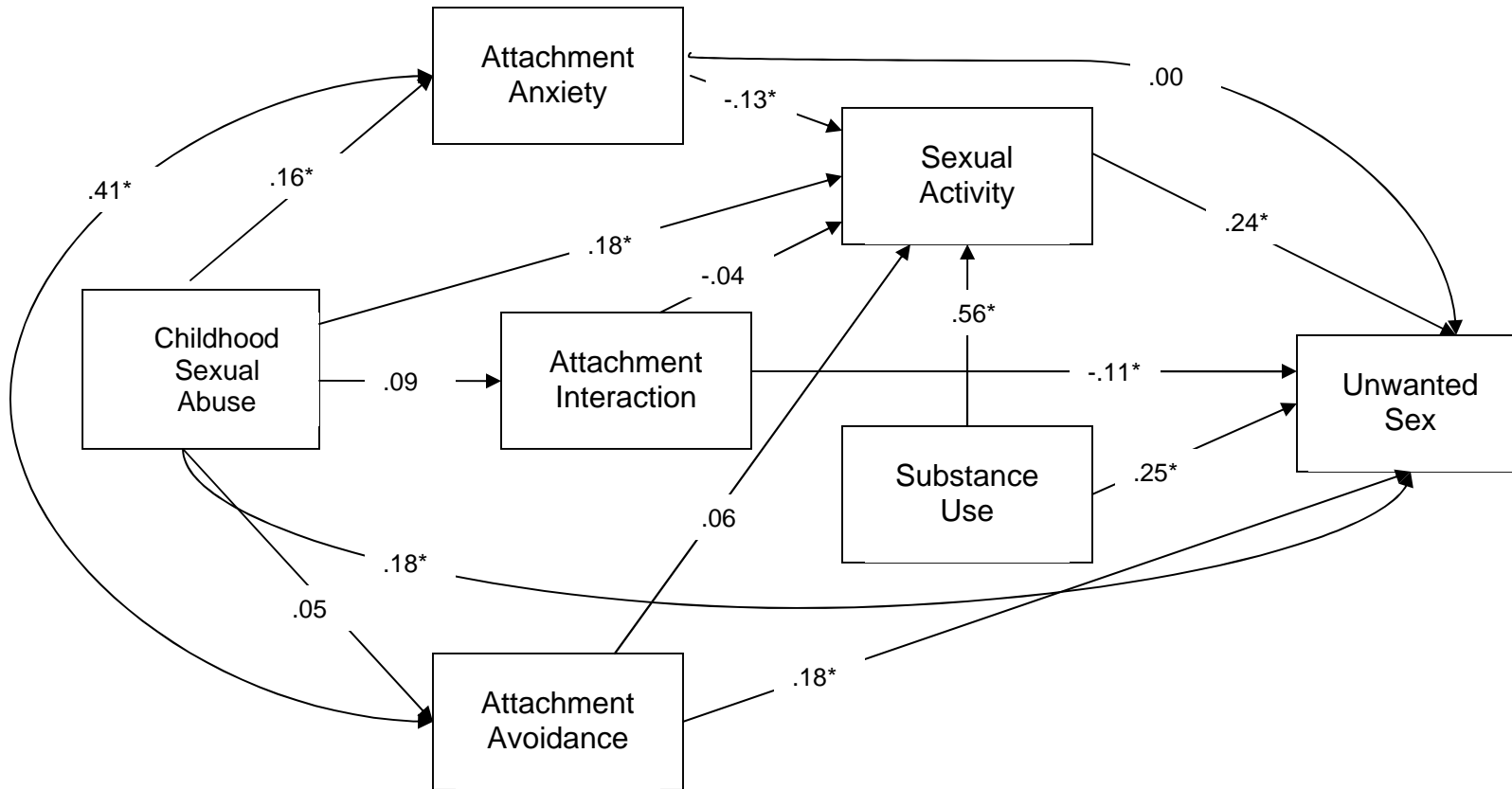


Figure 4. Path analysis of simplified attachment-based model of revictimization with attachment interaction. All coefficients are standardized. * $p < .05$

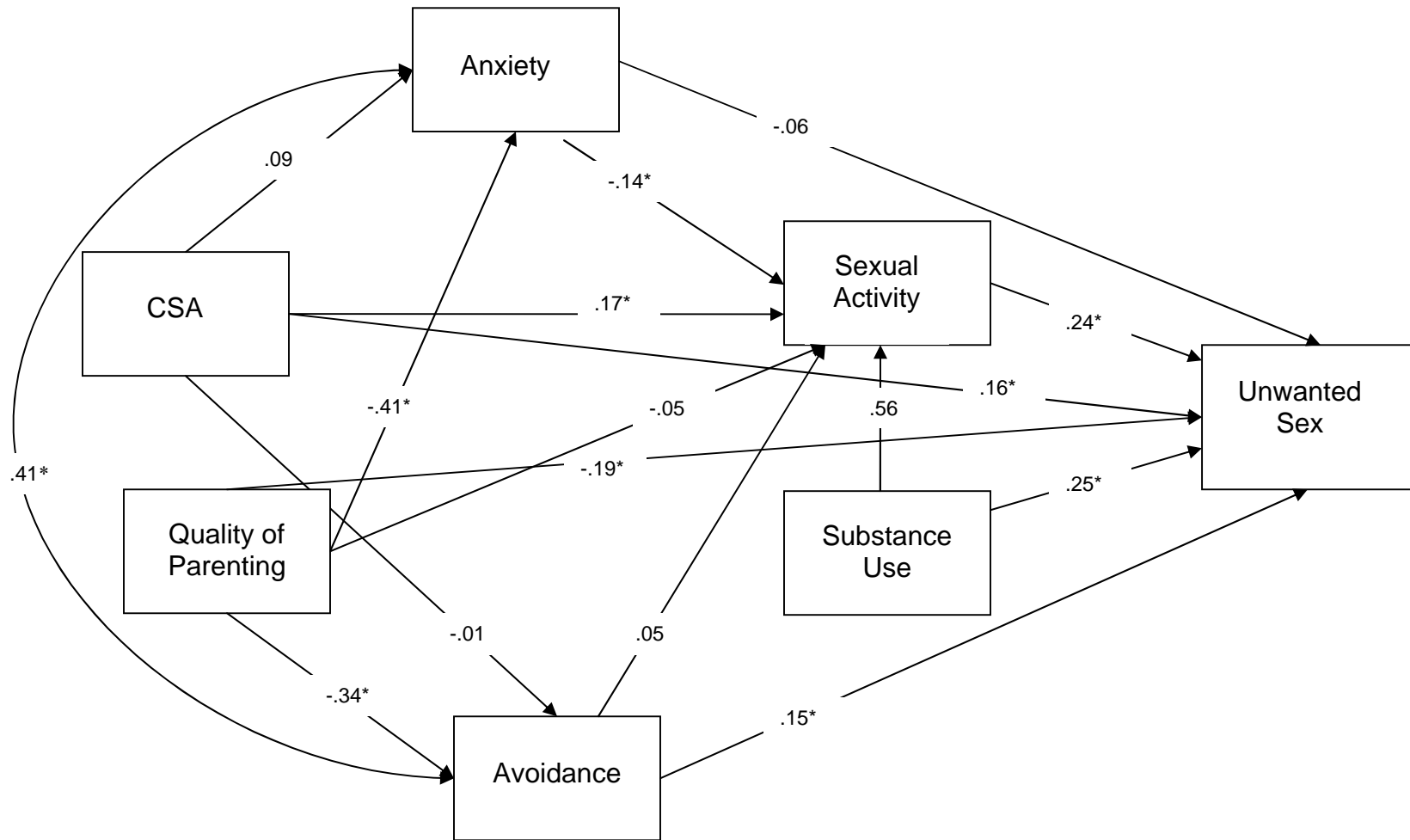


Figure 5. Path analysis of simplified attachment-based model of revictimization with quality of parenting. All coefficients are standardized. * $p < .05$