

ROLLMAN, LAWRENCE McDONALD, M.A. From Childhood Sexual Abuse to Adult Risky Sexual Behavior. (2008)  
Directed by Dr. Jacquelyn White. 28 pp.

This study attempted to establish that the depressive effect of childhood sexual abuse on self-esteem mediates the established relationship between childhood sexual abuse and adult abuse victims' engagement in risky sexual behavior. Overall self-esteem did not significantly mediate this relationship. However, one factor of self-esteem, interest in maintaining a healthy lifestyle, significantly mediated the relationship between childhood sexual abuse and one factor of risky sexual behavior, engaging in sex acts with unknown partners.

FROM CHILDHOOD SEXUAL ABUSE TO ADULT RISKY SEXUAL BEHAVIOR

by

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A Thesis Submitted to  
the Faculty of The Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

Greensboro  
2008

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## CHAPTER I

### INTRODUCTION

Sexual abuse of children continues to be a disturbingly regular phenomenon in the United States. In addition to being traumatic to the children at the time of abuse, sexual abuse has been shown to have numerous negative, long-term effects throughout the lives of some victims. Such effects include behavior problems, post-traumatic stress disorder (PTSD), and depression (Feiring, Lewis, & Taska, 2002; Kaufman & Cicchetti, 1989). Of particular importance to the present study, many studies have shown that childhood sexual abuse increases victims' risk of engaging in later risky sexual behavior (i.e., Brown & Finkelhor, 1986). Risky sexual behavior is defined as having unprotected sex, having sex with unknown or unfamiliar people, and/or having sex with known people with unknown sexual histories (Noll, Trickett, & Putnam, 2003). Research has also shown a strong relationship between childhood sexual abuse and later lowered self-esteem (Cicchetti & Rogosch, 1997; Lynch & Cicchetti, 1998; O'Tool et al., 2003; Toth, Cicchetti, Macfie, & Emde, 1997; Van Dorn, Mustillo, & Elbogen, 2005). Self-esteem is defined as feelings of general satisfaction with oneself and affection for oneself (Rosenberg, 1986). This has been shown to be a function of shame and self-blame regarding the abuse (Feiring, Rosenthal, & Taska, 2000; Feiring & Taska, 2005). At least among white children, self-blame has been shown to increase along with the severity of

the abuse (Feiring, Coates, & Taska, 2001). Importantly, shame and self-blame for abuse have been linked to future deficits in a victim's confidence in the ability to form good relationships with friends or lovers (Feiring, Rosenthal, & Taska, 2000; Jungmeen & Cicchetti, 2006; Toth, Manly, & Cicchetti, 1992).

While sexual abuse has been shown to increase victims' sexual risk, research has also shown relationships between low self-esteem and risky sexual behavior (RSB) and sexually transmitted diseases (STDs) (Taylor-Seehafer, 2000; Wild, Flisher, Bhana, & Lombard, 2004). Risky sexual behavior is itself problematic in that it can contribute to the spread of sexually transmitted diseases, unwanted and/or teenage pregnancy, and sexual assault (Cicchetti, Lynch, Holt, & Rogosch, 1993).

While self-esteem has traditionally been conceptualized as global representation of feelings of self-worth, there is substantial evidence that self-esteem is comprised of a number of factors (Stake, 1985). Each of these factors represents an appraisal of the self in a specific regard, such as attractiveness, social competence, or task-specific ability. While various researchers examining the multidimensional nature of self-esteem have found different numbers of factors of self-esteem, most have found at least one factor regarding the ability to be successful, and at least one factor regarding the ability to be liked by others. Because a specific component of self-esteem might be more affected by sexual abuse than global self-esteem, or might better predict risky sexual behavior than global self-esteem, various dimensions of self-esteem should be considered when examining these relationships.

Several theories have been put forth which attempt to explain how childhood sexual abuse may lead to later risky sexual behavior. Unfortunately, none of these theories has direct empirical support. All explore the possibility that childhood sexual abuse damages certain psychological mechanisms, thereby hindering the victims' ability to make good decisions regarding safe sexual behavior (Zurbriggen & Freyd, 2004).

First there is the distorted reality theory, which asserts that the process of childhood sexual abuse necessarily distorts the victim's perception of reality by way of the lies and confusing messages directed at the victim. For example, it is common for perpetrators to deny their abusive acts, a denial that cannot be authoritatively refuted by the young victim. If a victim mentions the abuse to the abuser, the abuser may respond by saying something to the effect of: "That never happened," or the even more confusing message: "That was fun, wasn't it?" In addition, if a victim divulges the abuse to another trusted person such as a family member, the victim is often met with a similarly confusing denial such as: "He would never do that! He loves you!" or "You're making that up!" According to this theory such confusing messages distort the victim's interpretation of reality and this distortion continues into adulthood. This distorted perception of reality then causes a victim to improperly assess the risks related to risky sexual behavior. While this theory makes conceptual sense, it is thus far untested (Zurbriggen & Freyd, 2004).

A second alternative theory claims that childhood sexual abuse diminishes the victim's ability to determine when someone is attempting to do them wrong. Freyd (1996) theorized that because the most common methods of dealing with wrongdoing,

becoming angry and/or leaving the situation, are not available to young victims of sexual abuse, they may respond to the wrongdoing by turning off their ability to perceive such harm. If this ability were suppressed or destroyed such that it was absent in adulthood, the victim would be more likely to be exploited via prostitution, increasing risky sexual behavior, or to remain with a partner who practices such behavior and/or is abusive. This theory makes intuitive sense and has received attention in relevant scientific writings but is so far untested (Zurbriggen & Freyd, 2004).

A third alternative theory involves dissociation. Sex is an activity that may be more easily completed while in a dissociative state. A dissociative state is a mental state where the mind separates certain thoughts or experiences from normal consciousness. Sexual abuse often occurs with the victim in such a state. The victim may learn to enter a dissociative state during all sexual activity or even at the mention of sex. Someone who is in a dissociative state would be much less likely to consider the risks of a given sexual behavior, thereby increasing the chances that they would engage in risky sexual behavior. Also, if a victim becomes dissociative at the mere mention of sex, it would be difficult for authorities such as sex education instructors to teach them about sexual safety (Zurbriggen & Freyd, 2004). This mediating link is thus far untested, although a number of studies have related trauma to dissociation (i.e., Chu & Dill, 1990). Putnam and Trickett (1997) confirmed this trauma-dissociation link in a study of sexually abused girls.

A fourth and final alternative theory is the damaged consensual sex decision mechanisms theory. This theory proposes that while normally adjusted people develop

mechanisms with which to make healthy decisions about when to consent to sex, the process of childhood sexual abuse prevents victims from developing such mechanisms. According to Freyd's "Betrayal Trauma" (1996), the development of healthy consensual sex decision mechanisms (CDSMs) requires that a person is able, both physically and emotionally, to consent to sexual experiences. Because childhood sexual abuse occurs in a setting where the abuser has substantial power over the victims, the victims are unable to sufficiently refuse the act even if verbal assent is given. Also, the process of sexual abuse may pit the healthy development of CDSMs against more crucial needs for survival. According to Freyd (1996), healthy CDSMs and attachment bonds between child and caregiver cannot develop independently of one another. If development of healthy CDSMs is compromised by abuse, mechanisms for consenting to sex may be "turned off" in order to maintain such crucial bonds. With a decreased capacity to make healthy decisions about when to consent to sex, the victims are more likely to engage in risky sexual behaviors. This theory is so far untested (Zurbriggen & Freyd, 2004).

While the above four theories focus on cognitive mechanisms damaged by sexual abuse, Finkelhor's (1987) traumagenic dynamic model focuses on the effect of sexual abuse on victims' self-concepts. This model specifically addresses the sequelae associated with childhood sexual abuse and focuses on four dynamics. First, child sexual abuse results in a skewed development of a victim's sexual identity. Victims may be confused about their sexual identity, may view sex as the only way to show affection, or may have phobic reactions to sexual experiences. Second, the abuse may result in victims feeling powerless, a feeling that often persists into adulthood. Third, victims may

stigmatize themselves as bad people due to the shame and guilt that often results from abuse, which would likely further depress their self-esteem. Such feelings of powerlessness and guilt may lead to substance abuse, which can itself increase the chances of engaging in RSB. Finally, childhood sexual abuse often involves a betrayal component, as the abuser is often a family member, family friend, or caregiver. These potential consequences of sexual abuse all have implications for victims' self-concepts. Given the empirical support for the importance of the self to a wide variety of social behaviors (Leary & Tangney, 2003), studying the implications of self-esteem in this context may prove to be a useful line of investigation.

Although studies have shown a relationship between child sexual abuse (CSA) and later risky sexual behavior, (Fricker-Elhai, Smith, & Davis, 2004; Van Dorn, Mustillo, & Elbogen, 2005), thus far few have examined what factors resulting from such abuse might then lead to exhibiting risky sexual behaviors (Zurbriggen & Freyd, 2004). Given the established links between sexual abuse and self-esteem, and between self-esteem and risky sexual behavior, I hypothesize that low self-esteem is a key mediating factor in the relationship between sexual abuse and risky sexual behavior. If victims' low self-esteem contributes to risky sexual behavior, then victims who score lower on a measure of self-esteem will score higher on a measure of risky sexual behavior.

The purpose of the present study is to establish whether or not self-esteem is a mediator in the relationship between childhood sexual abuse and risky sexual behavior. Doing so will help to fill an important gap in relevant scientific literature regarding possible mechanisms contributing to the established link between child sexual abuse and

risky sexual behavior. Because of the stated problems associated with risky sexual behavior, it is important to isolate the phenomenon's mediating factors. Doing so will increase the likelihood of successful intervention programs. If it is shown that low self-esteem is a mediating factor of abuse victims' risky sexual behavior, then intervention programs could be augmented by systems designed to improve participants' self-esteem. Should it turn out that self-esteem does not play an important mediating role in this relationship, then future researchers will be more likely to focus on other factors that might prove to be more significant.

Because self-esteem and risky sexual behavior are multi-dimensional constructs, it is possible that only certain aspects of these constructs are related to childhood sexual abuse. Some evidence for this possibility was reported in a recent study by White and Rollman (2007), which found that only specific components of self-esteem mediated the relationship between childhood sexual abuse and later sexual victimization.

Therefore, a measure of a specific component of self-esteem, sexual self-esteem, was included to determine if this specific factor of self-esteem might mediate the relationship between sexual abuse and later risky sexual behavior, as well as or better than global self-esteem does. Sexual self-esteem is defined as a person's feeling of worth as a sexual being, and is determined by their feelings of their attractiveness, healthiness, and confidence as sexual partners (White & Rollman, 2007). In addition, because risky sexual behavior takes on different forms, such as practicing unprotected sex or having sex with unknown partners, a measure assessing these different forms of risky sexual behavior was included to determine which forms of risky behavior are affected by the

hypothesized mediational relationship. [Because no research has yet linked sexual self-esteem and risky sexual behavior, no specific hypotheses about which components of self-esteem would mediate the relationship between childhood sexual abuse and specific forms of risky sexual behavior were developed.]

## CHAPTER II

### METHODS

#### *Participants*

Participants (N=143) consisted of introductory psychology students at the University of North Carolina at Greensboro who participated in such studies to receive credit for their class. Because females are more likely to be victims of childhood sexual abuse (Toth, Manly, & Cicchetti, 1992), only females were used for this study.

Caucasians made up the majority of the participants (54.5%), while African-Americans made up a large minority (34.5%). Of the remaining participants, 2.8% were Asian, 2.1% were Hispanic, 1.4% were Native-American, and 4.8% identified themselves as “other”.

Participants ranged in age from 18 to 60 years old, with a mean of 19.68, a median of 19, and a mode of 18 (SD=4.11). Students representing all four academic years participated with the majority (66.0%) being in the freshman class. Most participants (93.7%) were heterosexual. Participants tended to come from middle to upper-class backgrounds, with a majority (55.9%) reporting an annual family income of between \$30,000 and \$80,000 dollars. Participants received course credit for participation.

Based on preliminary power analyses and Cohen’s (1992) estimation of a medium effect size ( $d=.50$ ), this study required a minimum of 31 participants who have experienced childhood sexual abuse in order to have an 80% chance of correctly rejecting

the null hypothesis. Efforts were made to recruit substantially more than this minimal number in order to increase the power of the study.

### *Measures*

Four measures were used in this study. The Childhood Trauma Questionnaire (CTQ) (Crombach's  $\alpha = .86$ , 3.6 month test-retest reliability =  $.80$ ) is a survey measuring child abuse, and contains 60 statements to which respondents rate the truth of the statement (Bernstein, Fink, Handelsman, & Foote, 1994). The questionnaire examines five factors of childhood trauma: emotional, physical, and sexual abuse, and emotional and physical neglect. The sexual abuse subscale, which consists of four items, is the scale of focus for this study. An example of a question from the CTQ is: "When I was growing up, I believe that I was sexually abused." Participants rate this statement via a five-point Likert scale, where 1= Never true, 2= Rarely true, 3= Sometimes true, 4= Often true, 5= Very often true.

Childhood sexual abuse was also measured via four questions taken from Malamuth, Sockloskie, Koss, & Tanaka (1991). These questions prompted participants to report how often four experiences have happened to them prior to the age of fourteen, including indecent exposure, sexual touching, oral sex and sexual intercourse. Participants rated the frequency of these experiences via a five-point Likert scale, where 1= Never had this experience, 2= One time, 3= Two times, 4= Three to five times, and 5= More than five times. Participants could also elect to circle "0" if they did not wish to respond. This four-item measure has a Crombach's  $\alpha$  of  $.74$ .

For analytical purposes, a participant was considered to be a victim of childhood sexual abuse if they reported experiencing any of the sexual abuse items from either the CTQ or the questions from Malamuth et al. (1991). One of these questions was determined to have questionable validity post hoc. This is discussed below.

The Rosenberg Self-Esteem Inventory (Cronbach's alpha of .88, test-retest reliability = .85) (Rosenberg, 1986) is a ten-item survey that measures self-esteem by presenting statements such as: "I like being myself and accept myself the way I am." Participants replied with their agreement to the statements via a four-point Likert scale, where 1= Strongly disagree, 2= Disagree, 3= Agree, and 4= Strongly agree.

The Attitudes Towards Sex: Sexual Esteem survey (SSE) (Cronbach's alpha = .89, excellent 1 week test-retest reliability) is an 18 item survey of participants' views of themselves and their sexuality, measured by a five-point Likert scale, where 1= Strongly disagree, 2= Disagree, 3= Neither disagree or agree, 4= Agree, and 5= Strongly agree. (Rosenthal, Moore, & Flynn, 1991). An example of an item from the SSE is: "I am proud of my body." Prior work by Rollman and White (2007) determined that this sexual self-esteem measure has three factors: perceived sexual attractiveness, confidence as a sexual partner, and interest in maintaining a healthy lifestyle.

The Risky Sexual Behavior survey for females (RSB-F) (Cronbach's alpha = .88) is a twelve item survey measuring prior risky sexual behaviors developed by White and colleagues (White, Neeves, McMullin, & Kadlec, 2006). Respondents were presented with scenarios depicting risky sexual behaviors. Participants rated the frequency of this

type of scenario occurring in their sex lives via a five-point Likert scale, where 1= Never, 2= Rarely, 3= Sometimes, 4= Often, and 5= Always. The RSB examines two factors of risky sexual behavior, casual sex and unprotected sex. An example of an item from the RSB survey is: “How often have you given a new partner oral sex without using a condom or dental dam.”

The demographics survey is a general questionnaire enquiring about participants’ age, academic status (freshman, sophomore, etc.), ethnicity, economic status, and sexual orientation. Participants were also asked to report the age at which they began to practice various sexual behaviors (i.e. kissing, sexual intercourse), whether consensual or non-consensual, and how many sexual partners they have had.

### *Procedure*

Participants completed surveys in groups ranging in size from 2 to 40 in one hour sessions. Female undergraduate students served as experimenters for these sessions. To ensure anonymity, participants were seated to minimize opportunities to see other participants’ responses. Participants were first presented with a consent form to sign, which identified the nature of the research and the potential risks and benefits of participation in the study and informed them that their responses would be anonymous. Schlenger et al. (1995) and Savell, Kinder, and Young (2006) demonstrated that reporting traumatic experiences does not pose significant risk to participants, and the anonymity of their replies should have further mitigated any discomfort resulting from reporting their

experiences. The consent form also clearly indicated that if any participants became uncomfortable and wanted to quit the study they could do so at any time.

Following the consent form, participants were presented with packets of surveys to be completed. Included in the packet were the Childhood Trauma Questionnaire, the Sexual Esteem Survey, the Rosenberg Self-Esteem Inventory, the Risky Sexual Behavior survey, and the general demographic survey. Participants were instructed to put their completed surveys in an envelope at a specified location in the room once they had finished, in order to further ensure anonymity. At that time the experimenter gave each participant a debriefing form which informed them of the established purpose of the study. The debriefing form also thanked participants for their time and provided them with the lead experimenter's contact information should they have had any questions about the study or any problems receiving their credit for participating. Finally, while it was not anticipated that the study would cause participants significant psychological trauma, contact information and referrals for mental health services were provided on the debriefing form should they have become distressed following their report of traumatic experiences. Per university policy, a copy of the consent form was provided to the participants along with the debriefing form.

## CHAPTER III

### RESULTS

For analytical purposes, a participant was determined to have experienced sexual abuse if they reported having any of the experiences (circled any number other than “1”) described in the four items which comprise the sexual abuse subscale of the childhood trauma questionnaire, and/or if they reported any experiences described in the four items taken from Malamuth, Sockloskie, Koss, and Tanaka (entered any frequency greater than “Zero”). A participant was determined to have not experienced sexual abuse if they reported zero experiences described in these eight items. One hundred forty three participants completed the surveys, of which 68 (46.9%) reported some form of childhood sexual abuse; 31% reported showing or being asked to show their genitals to another; 21% reported having their genitals touched or being asked to touch someone else’s genitals; 8% reported someone attempting sexual intercourse with them; and 3% reported someone completing sexual intercourse with them. Of the total sample, 6% reported having sex with an adult or someone at least five years older than them; 22% reported someone trying to touch them “in a sexual way”; and 10% reported believing they were sexually abused.

Psychometric properties of all measures were examined for normality. Zero-order correlations were examined for collinearity. No problems were found.

Tests were conducted to determine correlations between numerous variables. Several modest but statistically significant correlations emerged. Sexual abuse correlated negatively with interest in maintaining physical health,  $r(144) = -.198, p < .05$ , and with the risky relationship component of risky sexual behavior,  $r(144) = .232, p < .01$ . Self-esteem correlated with all three factors of sexual self-esteem, interest in maintaining physical health (healthy lifestyle),  $r(141) = .297, p < .001$ , sexual confidence,  $r(141) = .216, p = .01$ , and perceived attractiveness,  $r(141) = .500, p < .001$ . The risky relationship factor of risky sexual behavior correlated negatively with interest in maintaining physical health (healthy lifestyle),  $r(143) = -.196, p < .05$ , as well as with sexual abuse,  $r(144) = .232, p < .01$ . The unprotected sex factor of risky sexual behavior correlated with sexual confidence,  $r(143) = .347, p < .001$ .

Factor analyses were conducted to confirm the multi-dimensional nature of sexual self-esteem and risky sexual behavior. A factor analysis with varimax rotation confirmed that risky sexual behavior consists of two factors. The first factor, labeled “Risky Relations”, represents engaging in sex acts with unknown people or known people with unknown sexual histories. The second factor, labeled “Unprotected Sex”, represents engaging in sexual behavior without using methods of birth and sexual disease control (i.e. prophylactics). Similarly, a factor analysis with varimax rotation confirmed that sexual self-esteem consists of three factors. The first factor, labeled “Sexual Attractiveness”, represents the perception of oneself as a sexually attractive person. The second factor, labeled “Sexual Confidence”, represents confidence in oneself as a sex partner. The third factor, labeled “Healthy Lifestyle”, represents interest in maintaining

one's physical health. Results of both factor analyses can be seen in Table 1 of Appendix A.

Crosstabs analysis was conducted with abuse status as the grouping variable to determine the relationship between sexual abuse and ethnicity, sexual orientation, and household income. Abuse was related to ethnicity,  $\chi^2=11.71$ ,  $p<.05$ ; 58% of African-Americans reported sexual abuse, compared to 39% of Caucasians. This can be seen in Figure 1 of Appendix B. Abuse was also related to sexual orientation,  $\chi^2=9.76$ ,  $p<.05$ . While the sample size was small ( $N=9$ ), 78% of participants who identified as homosexual, bisexual, or "other" reported experiencing sexual abuse, compared to 45.5% of participants who self-identified as heterosexual. This can be seen in Figure 2 of Appendix B. Abuse was also related to income,  $\chi^2=10.69$ ,  $p<.05$ . Abuse victims were more likely to be from lower-income households, while non-victims were more likely to be from higher-income households; 63% of abuse victims came from households earning \$50,000 or less per year, while 45% of non-victims were from households earning more than this amount. This can be seen in Figure 3 of Appendix B.

T-tests were then conducted with sexual abuse as the grouping variable (non-abused and abused groups) and risky sexual behavior, self-esteem, and sexual self-esteem as the outcomes. There was a significant effect for abuse on later risky sexual behavior,  $t(144)=-2.235$ ,  $p=.027$ , with victims of sexual abuse reporting more risky sexual behavior than non-victims. There were no significant effects for abuse category on self-esteem or sexual self-esteem.

Following Baron and Kenny's (1986) recommendations for mediational analysis, separate regression analyses were run. Although factor analyses suggested that risky sexual behavior and sexual self-esteem are determined by multiple factors, the first test of mediation tested the aggregate measures of each. First, a regression analysis for the effect of child sexual abuse (the predictor) on risky sexual behavior (the outcome) was conducted. Sexual abuse significantly predicted later risky sexual behavior,  $B=.255$ ,  $t(144)=2.767$ ,  $p=.006$ . However, subsequent regression analyses showed that sexual abuse did not predict self-esteem,  $B=-.13$ ,  $t(144)=-1.565$ ,  $p=.12$ . Sexual abuse also did not predict sexual self-esteem,  $B=-.052$ ,  $t(144)=-.587$ ,  $p=.558$ . Furthermore, self-esteem did not predict later risky sexual behavior,  $B=-.024$ ,  $t(144)=-.254$ ,  $p=.80$ , nor did sexual self-esteem predict later risky sexual behavior,  $B=.127$ ,  $t(144)=1.433$ ,  $p=.154$ . Thus, a final regression analysis for the combined effect of child sexual abuse and self-esteem on risky sexual behavior was not conducted.

Because sexual abuse correlated with healthy lifestyle (abuse decreased victims' interest in maintaining their health) and healthy lifestyle correlated with risky relations (the less someone's interest in maintaining their health, the more likely they would have risky sexual relationships), healthy lifestyle was a candidate for mediating the relationship between sexual abuse and the risky relationships component of risky sexual behavior. Sexual abuse significantly predicted risky relations,  $B=.463$ ,  $t(143)=-2.85$ ,  $p=.005$ . Sexual abuse significantly predicted low interest in healthy lifestyle,  $B=-.395$ ,  $t(143)=2.41$ ,  $p=.017$ . Low interest in a healthy lifestyle significantly predicted risky relations,  $B=-.196$ ,  $t(143)=-2.39$ ,  $p=.018$ . When controlling for healthy lifestyle, sexual

abuse significantly predicted risky relations,  $B=.401$ ,  $t(143)=2.44$ ,  $p=.016$ . The decline of the beta weight for the relationship between sexual abuse and risky relations indicates that healthy lifestyle may be a mediating factor. A Sobel test confirmed that healthy lifestyle significantly mediates the relationship between sexual abuse and risky relations, Sobel test statistic= $1.697$ ,  $p(\text{one-tailed})=.045$ . This mediating relationship can be seen in Figure 4 of Appendix B.

## CHAPTER IV

### DISCUSSION

Global self-esteem did not prove to be a mediating factor between sexual abuse and overall risky sexual behavior. Global sexual self-esteem also did not prove to be a mediator. One factor of sexual self-esteem, low interest in a healthy lifestyle, did prove to mediate the relationship between sexual abuse and one component of risky sexual behavior, risky relations. This highlights the importance of examining component factors that contribute to a construct such as self-esteem. This result is consistent with theory and research that indicates there are multiple factors that comprise a person's self-esteem. The present results suggest that only specific aspects of self-esteem affect specific aspects of risky sexual behavior. Thus, it can be concluded that the effect of childhood sexual abuse on risky sexual behavior, at least for the risky relations component, is mediated by at least one facet of sexual self-esteem.

Sexual abuse predicted later risky sexual behavior, in accordance with past research (e.g. Brown & Finkelhor, 1986). Sexual abuse did not predict lower global self-esteem, which contradicts findings from numerous other studies (Cicchetti & Rogosch, 1997; Lynch & Cicchetti, 1998; O'Tool et al., 2003; Toth, Cicchetti, Macfie, & Emde, 1997; Van Dorn, Mustillo, & Elbogen, 2005). Sexual abuse also did not predict lower global sexual self-esteem, which contradicts past research (Waller, Rudduck, & Cureton, 1995). It is possible that this is due to the relatively young age of the participants

(median age=19). College-age victims of sexual abuse may not have had enough time to internalize the abuse and thus the abuse may have less of an effect on their self-esteem compared to older victims. Also, developmental research on self-esteem has shown that self-esteem tends to increase over the course of adolescence (Harter, 2006b). Since participants tended to be in the developmental period between late adolescence and early adulthood it may be that their self-esteem is high as a function of their age. If this is the case their high self-esteem may account for these results.

Low global self-esteem did not predict later risky sexual behavior, contradicting past research (Taylor-Seehafer, 2000; Wild, Flisher, Bhana, & Lombard, 2004). It is possible that the Rosenberg index of general self-esteem does not measure the components of self-esteem that influence engagement in risky sexual behavior. Low global sexual self-esteem also did not predict later risky sexual behavior. No published research has demonstrated this relationship. In regard to both general self-esteem and sexual self-esteem, low self-esteem might lead to less sexual behavior which could account for the low correlations. To test this theory, a bivariate correlational analysis was run to examine the relationship between self-esteem and number of sex partners as well as age of various first sexual experiences. No significant correlations were found.

T-tests were conducted to further test the effect of childhood sexual abuse on self-esteem and risky sexual behavior. In accordance with the regression analyses, there was a significant effect for childhood sexual abuse on global risky sexual behavior but not on global self-esteem or global sexual self-esteem.

Factor analyses were conducted to determine if multiple factors contribute to the constructs of sexual self-esteem and risky sexual behavior. Sexual self-esteem is composed of three factors: perceived attractiveness, sexual confidence, and interest in a healthy lifestyle. Risky sexual behavior is composed of two factors: risky sexual relationships and unprotected sex. It has been shown that interest in a healthy lifestyle mediates the link between sexual abuse and risky sexual relationships. This highlights the importance of examining specific components of constructs before drawing conclusions about mediating relationships.

Because so little research has been conducted regarding possible mediators of the relationship between sexual abuse and risky sexual behavior, a number of correlational analyses were conducted. Potential relationships were examined between abuse, the five factors comprising sexual self-esteem and risky sexual behavior, age, number of sex partners, and age of first experiences with a variety of sexual behaviors. Ethnicity and sexual orientation were not included in these analyses as they are categorical variables but they were examined in crosstabs analysis. As the mediational analysis has shown, sexual abuse was correlated with healthy lifestyle and risky relations. Self-esteem was correlated with all three factors of sexual self-esteem. Age was correlated with number of sex partners. Also, number of sex partners was correlated with risky sexual behavior and both of its components as well as age of first sexual intercourse. The ages of first sexual experiences (kissing, touching, oral sex, anal sex, and sexual intercourse) were generally correlated with each other. Ages of first sexual experiences were correlated with risky sexual behavior, which suggests that early sexual behavior is more likely to

carry risks. A longitudinal analysis could determine if people who engage in sexual activities at a younger age engage in risky sexual behavior over time as opposed to only during their early years of sexual activity.

Crosstabs analyses revealed a number of relationships. Abuse was related to ethnicity. 58% of African-Americans reported sexual abuse, compared to 39% of Caucasians. Other research has shown that African-Americans experience sexual abuse more often than other ethnic groups, and these findings support that conclusion (Ullman & Filipas, 2005). Abuse was also related to sexual orientation. Seven of the nine participants (78%) who reported a non-heterosexual orientation also reported abuse, compared with 46% of heterosexual participants. To further test this relationship a correlational analysis was conducted. The correlation approached statistical significance ( $r(144)=.159, p=.056$ ) despite the small sample size of non-heterosexual participants. This supports other research that showed that sexual minorities are more likely to have sexual abuse histories (e.g. Seawyc, Richens, Reis, Poon, & Murphy, 2006). Abuse is also related to family income. Abuse victims were more likely to be from lower-income households, while non-victims were more likely to be from higher-income households. This supports past research (e.g. Sokoloff & Dupont, 2005). Ethnicity was related to risky sexual behavior ( $p=.003$ ) and its unprotected sex component ( $p=.001$ ), but not the risky relations component.

### *Limitations*

This study had several limitations. The measures of childhood trauma and sexual abuse as well as measures of first sexual experiences were retrospective in nature and

therefore subject to recall problems. Therefore some of these data may be inaccurate. Additionally, all measures used for this study required participant's self-reporting of their experiences and their self-esteem. Participants may have over-estimated their level of self-esteem in order to avoid labeling themselves in a negative way. Also, they may have underreported risky and/or non-risky sexual behavior so as not to label themselves as "promiscuous".

In addition, a better measure of childhood sexual abuse may have elicited different results. The measure used, the childhood trauma questionnaire, was designed to assess a wide variety of childhood trauma with only four of the 68 items assessing sexual abuse specifically. Also, one item on the sexual abuse subscale of the childhood trauma questionnaire asks participants if they had ever "believed" that they were sexually abused. This question is different from asking someone if they were sexually abused, as people may believe that they were abused when there is no clear evidence that they were. This may lead to improperly categorizing participants as "abused". An improved measure of sexual abuse might provide a better summary of the extent of victims' abuse, and better discern which participants are "abused" or "not abused" for research purposes. Results show that an unusually high percentage, 46.7%, of participants reported having experienced some type of sexual abuse. This contrasts with a prevalence rate of sexual abuse of approximately 20-30% typically found in similar research (Brown & Finkelhor, 1986). This may have been due to one of the items used to assess childhood sexual abuse being too general. This item, which read: "When you were a child, another person showed his/her sex organs to you or asked you to show yours" may have elicited positive

responses from participants who had not been abused. Since the question did not specify who the other person was, in some cases participants may have provided that they had had this experience based on interactions with other children, such as “playing doctor”. This type of behavior should not be considered sexual abuse. If the ambiguity of this question decreased the accuracy of the measures determining sexual abuse status, then this may have masked the hypothesized relationship examined in this study.

When eliminating this item from the sexual abuse criteria, 38.6% of participants had experienced some type of sexual abuse as children. This, too, is a very high prevalence rate compared with what other studies have found. While it is possible that UNCG has a greater number of childhood sexual abuse victims than would be expected, this is unlikely. It is more likely that the measures of childhood sexual abuse are flawed and need to be improved upon or replaced. The four items taken from Malamuth et al. (1991) did not specify the person with whom participants engaged in sexual behavior as children. If these behaviors occurred with other children, they are harder to define as sexual abuse. Also, sexual behavior between children may have different effects on participants later in life. These children may not go on to develop lower self-esteem as a result of their experiences and/or to engage in increased levels of risky sexual behavior. Future measures of childhood sexual abuse should specify with whom sexual behavior is occurring.

This study has several implications for future research. First, the finding that interest in maintaining a healthy lifestyle mediated the relationship between childhood sexual abuse and engaging in sexual relations with unknown partners is interesting and

worth further exploration. Perhaps victims of sexual abuse are less interested in their health and therefore are less concerned with preventing the contraction of sexually transmitted diseases. This mediational relationship could be further tested to discern why this may be taking place. Second, that factor analysis was necessary to identify a mediator emphasizes the importance of examining various factors of constructs when conducting research. Further research on the relationship between abuse, self-esteem, and risky sexual behavior would benefit from a multidimensional measure of self-esteem rather than the unidimensional Rosenberg self-esteem inventory. This is also evidence that global sexual self-esteem is composed of multiple types of self-esteem, such as sexual confidence and perceived sexual attractiveness. This indicates that researchers investigating the effects of self-esteem may need to develop new measures aimed at assessing various components of self-esteem. Finally, while the sample size was too small to analyze, it is notable that of the nine participants who identified their sexual orientation as non-heterosexual, seven of them reported sexual abuse. This may indicate that childhood sexual abuse plays a role in sexual identity development. More research is needed in this area.

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## APPENDIX A

### Tables

Table 1

*Factor Analysis of Risky Sexual Behavior and Sexual Self-Esteem*

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Construct	Risky Sexual Behavior	Sexual Self-Esteem
Factor 1	Risky Relations	Sexual Attractiveness
Factor 2	Unprotected Sex	Sexual Confidence
Factor 3		Healthy Lifestyle

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## APPENDIX B

### Figures

Figure 1

*Childhood Sexual Abuse by Ethnicity*

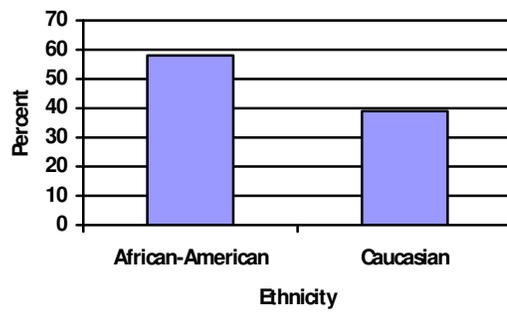


Figure 2

*Childhood Sexual Abuse by Sexual Orientation*

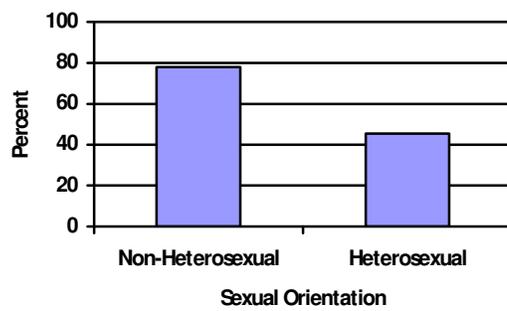


Figure 3

*Childhood Sexual Abuse by Household Income*

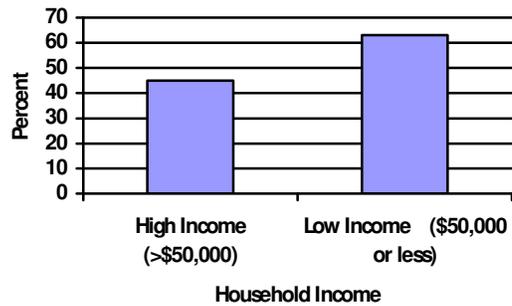


Figure 4

*Healthy Lifestyle Mediates the Relationship Between Sexual Abuse and Risky Relations*

