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A Multi-Method Approach to Risk Assessment among Women
with Sexual Abuse Histories

By

Susan E. Drevo

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master of Arts

In

Clinical Psychology

Minnesota State University, Mankato

Mankato, Minnesota

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A Multi-Method Approach to Risk Assessment among Women with Sexual Abuse Histories

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This thesis has been examined and approved by the following members of the thesis committee.

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ABSTRACT

While many empirical works detail the experience of and effects from sexual victimization, the underlying mechanisms that promote a cycle of recurrent victimization are not well understood. The current study replicated a previous study examining the perceptions of the benefits, risks, and personal expected involvement regarding a variety of risk taking behaviors in a sample of 151 college women with and without histories of sexual abuse. The current study further introduced a behavioral task in effort to test the utility of a multi-method approach to risk assessment. T-test analyses revealed that individuals with a history of sexual abuse perceived lesser risk related to illicit drug use, and reported a greater intent to perform behaviors related to illicit drug use and risky sexual behaviors compared to those without a history of sexual abuse. Although there were not significant outcomes differentiating study conditions regarding the behavioral task, modifications to this task are discussed and continued consideration of a multi-method approach is encouraged. Additional implications for future research efforts are discussed.

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CHAPTER I

INTRODUCTION

An abundance of literature documents the impact of experiencing sexual abuse in childhood. Findings affirm associations to depression, anxiety, substance abuse, behavior problems, sexual dysfunction, social isolation, self-destructive behavior, sleep disturbance, anger/hostility, eating disorders, and memory disturbances (Briere & Conte, 1993; Browne & Finkelhor, 1986; Conners & Morse, 1993; Davis & Petretic-Jackson, 2000; Kendall-Tackett, Williams, & Finkelhor, 1993; Messman & Long, 1996; Neumann, Houskamp, Pollock, & Briere, 1996). Further, research has consistently revealed that victims of childhood sexual abuse are vulnerable to revictimization as adults (Alexander & Lupfer, 1987; Chu, 1992; Messman-Moore & Long, 2003; Gidycz, Coble, Latham, & Layman 1993; Wyatt, Guhthrie, & Notgrass, 1992). Factors that increase the risk of revictimization include learning processes, denial, low self-esteem, learned helplessness, choices regarding relationships, emotional avoidance, traumatic sexualization, betrayal, stigmatization, and powerlessness (Finkelhor & Browne, 1985; Messman & Long, 1996; Polusny & Follette, 1995). These factors indicate that those with a history of sexual abuse may be inadvertently increasing their vulnerability to repeat victimization. This suggestion should not be misinterpreted as blaming the victim as abuse survivors should never be blamed for the inconceivable and illegal acts of others (Chu, 1992). Rather, this approach provides an opportunity to educate individuals about the mechanisms that may be rendering them especially susceptible to revictimization.

Due concern has guided investigators to explore ways in which women may be engaging/or not engaging in behaviors that increase the likelihood of sexual abuse, and features that may be promoting the relationship between child abuse and adult revictimization (Arata, 2000, 2002; Breitenbecher, 1999; Chu, 1992; Messman-Moore & Brown, 2006; Naugle, 2000; Polusny & Follette, 1995; Smith, Davis, & Fricker-Elhai, 2004). Endeavors to better understand this succession have established a foundation for this relationship in the risk taking literature (Combs-Lane & Smith, 2002; Davis, Combs-Lane, & Jackson, 2002; Wilson, Calhoun, & Bernat, 1999). Risk taking behaviors (i.e., activities that involve both negative consequences and perceived positive consequences) may include, but are not limited to, substance abuse, unprotected sex, and aggressive behaviors (Ben-Zur & Zeidner, 2009). Engaging in risk taking behaviors may weaken a person's ability to make sound decisions and to defend oneself in situations where safety is compromised, may place individuals in dangerous locations and around those that are unpredictable, and may be used as a form of coping in which focus on avoidance is primary to the assessment of danger (Smith et al. 2004; Polusny & Follette, 1995).

A developmental theory suggests that engaging in risky behaviors in adulthood may be aggravated by a history of and the effects from childhood abuse. This model suggests that a traumatic event may lead to an alteration in the way a child proceeds to attain and maintain emotional and/or social-cognitive abilities (Cicchetti, 1989; Cole & Putnam, 1992). For example, self-integrity, abilities to regulate oneself, and the capacity for age appropriate social interactions may be affected by abuse (Cole & Putnam, 1992). Since development is a progressive paradigm, interferences affecting emotional and

social-cognitive abilities early in life have the potential to proliferate through adolescence and into adulthood. As later learning is often dependent on previous knowledge, disturbances in developing these skills in childhood may have significant implications for functioning in adulthood.

In concert, it is imperative to investigate ways in which childhood trauma may alter social cognitions in adulthood. Briere (1992), Finkelhor and Browne (1985), and Spaccarelli (1994) discuss the notion that victims of abuse may manifest deleterious perceptions of themselves, others, and the world as a result of their experiences in ways that may hinder their risk recognition abilities. A number of factors may be responsible for the development of distorted cognitive processes and differences in cognitive appraisals. Smith et al. (2004) discuss three positions that elaborate on this relationship. One position suggests that cognitive variances that preexist childhood victimization could influence future responses to potential threatening situations. Preexisting differences could be the result of a child's environment, family dynamics, or individual differences (Spaccarelli, 1994). A second proposition is that differences may be a direct result of the abusive act itself. Direct consequences such as powerlessness or betrayal may change a person's world view (Finkelhor & Browne, 1985). One may presume that experiencing a traumatic event would increase a victim's sensitivity towards danger, resulting in an individual leading a cautious life. While that's a plausible stance, existing literature indicates support for the contrary (Ben-Zur & Zeidner, 2009). If direct consequences hinder abilities to appropriately and accurately appraise situations, it is possible that an individual's awareness of and ability to identify danger may be insufficient. The third

position rests on post-victimization outcomes. Polusny and Follette (1995) elucidate strategies of coping with trauma that may result in a strong desire to avoid unpleasant thoughts and feelings associated to a traumatic event. In effort to avoid, individuals may engage in risky activities. Engaging in such behaviors may be perceived as advantageous to the individual at the time because avoidance is achieved through such activities. Post-victimized survivors may be vulnerable to misinterpreting eminent danger in their relentless pursuit of avoidance. The intense focus to avoid may diminish responsiveness to situations where a person's safety is being jeopardized, leading to an increased likelihood for revictimization. These three positions highlight the ways in which abuse and cognitions may be correlated.

It can be surmised that individuals who have experienced sexual abuse as a child may be at a disadvantage when it comes to accurately assessing potentially threatening situations. An abusive event may foster altered and inaccurate cognitions and perceptions about certain situations, events, or people that burgeon into adulthood and increase the likelihood of revictimization. Understanding the impact of cognitions on risk taking behavior is essential in reducing the instances of abusive occurrences and ameliorating the trajectory for individuals who have experienced traumatic events in childhood. Further research is warranted in the area of risk taking events and the appraisal of such activities in individuals who have been sexually victimized, and who are at risk for future revictimization.

The current study aims to replicate and extend the work of Smith et al. (2004). This study will investigate social cognitions about risk behaviors among women with a

history of sexual abuse. Namely, it will examine whether social-cognitive appraisals are different between those with a history of interpersonal trauma and those without, and if so, whether the variances are associated to engagement in risky activities. Specific considerations will explore whether differences in social-cognitive perceptions exist between those with a history of childhood sexual abuse (CSA) as opposed to those with a history of adult sexual abuse (ASA), and whether differences relate to engagement in risky behaviors. It is hypothesized that individuals with a history of sexual abuse will report greater benefits and fewer risks related to risk taking behaviors than those without such a history. Similarly, it is hypothesized that those with a history of sexual abuse will report a greater intent to perform risky behaviors in the future versus individuals without such a history. Consistent to the previous pattern, it is hypothesized that individuals with a history of CSA will report greater benefits and fewer risks related to risk taking behaviors, and will report a greater intent to perform risky behaviors in the future, opposed to those with a history of ASA.

This study will further introduce a behavioral indicator of real-world risk taking. Risk assessment relies heavily on self-report instruments that do not typically extend from reports of intent to engage in a behavior to actual behavior. For this particular population, this deficit could result in tragedy. Exploring a behavioral indicator may further affirm self-reported intentions and may result in a timely intervention before risky behaviors are performed and negative consequences ensue. Of particular interest is whether a multi-method approach to risk assessment will increase awareness of the likelihood of real-world engagement in risk taking behaviors. Finally, it is hypothesized

that individuals with a history of sexual abuse will demonstrate a higher score on the behavioral task than those without a history of sexual abuse. Specifically, it is hypothesized that those with a history of CSA will demonstrate a higher score on the behavioral task than those with a history of ASA.

CHAPTER II

METHODS

Participants

Participants ($N = 151$) were female undergraduates with and without histories of sexual abuse attending a midsized public university. Those with a history of sexual trauma made up 39% of the sample. All participants were enrolled in general psychology courses at the university and were awarded course credit for their participation. In accordance to the university's general population, the sample was primarily homogeneous with 84% of the population identifying themselves as White. The largest minority group represented was African American (8.6%). The age of participants ranged from 18 to 51 ($M = 20.38$; $SD = 3.87$); and were predominantly in their freshman year of schooling (44.4%). All participants who appeared for their appointment completed the entirety of the study, demonstrating a 0% drop-out rate.

Measures

Cognitive Appraisal of Risky Events. The Cognitive Appraisal of Risky Events (CARE; Fromme, Katz, & Rivet, 1997) was used to assess the expectancies of risks, benefits, and personal involvement associated to risky activities. For the purposes of the current study, items considered cognitive appraisals related to illicit drug use (e.g., smoking marijuana), illegal/aggressive behaviors (e.g., damaging or destroying property or getting into a physical altercation), risky sexual behavior (e.g., unprotected sex), and heavy drinking (e.g., drinking alcohol too quickly). Participants completed this 21-item

measure three times. Participants first reported the likelihood of experiencing positive consequences of performing the behaviors (i.e., benefits); second, the likelihood of experiencing negative consequences of performing the behaviors (i.e., risks); and third, the likelihood that they would perform the behaviors in the next six months (i.e., personal expected involvement). Benefits were elaborated as pleasure, winning money, and feeling good about oneself, while examples of risks included becoming sick, being injured, embarrassment, loss of money, legal consequences, and feeling bad about oneself. The participant indicated the likelihood on a 7-point likert scale (1 = *not at all likely*, 7 = *extremely likely*). Scoring consisted of computing an average score for each category of risk across the three scales (i.e., benefits, risks, and expected involvement). This measure demonstrates suitable criterion validity and modest test-retest reliability (Pearson $r = .58$ to $.79$ for benefits; $.51$ to $.65$ for risks) consistent with other expectancy measures.

Alcohol Consumption. The quantity and frequency of alcohol consumption during the previous 30 days was determined using an informal survey, as used in Smith, et al. (2004). This 5-item measure assessed the typical number of drinking days per month, the typical number of drinks consumed per occasion, the number of heavy drinking days (i.e., 4 or more beverages per occasion), the largest quantity of drinks consumed on any one occasion, and the number of days experiencing intoxication. As there is no scoring procedure for this measure, all items were defined as individual variables.

Short Inventory of Problems. The Short Inventory of Problems (SIP; Miller, Tonigan, & Longabaugh, 1995) was used to assess deleterious effects of alcohol abuse within the previous three months. This 15-item instrument utilizes a varying 4-point likert scale where participants report to what degree alcohol intake has provoked problems related to physical, social, intrapersonal, impulsive, and interpersonal aspects of their life. To achieve a total score, all responses to the 15 items are summed. The psychometric properties of this instrument are sound with robust intraclass correlations (Pearson $r = .89$) and test-retest reliability (Pearson $r = .94$).

PTSD Checklist for Civilians. The PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993) was used to assess posttraumatic symptoms. This 17-item questionnaire is flexible and can be altered to fit assessment needs. In this instance it was tailored to any traumatic event, with symptom severity reports reflective of the previous six months. A 5-point likert scale requires participants to report to what degree they have experienced posttraumatic symptoms ranging from “not at all” to “extremely.” Responses are summed across all 17 items to yield a total score. This instrument indicates strong test-retest reliability (Pearson $r = .96$) and exceptional internal consistency (Pearson $r = .97$).

Personal Events Questionnaire. The Personal Events Questionnaire (PEQ) was assembled for this study and was used to evaluate histories of child and adult sexual victimization experiences. This measure broadly defines sexual abuse as any unwanted sexual contact. The current measure is comprised of behaviorally specific questions and was adapted from the Sexual and Physical Abuse Questionnaire (SPAQ; Kooiman,

Ouwehand, & ter Kuile, 2002) and the Personal History Questionnaire used in Combs-Lane & Smith (2002). This is a 6-item measure that requires responses to questions such as, “Has anyone, male or female, ever touched your sex organs (i.e., breasts, vagina, anus) in a sexual manner when you did not want them to?” Participants are asked to indicate “yes” or “no.” If the statement is true, participants are asked to indicate at what age this event first occurred (1 = younger than age 14; 2 = age 14 or older). Participants were classified as CSA if younger than 14, and as ASA if age 14 or older. The age 14 criterion is consistent with previous literature (Arata, 2000; Combs-lane & Smith, 2002; Wilson, Calhoun, & Bernat, 1999). Participants who report “yes” to any one of these items is defined in either the ASA or CSA condition. This measure further allows the participant to enter a description of any other unwanted or threatening sexual experience that is not mentioned within the five other items.

Balloon Analogue Risk Task. The Balloon Analogue Risk Task (BART; Lejuez et al., 2002) is a computerized behavioral measure of risk taking that aims to simulate real-world behaviors where excessive risks are likely to result in reduced profit. The automatic version of the BART (Pleskac, Wallsten, Wang, & Lejuez, 2008) was used to assess real-world risk propensity. This task involves 30 balloon trials, with every balloon semi-randomly programmed to pop anywhere between the first pump and the 128th pump. Balloons were programmed such that within each sequence of 10 balloons the average explosion point was 64 pumps. As the balloons are presented one at a time on the screen, participants are requested to type a target number of pumps they think the balloon will reach before it pops and click a box to confirm this target and begin the trial. Participants

do not have the opportunity to change their target value once it has been entered and confirmed. Participants then watch the balloon automatically expand until it reaches their designated target or pops. If the balloon reaches the target before popping, the participant earns one cent per every pump. If the balloon pops before the target is reached, the participant earns nothing. The participant will not lose money once it is accrued; they simply run the risk of earning nothing on balloons that pop before the desired target. The automatic version not only affords participants the ability to view their earnings as they are accrued, the current balloon they are on (i.e., out of 30 balloons), and the explosion point for the previous balloon (i.e., whether or not the balloon popped before the target); but also provides a specific dialogue that informs participants of a potential performance strategy in order to maximize risky decision making. The following strategy was discussed:

Keep in mind that as you are presented the balloons, the explosion point for those balloons will vary, ranging from the first pump to the 128th pump. “The ideal number of pumps is 64. What this means is that if you were to make the same number of pumps on every balloon, your best strategy would be to make 64 pumps for every balloon. This would give you the most money over a long period of time. However, the actual number of pumps for any particular balloon will vary, so the best overall strategy may not be the best strategy for any one balloon.” In other words, 64 may be a good number to go from but for some balloons entering 98 pumps may be more advantageous or for some entering 20 pumps may be a better decision.

Sounds accompany the participant's performance as indicated by an explosion sound when balloons pop, a slot machine sound when earning money, and applause at the completion of the task. The total scored is computed by averaging the target number of pumps across all 30 balloon trials. The BART is a valid instrument as it correlates with other risk-related self-report measures and reported occurrence of actual behavior.

White, de Wit, and Lejuez (2008) exhibit adequate test retest reliability (Pearson $r = .77$).

This particular study offered participation in a raffle drawing that was supplemental to this task, similar to other accompanying strategies in previous studies. All participants were eligible to enter tickets into two raffle drawings. One drawing consisted of earning a single raffle ticket simply for appearing for their study slot. The second drawing afforded participants the opportunity to earn multiple tickets dependent on their performance on the task. For every dollar earned on the task, a raffle ticket was entered (e.g., earn \$7.25, enter 7 tickets into the raffle drawing). The more money earned on the task, the greater the chance of winning the raffle drawing. Prizes consisted of a \$25 and \$50 gift card to the local mall. The purpose of the raffle drawing was to provide a tangible reinforcer that would enhance real-world risk taking.

Procedure

Participants were recruited via an online scheduling system in which they had access to a brief description of the study requirements and expectations before signing up to participate. Participants signed up for a study titled "Performance on a computerized gambling task." After providing informed consent, participants independently completed a battery of questionnaires and performed a behavioral task. In effort to avoid order

effects, counterbalancing procedures were implemented where participants began the study by filling out self-report measures or by performing a behavioral task. After providing instruction for each portion of the study, research assistants exited the room to provide privacy and reduce response bias. The study took participants a maximum of 30 minutes to complete.

Before beginning the behavioral task, participants were given thorough instruction. These instructions were then repeated while providing a visual of the task. Finally, research assistants remained present for the duration of the first balloon trial to ensure there were no further questions and the participant felt ready to complete the task independently.

Upon completing both the questionnaires and the behavioral task, assistants provided a debriefing session. At this time participants were informed that this study was examining whether certain past experiences related to sexual trauma influence engagement in risky activities and the way a person perceives those activities. It was further recognized that this study consisted of sensitive inquiries. All participants were given a referral list of appropriate agencies to contact should professional guidance regarding matters discussed during their participation be desired.

CHAPTER III

RESULTS

Although data collection resulted in a sample size of 151, the initial goal of, at least, 20 participants per condition (i.e., CSA, ASA, Control) was not met. In order to accommodate for the low number of participants in a particular condition (i.e., CSA condition) the analysis strategy was revised. The proceeding analyses will be a reflection of collapsed trauma conditions (i.e., CSA, ASA, CSA + ASA) compared to the control condition. Analyses will then take a more broad perspective of ‘trauma versus no trauma,’ rather than additionally exploring child versus adult histories of sexual abuse. The same number of no trauma participants were randomly selected to match that of the collapsed trauma condition in effort to avoid an increased Type I error rate (Tabachnick & Fidell, 2007).

Due to this strategy a number of participants have been removed from analysis. The no trauma condition had an excessive number of participants, and therefore, were randomly selected deletions. Further, an alteration to the protocol instructions that took place early in the study resulted in the removal of 22 participants from analysis. This modification consisted of elaborating on BART instructions read to the participant prior to their performance. Finally, 15 other participants were removed from analysis due to insufficient data. Insufficient data consisted of prior experience with the behavioral task, large portions of missing self-report data, and questionable attention to questionnaire instructions (e.g., if answers for the benefits, risks, and involvement portions of the

CARE were exactly the same it was considered apparent that instructions were not properly read and the data inaccurate). Ultimately, analyses were conducted on 92 participants (i.e., 46 per condition).

Participant History and Social Cognitions

An independent samples t-test was performed in effort to explore the relationship between whether an individual has a history of sexual abuse or not, and their perceptions of the risks and benefits of risky behaviors. Of the four categories of risk being assessed (i.e., illicit drug use, aggressive/illegal behaviors, risky sexual activities, and heavy drinking), none revealed significant differences between conditions when considering the *benefits* of performing risky behaviors. This indicates that participants with a history of sexual abuse reported similar perceptions about the benefits of risky behaviors to those without such a history (see table 1). However, when considering the *risks* of performing risky behaviors, the category of illicit drug use demonstrated significant differences between conditions $t(81.32) = 2.29, p < .05$. This difference revealed that participants with a history of sexual abuse reported lesser risk related to illicit drug use compared to those without a history of sexual abuse (see table 2).

Participant History and Risky Behaviors

To test the relationship between participant history and intent to perform risky behaviors an independent t-test was executed. Results indicated significant differences relating to expected involvement in illicit drug use $t(78) = 2.13, p < .05$, and expected involvement in risky sexual activities $t(62.84) = 3.51, p < .01$. Both instances reveal that

participants with a history of sexual abuse are more likely to perform these behaviors than those without a history of sexual abuse (see table 3).

Social Cognitions and Risky Behaviors

A bivariate correlation was conducted to assess the relations between the perceptions of the benefits and risks of risky behaviors and the intent to perform these activities. Of particular focus was illicit drug use and risky sexual behaviors due to previous significance. The correlations between perceptions (i.e., risks and benefits) of these behaviors and expected involvement in these behaviors were all significant $p < .05$.

Balloon Analogue Risk Task

To investigate the role of a behavioral task among those with and without histories of sexual abuse, an independent t-test was performed. The results revealed no significant differences between groups $t(90) = -.76, p > .10$ (see table 5). To examine whether this task was related to perceptions of behaviors and intent to perform those behaviors, a bivariate correlation was calculated. The task was significantly associated with all three scales (i.e., benefits, risks, and expected involvement) in the category of heavy drinking only (see table 4).

CHAPTER IV

DISCUSSION

While the experience of and devastating effects from interpersonal traumas, such as sexual abuse, have received much attention in academic journals, little is known about the underlying mechanisms that promote repeated victimization. The current study sought to replicate an investigation recognizing the potential function of distorted cognitions (i.e., altered perceptions of the risks and benefits of risky activities), resulting from victimization, that may influence engagement in risk taking behaviors and increase the likelihood of revictimization. The many ways in which distorted cognitions and risk taking behaviors may be associated as they relate to victimization have been previously discussed and highlight the importance of this very pursuit. Indeed, risk taking behaviors may place women under dangerous circumstances or around likely perpetrators, and is a concern that deserves a comprehensive examination. Typical self-report instruments continue to trump the potential utility of multi-method approaches to risk assessment, although the research suggests this may be a disservice. The current study proposed the use of a behavioral indicator to bolster the assessment of risk among women with histories of sexual abuse.

It was first hypothesized that those with a history of sexual abuse would report greater benefits and less risk related to risk taking activities. This hypothesis was marginally supported as there was a significant difference between these groups; however this difference was demonstrated among only one of the four categories of risk and in

regards to risks only. Those with a history of sexual abuse and those without such a history differed in their perceptions of the risks of illicit drug use. Those with a history of sexual abuse reported less risk related to items such as trying/using drugs other than alcohol or marijuana, smoking marijuana, and mixing drugs and alcohol.

It was then hypothesized that those with a history of sexual abuse would report a greater likelihood to perform risky activities compared to those without such a history. Again, partial support for this hypothesis is displayed through significant differences among two of the four categories of risk. Those with a history of sexual abuse reported a greater likelihood to engage in activities related to illicit drug use and risky sexual activities. Illicit drug use involved activities as mentioned above, while risky sexual activities related to behaviors such as sex with multiple partners, sex without protection, and sex with individuals whom they just met. These results suggest that women with histories of sexual abuse are more likely to report they would engage in risky sexual behaviors regardless of their perceptions of the benefits and risks involved as this was not a significant risk category noted in the previous hypothesis. This could suggest an underlying mechanism other than distorted cognitions that is promoting this relationship.

Next, whether perceptions (i.e., risks and benefits) of illicit drug use and sexual behaviors and the intent to perform these behaviors were related was explored. Perceptions and intent were significantly associated among these two categories of risk. It is shown in table 4 that while illicit drug use and sexual behaviors demonstrate significant correlations, other categories of risk not previously significant maintain substantial associations between perceptions and intent to perform behaviors as well.

Lastly, it was hypothesized that those with a history of sexual abuse would demonstrate a higher score on the behavioral task than those without such a history. There were no significant differences in the way individuals performed this task. However, this task was significantly correlated with all three scales (i.e., benefits, risks, and expected involvement) of the CARE in the category of heavy drinking only. This implies that this task may be especially valid among a population of problem drinkers, and specifically among women whom alcohol use may be indicative of revictimization.

Overall, these results suggest that altered cognitions may underlie involvement in particular risky activities; in this case, activities involving illicit drug use. This may be particularly relevant in regards to the many incarcerated women who are imprisoned for non-violent offenses, such as illicit drug charges (Bureau of Justice Statistics, 1997). It is plausible to theorize that some of these women may have histories of sexual abuse or other interpersonal traumas that increased the likelihood of drug abuse and were due to distorted beliefs about the risks of these activities. Effective trauma informed approaches to substance abuse treatment are of the essence in effort to reduce both incarceration rates, and rates of revictimization.

Not all outcomes of the previous study (Smith et al. 2004) can be compared to the current study due to differential hypotheses, data analysis strategies, and study conditions. However, there are a number of consistencies worthy of mention. First, the previous study found that two of the three victim groups (i.e., CSA and ASA) perceived significantly less risk involved with illicit drug use. Further, the previous study revealed that all victim groups reported a significantly greater likelihood in performing risky

behaviors related to illicit drug use and risky sexual behavior. Finally, the associations between perceptions and future expected involvement within the domains of illicit drug use, sexual behavior, and heavy drinking were all previously significant. The previous study further found significance related to risky sexual activities when investigating the relationship between study condition and social cognitions. Smith et al. (2004) also confirmed significance related to heavy drinking among the ASA condition regarding benefits of heavy drinking and expected involvement in heavy drinking, while the current study did not.

Finally, the previous study produced significant results for the benefits of illicit drug use, while the current study did not. This was an interesting contrast to the current study where risks, but not both benefits and risks, were significantly different between those with and without a history of sexual victimization. One may suspect that individuals with a history of sexual victimization who are using illicit substances may be more likely to minimize the risks due to the powerful perceived benefits of such activities. In such case, though, one may also presume that the reported benefits of these behaviors would be significantly enhanced for this group as well. The results of the current study may seem counterintuitive, then, and raise questions as to why risks, but not benefits would be significantly different between those with and without histories of sexual victimization. This may be a result of upbringing where individuals exposed to an environment where illicit drug use is commonplace may be more likely to view engagement in these behaviors as a lifestyle rather than beneficial per say, and are therefore more likely to minimize the risk of these familiar activities. It may be of

benefit to assess to what degree individuals have been exposed to such environments while growing up.

The previous study continued to analyze data further than the current study by examining whether social cognitions would mediate the relationship between participant condition and expected involvement in risky behaviors, and whether study condition would be associated with risk taking behaviors when controlling for trauma-related symptoms. Due to this, the current study cannot report outcomes in these regards. Ultimately, although the current study recruited a much smaller sample size, certain outcomes are consistent; primarily in relation to illicit drug use. This further supports the impression that differential social cognitions may be a significant component contributing to revictimization, chiefly among those who use illicit substances.

Further, these results suggest that the multi-method approach to risk assessment via the use of the BART did not provide additionally useful information beyond the self-report measures. In other words, utilizing this task in conjunction with self-report measures did not aid in predicting the likelihood that risky behaviors would be performed. This is believed to be the result of a non-secure, delayed performance reward. The purpose of the raffle system was to promote real-world risk taking by offering an appealing prize that would be more likely won through riskier performance decisions on the task. The issue inherent with this system is that the reward was not secured (only one person can win the raffle) and delayed for months, and perhaps to the detriment of the task. Lejuez et al. (2002) presented gift certificates to participants in the amount earned on the BART at the task's completion. While this system would not have

been financially feasible for the current study, the secured and immediate reward may have been more conducive in eliciting risk taking. It is reasonable to speculate that participants in the current study may have performed this task differently had they known it would result in a secured and immediate reward. Those using future applications of the BART are encouraged to be mindful of the reward procedures in effort to maximize the results.

Before drawing any conclusions, there are limitations of the current study that must be recognized. The inability to obtain the preferred number of participants per condition affected our ability to address all the initial hypotheses. Due to this, we were not able to investigate and report on differences between those in the CSA condition and those in the ASA condition. This may have been the result of the age criterion used to determine participant condition. While this age criterion is not uncommon, other studies have defined “child” in legal terms. If the current study had used age 18 as the criterion cutoff, this may have increased the number of participants in the CSA condition. It should be recognized, though, that doing so could have an unfavorable effect in the ASA condition and may result in an insufficient number of participants for that condition. It may be advantageous for future research to utilize a population involving a less restricted age range and organizational policies.

Following suit, the results of the current study may have been a consequence of a homogeneous sample lacking diversity. The college sample used, while immensely convenient based on resources and the research topics in question, is not representative of the larger population of individuals with a history of sexual abuse. The sample was quite

binding in regards to age and ethnicity and do not generalize. To address this concern, data should be obtained from clinical and community samples of women with assorted backgrounds and demographics.

The assessment of trauma for the current study was limited. Assessment focused on only one form of interpersonal violence and did not adequately address the nature of other distressing events. This may limit the conclusions we can draw because individuals with a history of trauma (but not sexual victimization) were included in the control condition. Individuals with other forms of trauma not assessed for may have similar distorted thought patterns and may have responded to self-report measures and the behavioral task in ways consistent with individuals with a history of sexual abuse. This may have influenced the degree, or lack thereof, of distinction between study conditions. Additionally, the current study assessed whether particular events did or did not occur, but did not assess further. Future research should gather detailed information regarding the frequency, duration, and severity of particular events.

Finally, it should be stated that replication was the intent of the current study, although the degree of this notion should be considered. While the theory, among other aspects, of the current study remains a reproduction of Smith et al. (2004), many methodological and procedural features differ. Alterations include a simplification in focus to that of sexual abuse only, a simplification in hypotheses, an independent (instead of group) format when administering study materials, the age criterion used to discriminate participant condition, a marginally adapted battery of self-report measures,

and a different data analysis strategy. These disparities are, primarily, the result of time constraints and resource availability.

Future endeavors should apply these questions of interest to clinical and community populations. These populations may provide more diversity and may address generalizability potential. Further, it may be advantageous to conduct a more thorough trauma assessment in order to better detail and delineate the meaning of the results. Finally, continued consideration of utilizing a multi-method approach to risk assessment among women with abuse histories may be of merit. Future research should apply this approach with clinical and community populations to further examine the credence of employing a behavioral task in conjunction with self-report measures.

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Table 1

Comparison of Perceived Benefits of Risky Behaviors by Participant Condition

| | Trauma <i>n</i> = 46 | | No Trauma <i>n</i> = 46 | |
|------------------------------|-------------------------|------|----------------------------|------|
| | M | SD | M | SD |
| Illicit Drug Use | 2.16 | 1.41 | 1.73 | 1.09 |
| Aggressive/Illegal Behaviors | 1.39 | .50 | 1.47 | .88 |
| Sexual Behaviors | 1.66 | .68 | 1.53 | .79 |
| Heavy Drinking | 3.10 | 1.47 | 3.06 | 1.40 |

Note: Higher means indicate perception of greater likelihood of experiencing positive consequences.

Table 2

Comparison of Perceived Risks of Risky Behaviors by Participant Condition

| | Trauma <i>n</i> = 46 | | No Trauma <i>n</i> = 46 | |
|------------------------------|-------------------------|------|----------------------------|------|
| | M | SD | M | SD |
| Illicit Drug Use | 5.47* | 1.56 | 6.11* | 1.11 |
| Aggressive/Illegal Behaviors | 6.07 | 1.00 | 6.26 | .66 |
| Sexual Behaviors | 6.15 | 1.04 | 6.46 | .57 |
| Heavy Drinking | 4.61 | 1.49 | 4.84 | 1.47 |

Note: Higher means indicate perception of greater likelihood of experiencing negative consequences.

*Significant at the 0.05 level

Table 3

Comparison of Expected Involvement in Risky Behaviors by Participant Condition

| | Trauma <i>n</i> = 46 | | No Trauma <i>n</i> = 46 | |
|------------------------------|-------------------------|------|----------------------------|------|
| | M | SD | M | SD |
| Illicit Drug Use | 2.22* | 1.72 | 1.57* | 1.14 |
| Aggressive/Illegal Behaviors | 1.73 | .65 | 1.50 | .50 |
| Sexual Behaviors | 1.70** | .81 | 1.24** | .37 |
| Heavy Drinking | 4.33 | 1.88 | 4.07 | 1.77 |

Note: Higher means indicate greater likelihood of performing those behaviors.

*Significant at the 0.05 level

**Significant at the 0.01 level

Table 4

Intercorrelations of Cognitive Items, Expected Involvement in Risky Behaviors, and Performance on BART

| | | | | | | | | | | | | | |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|------|-------|------|
| Benefit of illicit drug use | ---- | | | | | | | | | | | | |
| Benefit of agg/ill behavior | .30** | ---- | | | | | | | | | | | |
| Benefit of sexual behavior | .42** | .55** | ---- | | | | | | | | | | |
| Benefit of heavy drinking | .51** | .19 | .34** | ---- | | | | | | | | | |
| Risk of illicit drug use | -.63** | -.14 | -.22* | -.40** | ---- | | | | | | | | |
| Risk of agg/ill behavior | -.14 | -.29** | -.21* | -.18 | .54** | ---- | | | | | | | |
| Risk of sexual behavior | -.14 | -.11 | -.36** | -.06 | .48** | .55** | ---- | | | | | | |
| Risk of heavy drinking | -.30** | -.15 | -.24* | -.71** | .57** | .49** | .40** | ---- | | | | | |
| EI in illicit drug use | .81** | .16 | .19 | .41** | -.70** | -.17 | -.03 | -.28** | ---- | | | | |
| EI in agg/ill behavior | .25* | .18 | .15 | .31** | -.37** | -.55** | -.29** | -.35** | .28** | ---- | | | |
| EI in sexual behavior | .41** | .18 | .47** | .32** | -.40** | -.20 | -.25* | -.23* | .43** | .28** | ---- | | |
| EI in heavy drinking | .42** | .15 | .29** | .71** | -.28** | -.13 | .06 | -.56** | .44** | .24* | .26* | ---- | |
| BART | .20 | .09 | .08 | .35** | -.12 | .01 | -.3 | -.23* | .17 | .12 | .01 | .27** | ---- |

Note: EI = expected involvement

**Correlation is significant at the 0.01 level

*Correlation is significant at the 0.05 level

Table 5

Comparison of Performance on BART by Participant Condition

| | Trauma <i>n</i> = 46 | | No Trauma <i>n</i> = 46 | |
|----------------------------|-------------------------|-------|----------------------------|-------|
| | M | SD | M | SD |
| Balloon Analogue Risk Task | 54.96 | 11.52 | 56.73 | 10.95 |

Note: Higher means reflect greater risk taking while performing behavioral task.

