

Social Cognition and Revictimization Risk

Anne P. DePrince, PhD

ABSTRACT. The ability to accurately detect violations in social contracts likely helps people to avoid or to withdraw from relationships in which they are at risk of being cheated or harmed. Betrayal trauma theory argues that detecting violations of social contracts may be counter-productive to survival under certain conditions, such as when a victim is dependent on a perpetrator. When dependent on a perpetrator (as in the case of child abuse perpetrated by a caregiver), the victim may be better able to preserve the necessary attachment with the caregiver by remaining unaware of the abuse. Thus, the victim may develop a compromised capacity to detect violations of social contracts in the caregiving relationship. Over time, the victim may develop more generalized problems detecting violations in social exchange rules; in turn, generalized problems in detecting violations of social contracts may increase risk for later victimization. Participants in the current study were asked to detect violations in three types of conditional (if-then) rules: abstract, social contract (rules involving a social exchange), and precautionary (rules involving safety). Young adults who reported experiences of revictimization made more errors on social contract and precautionary problems than a no revictimization group; group performance did not differ for abstract problems, suggesting these findings are not explained by general deficits in conditional reasoning. Pathological dissociation significantly predicted errors on social contract and precautionary problems. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com> © 2005 by The Haworth Press, Inc. All rights reserved.]*

Anne P. DePrince is affiliated with the Department of Psychology, University of Denver, Denver, CO.

Address correspondence to: Anne P. DePrince, PhD, Department of Psychology, 2155 South Race Street, Denver, CO 80208 (E-mail adeprinc@du.edu).

This research was supported by start-up funds at the University of Denver. The author thanks Jennifer Freyd, Kathryn Becker-Blease, Susan Buckingham, Melody Combs, and two anonymous reviewers for comments on an earlier version of this manuscript.

KEYWORDS. Betrayal trauma, social contracts, revictimization, child abuse

A range of deleterious consequences has been associated with child maltreatment, ranging from mental health to physical health problems. Childhood maltreatment predicts not only mental and physical health consequences, but also places the individual at risk for future victimization (e.g., Browne & Finkelhor, 1986; Cloitre, 1998; Cloitre, Tardiff, Marzuk, Leon, & Potera, 1996; Polusny & Follette, 1995; Wyatt, Guthrie, Notgrass, 1992). Links between childhood maltreatment, particularly sexual abuse, and later sexual victimization have been clearly established (for a review, see Arata, 2002). Retrospective research on revictimization has tended to focus on the relationship between child sexual abuse and later sexual assault in samples of adolescent and young adult females across settings including college (e.g., Arata, 2000; Gidycz, Coble, Latham, & Layman, 1993; Gidycz, Hanson, & Layman, 1995), community (e.g., Dancu, Riggs, Hearst-Ikeda, Shoyer, & Foa, 1996; Wyatt et al., 1992; Russell, 1986) and treatment (e.g., Cloitre et al., 1996). Though studies vary in their methods and definitions of victimization, this body of research suggests that females sexually abused in childhood are at two to three times the risk of experiencing later sexual victimization (Arata, 2002) with a moderate effect size of .59 (Roodman & Clum, 2001).

While much of the literature has focused on sexual revictimization, researchers are increasingly including *both* sexual and physical maltreatment in studies of revictimization. For example, several studies have found childhood abuse increases the risk of physical violence in adolescence or adulthood (e.g., Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003; Smith, White, & Holland, 2003). Child physical abuse increases risk of adolescent/adult sexual assault (e.g., Arata & Lindman, 2002; Desai, Arias, Thompson, & Basile, 2002; Janowski, Leitenberg, Henning, & Coffey, 2002).

Relatively little research has focused on revictimization in males; however, studies that have included men have found similar rates of revictimization (see Arata, 2002). Desai and colleagues (2002), using a nationally representative sample, found that child victimization increased the risk of adult victimization for both men and women. However, some differences between males and females did emerge that warrant further investigation. For example, increased risk of victimiza-

tion by an *intimate* partner was increased only for women (Desai et al., 2002).

Revictimization has been associated with both environmental and individual risk factors. In terms of the environment, the victim-perpetrator relationship in child victimization is a likely candidate for increasing revictimization risk. For example, Noll et al. (2003) found high rates of revictimization in a sample of girls victimized by family members. In terms of individual factors, revictimization risk has been associated with several psychological variables (e.g., substance abuse, self-esteem, alexithymia), including dissociation (e.g., Cloitre, 1998; Briere, 1992).

DISSOCIATION AND REVICTIMIZATION

Dissociation—the lack of integration in usually connected aspects of information processing—has long been associated with trauma, particularly early family abuse (see Putnam, 1997). Cloitre (1998) suggests that highly dissociative individuals may be less aware of risks in the environment, thus increasing risk of revictimization. Further, sexual predators may recognize women who show behavioral manifestations of dissociation (e.g., looking confused or distractible) as vulnerable, and thus target those women as victims (Cloitre, Scarvalone, & Difede, 1997). To date, only limited work has tested the prediction that dissociation will be associated with decreases in threat perception (see Messman-Moore & Long, 2003). This existing work tends to focus on applied paradigms in which women are asked to make judgments about threats when watching vignettes of potential date rape scenarios. For example, recent research has used unitization procedures to assess the number of meaningful units participants identify in a vignette (e.g., Sandberg, Lynn, & Matorin, 2001). Sandberg and colleagues (2001) found that women high in dissociation demonstrated lower unitization rates than women low in dissociation when viewing an acquaintance rape scenario. The women high in dissociation also identified fewer danger cues than the women low in dissociation.

Dissociation may be associated with problems in *basic* information processing that increases revictimization risk (compared to the relatively complex processing required to assess threat in social situations assessed by vignettes). Recent research suggests that dissociation and basic attention performance are related. Participants (aged 18-21) who scored high on a dissociation measure performed better on a reaction

time task when *dividing* their attention compared to focusing their attention; participants who scored low on dissociation performed better when *focusing* their attention (DePrince & Freyd, 1999). In turn, when dividing their attention, high dissociators remember *fewer* abuse-related words than low dissociators (DePrince & Freyd, 1999, 2001, 2004). Thus, when allowed to divide attention, high levels of dissociation seem to help people keep abuse-related information out of awareness (DePrince & Freyd, 1999, 2001, 2004; Becker-Blease & DePrince, in press). While these studies did not examine memory and revictimization, failure to recall trauma-related information may increase revictimization risk to the extent that high dissociators fail to track threatening information. These studies also point to the need to examine basic processing in addition to complex social processing in seeking to understand how dissociation may relate to revictimization risk.

Building on work examining associations between dissociation and basic information processing, the present author proposes that dissociation may be related to alterations in how basic social information—particularly social contract information—is processed. Social contracts involve situations in which one person (or group) attains a benefit from another individual (or group) by meeting a requirement; “cheating” occurs when the person receiving the benefit does not meet the requirement for that benefit. The ability to detect violations in social exchange likely helps people to avoid or withdraw from relationships in which they are at risk of being cheated.

Researchers have used the Wason Selection Task (WST; e.g., Cosmides, 1989; Cosmides & Tooby, 1992, 1997; Stone, Cosmides, Tooby, Kroll, & Knight, 2002) to examine processing of social contract information. In the WST, participants are presented with a series of conditional (if-then) reasoning rules. In one condition, participants view rules that are abstract, such as “If a train goes to Rochester, then it must be on Track 7” (for stimuli, see Stone et al., 2002). Participants are then told that they will see four cards that represent four different trains; on one side of the card is information about where the train is going and on the other side is information about the track. Participants are then asked to indicate which cards must be turned over in order to test whether the if-then rule is violated. In a second condition, participants view rules that involve social contracts; these rules reflect situations in which one individual will receive a benefit from another individual or group based on meeting a requirement. For example, “If you get someone else to cover a work shift for you, then make a donation to the community

fund.” Researchers have also used the WST to assess individuals’ abilities to detect violations of rules that are designed to keep one safe; these rules are precautionary in nature, such as, “If you surf in cold water, then wear a wetsuit.” Research has consistently demonstrated that individuals make significantly fewer errors on social contract and precautionary problems compared to abstract problems (e.g., Cosmides & Tooby, 1992, 1997).

While human beings appear to be good at detecting violations of social contracts (Cosmides, 1989), Freyd (1994, 1996) argues that detecting these violations may be counter-productive to survival under some circumstances, such as child abuse. Child abuse perpetrated by a caregiver violates a critical social contract (see Freyd, 1996). If a victim were aware of and responded to caregiver abuse in the usual way that people detect and respond to violations of social contracts, the victim would likely withdraw from the care-taking relationship. However, when a victim is dependent on a caregiver, withdrawal may actually threaten ultimate survival goals, particularly if the caregiver responds with reduced caregiving and/or increased aggression. Survival, therefore, may require that the victim remain unaware of the betrayal (or violation of the social contract between parent and child) in order to maintain attachment with the abusive caregiver. Betrayal trauma theory (Freyd, 1996) points to dissociation as a mechanism in removing abuse-related information from awareness; thus, exposure to traumatic events high in betrayal should be associated with high levels of dissociation.

Interpersonal traumas vary in the degree of dependency in the victim-perpetrator relationship, and thereby vary in the degree of betrayal. For example, abuse perpetrated by a caregiver on whom the victim is dependent is likely higher in betrayal than an assault committed by a stranger (see Freyd, 2001; Goldberg & Freyd, 2004). Betrayal trauma theory predicts that traumas high in betrayal will be associated with a compromised capacity to detect or be aware of violations in the abusive relationship. While the ability to decrease awareness of betrayals may be adaptive for an individual who is dependent on an abusive caregiver, this compromised capacity to detect cheating in the abusive relationship may become a more generalized problem in detecting violations of social contracts over time. Difficulty detecting violations of social contracts may place individuals at increased risk for future victimization.

Based on betrayal trauma theory, the following predictions were tested in a sample of undergraduate male and female volunteers. The presence of a high betrayal trauma (BT) before the age of 18 was pre-

dicted to be associated with pathological dissociation (PD). The presence of both a high BT before age 18 and PD were predicted to be associated with revictimization after age 18. Individuals revictimized after age 18 were predicted to make more errors on social contract and precautionary problems in a WST than a non-revictimized group.

METHOD

Participants

Participants were 30 men (age $M = 20.37$; $SD = 2.65$) and 86 women (age $M = 19.95$; $SD = 1.6$) undergraduates at the University of Denver. Age range was 18 to 33 years. Participants received extra credit towards psychology courses for participation.

Materials

WST problems were replicated from Stone et al. (2002). Participants were presented with fourteen of each of three types of problems: abstract (e.g., "If I go to Los Angeles, then I travel by train," "If a person wears a tropical print shirt, then that person is over 20 years old"), social contract (e.g., "If you get someone else to cover a work shift for you, then make a donation to the community fund," "If you take your vacation early, then you must work extra hours") and precautionary (e.g., "If you surf in cold water, then wear a wetsuit," "If you do a trapeze act, then you must use a safety net"). Problems were presented by computer; participants made key presses to indicate their selections.

The Dissociative Experiences Scale (DES) is a 28-item self-report measure of dissociation (Bernstein & Putnam, 1986). Participants were asked to indicate how often they have these 28 experiences (where "0%" is never and "100%" is always) when *not* under the influence of alcohol or drugs (see Bernstein & Putnam, 1986). The most widely used measure of adult dissociation, the DES can be scored either on a continuum by taking the average across the 28 items or in terms of taxon membership. Taxon membership indicates that the individual's pattern of responses is consistent with membership in a pathological dissociation taxon (see Waller, Putnam, & Carlson, 1996).

The Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2004) is a 12-item self-report measure that assesses self-reported trauma history

using behaviorally defined items. Items include exposure to non-interpersonal trauma (e.g., “Been in a major earthquake, fire, flood, hurricane, or tornado that resulted in significant loss of personal property, serious injury to yourself or a significant other, the death of a significant other, or the fear of your own death”); witnessing violence (e.g., “Witnessed someone *with whom you were very close* deliberately attack another family member so severely as to result in marks, bruises, blood, broken bones, or broken teeth”) and direct interpersonal trauma (e.g., “You were deliberately attacked that severely [so severely as to result in marks, bruises, blood, broken bones, or broken teeth] by someone with whom *you were very close*”). For each item, participants were asked if they experienced the event before or after age 18. Freyd and Goldberg (2003) have provided guidelines for dividing items into high (e.g., physical abuse by someone with whom the respondent was very close), medium (e.g., physical assault by someone with whom the respondent was not very close), and low (e.g., natural disasters) betrayal trauma events.

The Trauma Symptom Checklist-40 (TSC-40; Briere & Runtz, 1989), a 40-item checklist, was included in the current study to control for general trauma-related distress. The TSC-40 assesses symptoms commonly associated with the experience of traumatic events across six subscales: depression, dissociation, anxiety, sexual problems, sleep disturbance, sexual trauma index. Participants were asked to indicate how frequently they experienced each of the forty items on a scale of “0” to “3.” The TSC-40 is scored by summing responses, and has been shown to have good reliability and validity (e.g., Elliot & Briere, 1992). Sample items include “anxiety attacks” and “trouble getting along with others.”

Procedure

Upon completing an informed consent process, participants were seated in front of a computer monitor. Participants were tested either one or two at a time in a quiet room with an experimenter present. When tested two at a time, a divider was placed between participants who were seated on opposite sides of a testing room. Participants were presented with four practice and 42 test WST problems. Problem presentation order was randomized for each participant. Participants made key presses to indicate their card selections; there was no time limit for completing problems. Following the WST, participants completed three questionnaires on the computer: DES, BBTS, and TSC-40. Upon com-

pletion of the self-report questionnaires, participants were debriefed as to the purposes of the study.

RESULTS

Relations Between Dissociation, Reported Revictimization, and Distress

Revictimization and the presence of a high betrayal trauma history before age 18 were coded based on responses to the BBTS; see Table 1 for specific items used in coding. Individuals who endorsed direct experience of interpersonal traumas (sexual, physical, and/or emotional) both before and after age 18 were categorized as revictimized ($N = 53$); witnessing violence was excluded for the purposes of constructing the revictimization group. Individuals who endorsed high betrayal events as specified by Goldberg and Freyd (2004) before age 18 were coded as high betrayal trauma (BT) present ($N = 64$). Membership in the patho-

TABLE 1. BBTS (Goldberg and Freyd, under review) items used to determine revictimization and presence of high betrayal trauma.

BBTS items used to determine revictimization status.
• You were deliberately attacked [so severely as to result in marks, bruises, blood, broken bones, or broken teeth] by someone with whom you were very close.
• You were deliberately attacked that severely by someone with whom you were not close.
• You were made to have some form of sexual contact, such as touching or penetration, by someone with whom you were very close (such as a parent or lover).
• You were made to have such sexual contact by someone with whom you were not close.
• You were emotionally or psychologically mistreated over a significant period of time by someone with whom you were very close (such as a parent or lover).
BBTS items used to determine high betrayal trauma before age 18.
• You were deliberately attacked that severely [so severely as to result in marks, bruises, blood, broken bones, or broken teeth] by someone with whom you were very close.
• You were made to have some form of sexual contact, such as touching or penetration, by someone with whom you were very close (such as a parent or lover).
• You were emotionally or psychologically mistreated over a significant period of time by someone with whom you were very close (such as a parent or lover).

logical dissociation (PD) taxon was determined based on the calculation of a Bayesian probability of .50 or higher ($N = 31$). Taxon membership was calculated using a translation by Perry (2003) of the SAS computer program specified in Waller and Ross (1997). To prevent overlap with dissociation symptoms captured by the PD taxon, TSC-40 scores were calculated by summing all items except those that contribute to the dissociation subscale. The revictimization group ($M = 27.1$; $SD = 12.2$) scored higher on the TSC-40 than the no revictimization group ($M = 19.1$; $SD = 9.9$); $t(114) = 3.87, p < .001$.

BT before the age of 18 was associated with membership in the PD taxon, $\chi^2(1) = 6.19, p = .01$. Membership in the PD taxon was associated with revictimization after age 18, $\chi^2(1) = 13.85, p < .001$. Presence of BT before 18 was associated with revictimization after age 18, $\chi^2(1) = 66.50, p < .001$. A logistic regression analysis was used to predict membership in the revictimization group based on BT history before age 18, PD taxon membership, and TSC score; the full model was significant, $\chi^2(3) = 86.81, p < .001$. BT before 18 ($B = -4.68, SE B = .90, p < .001$) and PD taxon ($B = -2.04, SE B = .85, p < .05$) contributed significantly to prediction of group membership; revictimization grouping was predicted with 86% accuracy.

Sex (male, female) did not relate to revictimization status, $\chi^2(1) = .016, p > .05$, or BT before age 18, $\chi^2(1) = 1.84, p > .05$. Men and women did not differ significantly on DES (Men $M = 27.82, SD = 18.76$; Women $M = 22.03, SD = 15.69$; $t(114) = 1.65, p > .05$) or TSC scores (Men $M = 20.30, SD = 11.10$; Women $M = 23.63, SD = 11.79$; $t(114) = -1.35, p > .05$).

Revictimization and Wason Task Errors

The total number of errors made for each problem type was calculated; up to 56 errors could be made per condition. See Table 2 for descriptive statistics. Manipulation checks revealed that participants made significantly more errors on abstract problems compared to social con-

TABLE 2. Mean (*SD*) for errors on the Wason Selection Task.

	Abstract	Social Contract	Precautionary
No Revictimization ($N = 63$)	17.79 (6.2)	7.40 (7.44)	6.68 (6.09)
Revictimization ($N = 53$)	17.79 (7.6)	10.91 (9.61)	10.13 (9.13)

tract, $t(115) = 14.15, p < .001$, and precautionary, $t(115) = 16.44, p < .001$ problems, consistent with previous research using the WST. Men and women did not differ in the number of errors made in each of the three problem conditions; sex was not entered into any further analyses.

A multivariate analysis of variance (MANOVA) was performed on three dependent variables: total errors for abstract, precautionary, and social contract problems. Effects of revictimization on the dependent variables were significant for social contract problems, $F(1,114) = 4.91, p < .05$, and precautionary problems, $F(1,114) = 5.88, p < .05$, but not for abstract problems. The revictimization group made more errors than the non-revictimized group for precaution (Cohen's $d = .47$) and social contract problems (Cohen's $d = .42$) (see Figure 1).

Three multiple regression analyses were conducted to predict errors on abstract, social contract and precautionary problem errors using PD, BT before 18, and TSC scores as predictors. The model predicting abstract problem errors was not significant. Models predicting social contract and precautionary errors were significant, with $R^2 = .12$ for social contract errors, $F(3,112) = 4.9, p < .01$; $R^2 = .11$ for precautionary errors, $F(3,112) = 4.6, p < .01$. In both social contract and precautionary models, PD was a significant predictor after controlling for general distress as measured by the TSC-40 and BT before 18; however, TSC-40 and BT before 18 approached conventional significance levels in the precautionary model. See Table 3 for multiple regression analyses.

FIGURE 1. Mean errors (standard error bars) in Wason selection task performance based on revictimization group status.

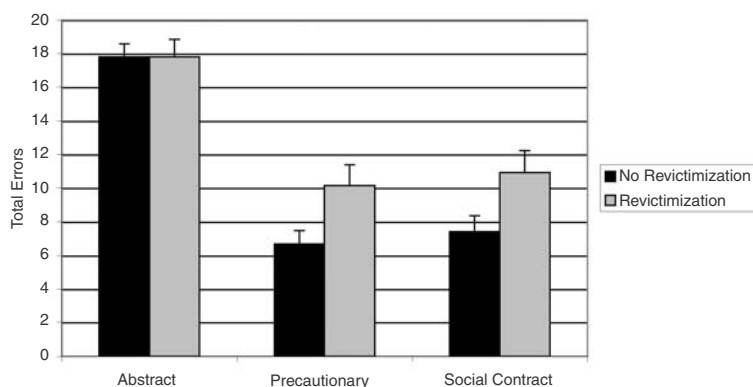


TABLE 3. Multiple regression analyses predicting WST errors.

Measure	Variable	<i>B</i>	<i>SE B</i>	β
Social Contract Errors	Pathological Dissociation	5.83	1.79	.30**
	TSC	-.10	.07	-.13
	BT before 18	2.43	1.69	.14
Precautionary Errors	Pathological Dissociation	4.69	1.62	.27*
	TSC	-.11	.07	-.16 [^]
	BT before 18	2.68	1.53	.17 [^]

[^] $p < .10$, * $p < .01$, ** $p = .001$

DISCUSSION

Self-reported experiences of revictimization after age 18 were associated with a history of a high betrayal trauma before age 18 and PD. A history of high BT before age 18 was associated with PD. The relationship between reported childhood and adult trauma exposure held up when multiple forms of victimization were included, not just sexual abuse as in previous research. These findings indicate that both dissociation and betrayal trauma history are important factors in revictimization. To date most research on revictimization has looked at child sexual abuse generally as a predictor; this study suggests that child abuse (sexual, physical, or emotional) by someone with whom the respondent was close is associated with revictimization. Further, the current study suggests that men should be included in studies of revictimization, as men did not answer in significantly different ways on self-report questionnaires of traumatic events or distress.

Individuals with self-reported histories of revictimization made significantly more errors on conditional reasoning problems that involved either social exchange or precautionary rules than individuals who had not been revictimized. The groups did not differ on errors made in abstract reasoning problems. This pattern of results indicates that differences between groups were limited to problems involving social and precautionary information (i.e., social contract and precautionary problems), but not general conditional reasoning ability (i.e., abstract problems). Because the revictimization group did not make more errors in the abstract condition than the no revictimization group, these findings suggest that the revictimized group does not have impairments in general reasoning abilities; rather, the impairment shown by this group is

specific to rules that contain social and safety content. In future work, it will be important to control for intelligence to continue to rule out general cognitive deficits that may underlie these findings.

The differences in errors on the social contract problems suggest that the revictimization group has trouble identifying “cheaters.” A compromised ability to detect cheaters may place people at risk for revictimization insofar as these individuals have difficulty picking up on cues that a social contract is being violated. When individuals fail to pick up on such cues, they may be more easily taken advantage of and less able to remove themselves from potentially dangerous situations. Further, the revictimization group also showed poorer performance on precautionary rules. The compromised ability to detect violations of rules that are designed to keep one safe may also contribute to vulnerability to victimization. Notably, these differences in WST performance are based on problems that did *not* include abuse-related information. The WST findings point to differences in cognitive processing for information that does not necessarily include abuse-related content, suggesting global difficulties in processing social and safety information.

PD predicted errors on the social contract problems above and beyond general distress (as measured by the TSC-40) and BT before 18. While PD was a significant contributor to the model predicting precautionary problem errors, general distress and BT before 18 approached conventional significance levels. Thus, while PD appears to be a good candidate mechanism by which differences in reasoning about social and precautionary problems occur in individuals who have been revictimized, the current study does not rule out the influence of BT before 18 or general distress on WST performance. The failure of BT before 18 to significantly contribute in both models may reflect measurement error; for example, a more sensitive measure of betrayal trauma may be needed. Exposure to a betrayal trauma may interact with other factors, such as the victim’s age or duration of abuse, to predict alterations in social cognition. Future research should include more extensive assessment of trauma history, such as age of first exposure, duration, and greater details on relationship to perpetrator. It may be the case that deficits in processing social information are more likely to occur under certain circumstances (e.g., betrayal traumas occurring early in development over a long duration); however, the design of the current study did not allow for such specifications to be tested. Finally, the significant contribution of PD to predicting errors in both models suggests that future research on dissociation and alterations in cognitive processing is warranted.

While strong conceptual links between dissociation and revictimization have been made, empirical support is mixed. For example, Sandberg, Matorin, and Lynn (1999) found that dissociation was related to both child and adult victimization, but did not mediate the relationship between child sexual abuse and adult victimization. On the other hand, Cloitre et al. (1997) found that revictimized women in a clinical sample met criteria for dissociative disorders at significantly higher rates than women who reported a single victimization. While theorists have tended to speculate that dissociation acts as a mediator of child-adult victimization, dissociative symptoms may simply co-occur with child and adult victimization without acting as the mechanisms through which risk is transmitted. The current study provides a new candidate mechanism for revictimization risk that is related to PD: alterations in social cognition. These findings suggest that pathological dissociation may be associated with basic alterations in social cognition (that do not involve abuse-related risk detection) that in turn, may transmit revictimization risk by altering how individuals process social exchange and precautionary information.

Limitations

Several limitations to this work should be addressed in future research. While undergraduate samples tend to report high rates of trauma (Green et al., 2000; Koss, Gidycz, & Wisniewski, 1987), this sample likely reflects a high functioning group. Testing WST performance in clinical and community populations is an important next step, as is including other factors associated with revictimization, such as substance use. Further, the current study examined differences between groups on a laboratory task. Well-controlled laboratory tasks allow researchers to identify and test mechanisms that may affect real-world behavior; however, laboratory tasks are frequently lower in external validity than applied paradigms.

The mean age in the sample was 20 years and revictimization status was coded based on reports of interpersonal events before and after age 18; thus, the categorization process may have failed to identify some individuals who are at continuing risk for revictimization, but for whom enough time has not passed for that to occur. Marx et al. (2001) found that 27% of victimized women (age $M = 20.1$; $SD = 3.8$), assigned to either control or revictimization prevention groups, reported that a sexual re-victimization occurred in the two-month period between initial assessment/intervention and follow up. Evidence from Marx et al.'s

(2001) two-month follow up period suggests that revictimization events occur even in very short time frames, thus increasing the likelihood that there was adequate time since turning age 18 in this sample to assess revictimization. However, future research should examine participants at different developmental points, ideally using longitudinal designs.

The current study depended on self-reported trauma history. While there is evidence that retrospective accounts of childhood experiences are reasonably reliable (e.g., Brewin, Andrews, & Gotlib, 1993), research suggests that the likelihood that the current findings suffer from false negative reports (e.g., Femina, Yeager, & Lewis, 1990; Fergusson, Horwood, & Woodward, 2000; Sjoberg & Lindblad, 2002) is high. Thus, some individuals who should belong to the revictimization group may be placed in the no-revictimized group, thus increasing error variance.

CONCLUSIONS

Revictimization is a profound public health concern. To date, research has pointed to factors associated with revictimization risk, but has not yet provided cognitive models of risk. The current study points to problems in social cognition that are associated with revictimization. Future research examining alterations in social cognition that place individuals at increased risk for revictimization will be critical to the continuing development of intervention and prevention strategies.

REFERENCES

- Arata, C. M. (2000). From child to adult victim: A model for predicting sexual revictimization. *Child Maltreatment, 5*, 28-38.
- Arata, C. M. (2002). Child sexual abuse and sexual revictimization. *Clinical Psychology: Science and Practice, 9*, 135-164.
- Arata, C. M., & Lindman, L. (2002). Marriage, child abuse, and sexual revictimization. *Journal of Interpersonal Violence, 17*, 953-971.
- Becker-Blease, K., & DePrince, A. P. (in press). Child victimization, cognitive functioning and academic performance. In K. Kendall-Tackett & S. Giacomoni (Eds.) *Child Victimization*. Kingston, NJ: Civic Research Institute.
- Bernstein, E. M. & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disorders, 174*, 727-735.
- Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin, 113*, 82-98.

- Briere, J. (1992). *Child abuse trauma: Theory and treatment of the lasting effects*. Newbury Park, CA: Sage.
- Briere, J. & Runtz, M. (1989). The Trauma Symptom Checklist (TSC-33): Early data on a new scale. *Journal of Interpersonal Violence, 4*, 151-163.
- Browne, A., & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin, 99*, 66-77.
- Cloitre, M. (1998). Sexual revictimization: Risk factors and prevention. In V. M. Follette, J. I. Ruzek & F. R. Abueg (Eds.), *Cognitive-behavioral therapies for trauma* (pp. 278-304). New York: Guilford Press.
- Cloitre, M., Scarvalone, P., & Difede, J. (1997). Post-traumatic stress disorder, self and interpersonal dysfunction among sexually revictimized women. *Journal of Traumatic Stress, 10*, 435-450.
- Cloitre, M., Tardiff, K., Marzuk, P. M., Leon, A. C., & Potera, L. (1996). Childhood abuse and subsequent sexual assault among female inpatients. *Journal of Traumatic Stress, 9*, 473-482.
- Cosmides, L. (1989). The logic of social exchange: Has natural selection shaped how humans reason? Studies with the Wason selection task. *Cognition, 31*, 187-276.
- Cosmides, L., & Tooby, J. (1992). Cognitive adaptations for social exchange. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture* (pp. 163-228). New York: Oxford University Press.
- Cosmides, L., & Tooby, J. (1997). Dissecting the computational architecture of social inference mechanisms. In G. R. Bock and G. Cardew (Eds.), *Characterizing human psychological adaptations* (pp. 132-156). Chichester: Wiley.
- Dancu, C. V., Riggs, D. S., Hearst-Ikeda, D., Shoyer, B. G., & Foa, E. B. (1996). Dissociative experiences and posttraumatic stress disorder among female victims of criminal assault and rape. *Journal of Traumatic Stress, 9*, 253-267.
- DePrince, A. P., & Freyd, J. J. (1999). Dissociation, attention and memory. *Psychological Science, 10*, 449-452.
- DePrince, A. P., & Freyd, J. J. (2001). Memory and dissociative tendencies: The roles of attentional context and word meaning. *Journal of Trauma & Dissociation, 2*, 67-82.
- DePrince, A. P., & Freyd, J. J. (2004). Forgetting trauma stimuli. *Psychological Science, 15*, 488-492.
- Desai, S., Arias, I., Thompson, M. P., & Basile, K. C. (2002). Childhood victimization and subsequent adult revictimization assessed in a nationally representative sample of women. *Violence and Victims, 17*, 639-653.
- Elliott, D. M., & Briere, J. (1992). Sexual abuse trauma among professional women: Validating the Trauma Symptom Checklist-40 (TSC-40). *Child Abuse and Neglect, 16*, 391-398.
- Femina, D. D., Yeager, C. A., & Lewis, D. O. (1990). Child abuse: Adolescent records vs. adult recall. *Child Abuse & Neglect, 14*, 227-231.
- Fergusson, D. M., Horwood, L. J., & Woodward, L. J. (2000). The stability of child abuse reports: A longitudinal study of the reporting behaviour of young adults. *Psychological Medicine, 30*, 529-544.

- Freyd, J. J. (1994). Betrayal-trauma: Traumatic amnesia as an adaptive response to childhood abuse. *Ethics & Behavior, 4*, 307-329.
- Freyd, J. J. (1996). *Betrayal trauma: The logic of forgetting childhood abuse*. Cambridge: Harvard University Press.
- Freyd, J. J. (2001). Memory and dimensions of trauma: Terror may be "all-too-well remembered" and betrayal buried. In J. R. Conte (Ed.), *Critical issues in child sexual abuse: Historical, legal, and psychological perspectives* (pp. 139-173). Thousand Oaks, CA: Sage Publications.
- Freyd, J. J., & Goldberg, L. (2003). Suggested categorization of BBTS items. Retrieved from <http://dynamic.uoregon.edu/~jjf/bbts/categories.html>, August 1, 2003.
- Gidycz, C. A., Hanson, K., & Layman, M. J. (1995). A prospective analysis of the relationships among sexual assault experiences. *Psychology of Women Quarterly, 19*, 5-29.
- Gidycz, C. A., Coble, C. N., Latham, L., & Layman, M. J. (1993). Sexual assault experiences in adulthood and prior victimization experiences. *Psychology of Women Quarterly, 17*, 151-168.
- Goldberg, L. R., & Freyd, J. J. (2004). *The brief betrayal trauma survey: Personality correlates of potentially traumatic experiences in a community sample*. Manuscript submitted for publication.
- Green, B. L., Goodman, L. A., Krupnick, J. L., Corcoran, C. B., Petty, R. M., Stockton, P., & Stern, N. M. (2000). Outcomes of single versus multiple trauma exposure in a screening sample. *Journal of Traumatic Stress, 13*, 271-286.
- Janowski, M. K., Leitenberg, H., Henning, K., & Coffey, P. (2002). Parental caring as a possible buffer against sexual revictimization in young adult survivors of child sexual abuse. *Journal of Traumatic Stress, 15*, 235-244.
- Koss, M., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology, 55*, 162-1710.
- Marx, B. P., Calhoun, K. S., Wilson, A. E., & Meyerson, L. A. (2001). Sexual revictimization prevention: An outcome evaluation. *Journal of Consulting and Clinical Psychology, 69*, 25-32.
- Messman-Moore, T. L., & Long, P. J. (2003). The role of childhood sexual abuse sequelae in the sexual revictimization of women: An empirical review and theoretical reformulation. *Clinical Psychology Review, 23*, 537-571.
- Noll, J. G., Horowitz, L. A., Bonanno, G. A., Trickett, P. K., & Putnam, F. W. (2003). Revictimization and self-harm in females who experienced childhood sexual abuse. *Journal of Interpersonal Violence, 18*, 1452-1471.
- Perry, D. (2003). DES taxon calculation. Retrieved from http://www.issd.org/index-page/DES_Taxon.xls, August 1, 2003.
- Polusny, M. A., & Follette, V. M. (1995). Long term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied and Preventive Psychology: Current Scientific Perspectives, 4*, 143-166.
- Putnam, F. W. (1997). *Dissociation in children and adolescents*. New York: Guilford Press.
- Roodman, A. A. & Clum, G. A. Revictimization rates and method variance: A meta-analysis. *Clinical Psychology Review, 21*, 183-204.

- Russell, D. E. H. (1986). *The secret trauma*. New York: Basic Books.
- Sandberg, D. A., Lynn, S. J., & Matorin, A. I. (2001). Information processing of an acquaintance rape scenario among high-and low-dissociating college women. *Journal of Traumatic Stress, 14*, 585-604.
- Sandberg, D. A., Matorin, A. I., & Lynn, S. J. (1999). Dissociation, posttraumatic symptomatology, and sexual revictimization: A prospective examination of mediator and moderator effects. *Journal of Traumatic Stress, 12*, 127-138.
- Sjoberg, R., & Lindblad, F. (2002). Limited disclosure of sexual abuse in children whose experiences were documented by videotape. *American Journal of Psychiatry, 159*, 312-314.
- Smith, P. H., White, J. W., & Holland, L. J. (2003). A longitudinal perspective on dating violence among adolescent and college age women. *American Journal of Public Health, 93*, 1104-1109.
- Stone, V. E., Cosmides, L., Tooby, J., Kroll, N., & Knight, R. (2002). Selective impairment of reasoning about social exchange in a patient with bilateral limbic system damage. *PNAS, 99*, 11531-11536.
- Waller, N. G., Putnam, F. W., & Carlson, E. B. (1996). Types of dissociation and dissociative types: A taxometric analysis of dissociative experiences. *Psychological Methods, 1*, 300-321.
- Waller, N. G., & Ross, C. A. (1997). The prevalence and biometric structure of pathological dissociation in the general population: Taxometric and behavior genetic findings. *Journal of Abnormal Psychology, 106*, 499-510.
- Wyatt, G., Guthrie, D., & Notgrass, C. M. (1992). Differential effects of women's child sexual abuse and subsequent sexual revictimization. *Journal of Consulting and Clinical Psychology, 60*, 167-173.

RECEIVED: 03/01/04

REVISED: 08/05/04

ACCEPTED: 08/05/04