Childhood Maltreatment and Revictimization: The role of Affect Dysregulation, Interpersonal Relatedness Difficulties and Posttraumatic Stress Disorder

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ABSTRACT: In this study, posttraumatic stress disorder (PTSD) and other posttraumatic sequelae, including affect dysregulation and problems with interpersonal relatedness, were examined as potential predictors of revictimization. Data were analyzed for 207 individuals who reported childhood maltreatment per the Child Maltreatment Interview Schedule. Participants included prison inmates, a treatment-seeking community sample, and a sample recruited via the internet. Significant gender differences were found for rates of revictimization. Controlling for the effects of childhood maltreatment, PTSD significantly predicts sexual revictimization of women. Interpersonal relatedness problems enter as a predictor for most types of revictimization of women, and indices reflective of affect dysregulation variably predict the different types of revictimization examined in this study.

An extensive body of empirical literature has documented myriad longterm negative effects of chronic childhood maltreatment, including (but not limited to) Posttraumatic Stress Disorder (PTSD) and associated features to PTSD (American Psychiatric Association, 2000). One of the most robust findings is that women who have experienced childhood sexual abuse are at high risk of sexual revictimization, with reported sexual revictimization rates ranging from 6% to 68.8% (e.g., Arata & Lindman, 2002; Cloitre, 1998; Collins, 1998; Fergusson, Horwood & Lynskey, 1997; Gidycz, Coble, Latham & Layman, 1993; Kessler & Bieschke, 1999; Sanders & Moore, 1999).

Similarly, adults with childhood maltreatment histories are at increased risk of physical and/or psychological abuse during adulthood (Messman-Moore & Long, 2000; Nishith, Mechanic, & Resick, 2000; Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003; Schaaf & McCanne, 1998), with reported physical victimization rates of adults with childhood abuse histories ranging from 24.2% to 51.4%, and reported rates of psychological victimization from 62% to 70.8%.

Revictimization

Although PTSD and many associated features are correlated with revictimization, the predictive status of many of these variables remains equivocal, with different studies reporting different correlates. This variation may be due, in part, to variations in the types of revictimization studied. Our primary aim is to expand upon the research to date that has examined correlates of revictimization (sexual and physical) of adults with various forms of childhood maltreatment histories, using Cloitre's (1998) model as a conceptual basis. Cloitre examined the revictimization literature and arranged the empirical correlates of revictimization into three main categories of risk factors: PTSD, Affect Dysregulation, and Interpersonal Relatedness Problems.

Post-traumatic Stress Disorder. As noted by Cloitre (1998), Childhood Sexual Abuse (CSA) and PTSD are highly related, and PTSD has been shown to contribute to risk for repeated victimization of sexual assault victims. Symptoms of posttraumatic stress and PTSD itself are reported to be higher for individuals in revictimized groups compared to those with past abuse histories who are not revictimized and compared to those with no interpersonal

victimization history (Arata, 1999; Koverola, Proulx, Battle and Hanna, 1996; Messman-Moore, Long, & Siegfried, 2000; Noll et al., 2003; Wilson, Calhoun, & Bernat, 1999). Although no differences were found in a study by Cloitre and colleagues of PTSD for those who were revictimized compared to those who were assaulted once during adulthood (Cloitre, et al., 1997), PTSD was found to predict revictimization in a study by Arata (2000), and moderate in another (Sandberg, Matorin, & Lynn, 1999). Posttraumatic hyperarousal was negatively correlated with response latencies in an experimental date-rape situation (Wilson et al., 1999). It would appear that hyperarousal primes people to quickly flee at the first signs of danger, or conversely low levels of arousal (perhaps in the form of emotional numbing or avoidance) impair the ability to take immediate action.

Affect Dysregulation. Problematic affect regulation (including dissociation) has been empirically associated with revictimization in several studies (Becker-Lausen, Sanders, & Chinsky, 1995; Cloitre, Scarvalone, & Difede, 1997; Field et al., 2001; Gidycz, Coble, Latham, & Layman ; Messman-Moore, et al., 2000; Noll et al., 2003); however, was not related in others (Gidycz, Hanson, & Layman, 1995; Irwin, 1999; Kessler & Bieschke, 1999; Sandberg, et al., 1999; Wilson, et al., 1999). Substance abuse is included in Cloitre's (1998) model under affect dysregulation, as trauma survivors are thought to engage in substance abuse in an attempt to self-medicate (Briere, 2002b). It is postulated that intoxication may lead to risky sexual behaviors, thereby increasing risk of revictimization (Wilsnack, Kristjanson, Volgentanz-Holm, & Harris, 2004).

Interpersonal Relatedness Difficulties. Empirical data on interpersonal relatedness difficulties in revictimization are likewise equivocal (Classen et al., 2001; Cloitre, Scarvalone, & Difede, 1997; Gidycz et al., 1995; Messman-Moore, et al., 2000), as are empirical data on the role of self-perceptions (e.g., self-esteem; self-silencing, attributions) (Arata, 2000; Arata & Lindman, 2002; Banyard, Arnold, & Smith, 2000; Collins, 1998; Drauker, 1997; Kellogg & Hoffman, 1997 Mandoki & Burkhart, 1989). Zurbriggen and Freyd (2004) propose several cognitive mediators of childhood maltreatment and revictimization. These cognitive adaptations to child abuse trauma include impaired self-esteem, impaired reality-detecting mechanisms, impaired "cheater detectors", a dissociative

cognitive style, and impaired sexual decision-making rules. These cognitive adaptations would presumably act to impair interpersonal relationships. Although is not clear whether dissociation is better subsumed under affect dysregulation or relatedness disturbances, these two effects of childhood maltreatment are correlated with each other (Briere, 1998, 2000). Briere subsumes both affect dysregulation and impaired relatedness under the rubric of Altered Self-Capacities, which also includes identity disturbance.

Current Study. This study adds to the current literature by sampling from populations (e.g., correctional facilities) that have not heretofore been examined in relation to risk factors for revictimization, by examining different forms of childhood maltreatment per Briere's (1992) Child Maltreatment Interview Schedule (CMIS), by including various forms of revictimization, and by using several normed, standardized measures that were specifically developed to assess for posttraumatic and complex posttraumatic sequelae rather than general psychological impairment. Although most studies that have examined risk factors for revictimization have included at least some trauma-specific measures, many have utilized general symptom measures. In this study, we are interested in examining the potential predictive roles of affect dysregulation, interpersonal difficulties and PTSD in revictimization. It is hypothesized that affect dysregulation, interpersonal relatedness problems, and PTSD increase the risk of revictimization over and above any effects of demographics and childhood maltreatment factors.

Method

We utilized a retrospective, self-report methodology in this study to assess for childhood maltreatment, affect dysregulation, relationship difficulties, PTSD, and revictimization. Approval was obtained by all relevant institutional review boards. The Community and Internet participants were offered $20 to compensate for the time required to complete the questionnaires, and individuals from the correctional facilities were offered a $7 honorarium (the equivalent to one day's pay in the federal Correctional system), in accordance with Correctional policy. Several of the respondents from the Internet sample declined the honorarium. Their funds were pooled and sent to The United Way International, designated for survivors and families of victims of the 9-1-1 terrorist attacks against the

United States, which occurred at the time of data collection. Informed consent was obtained, and confidentiality and anonymity were guaranteed for all participants.

All participants were informed that they could withdraw from participation at any time with no adverse consequences and were provided with contact information for the researchers in case they had any questions, as well as numbers to crisis lines and counseling centers if they wished to discuss any thoughts or feelings that came about from participating in the study. Correctional inmates were informed that they could contact the duty psychologist if they experienced any distress after completing the questionnaires.

Materials

Detailed Assessment of Adult Posttraumatic Stress (DAPS). The DAPS (Briere, 2001) is a 104-item self-report, normed and standardized instrument that measures the full range of DSM-IV criteria for PTSD, as well as peritraumatic dissociation, trauma-specific dissociation (i.e., dissociative symptoms that are directly related to the index traumatic event), and substance abuse. The DAPS has good reported reliability and validity (Briere, 1998, 2001). Alpha coefficients range from .81 to .90 for the trauma specification scales, and from .72 to .96 for the clinical scales.

Multiscale Dissociation Inventory (MDI). The MDI (Briere, 2002a) is a normed and standardized 30-item instrument designed to measure criteria for the DSM-IV-TR Dissociative Disorders. The MDI has good reported reliability and validity (Briere, 2002a), with reported mean reliability coefficients of .85 (general population sample), .77 (university sample) and .92 (clinical-community sample).

Cognitive Distortions Scale (CDS). The CDS (Briere, 2000) is a 40-item, normed and standardized instrument that assesses five types of cognitive distortions that have been reported in persons who have been maltreated as children. The CDS has good reported reliability and validity (Briere, 2000), with alphas ranging from .89 to .97.

Inventory of Altered Self Capacities (IASC). The IASC (Briere, 1998, 2000) is a seven-scale, 63-item normed and standardized instrument that assesses for impairments in sense of self that are frequently reported in adults who experienced chronic and severe abuse and neglect. The items reflect symptoms and behaviors that have traditionally been associated

with Borderline Personality Disorder, and scales include Interpersonal Relatedness difficulties, Affect Dysregulation, and Identity Disturbance scales. Internal consistency alphas range from .87 to .96, and reported validity is good (Briere, 1998, 2000).

Somatoform Dissociation Questionnaire (SDQ-20). The SDQ-20 (Nijenhuis, Spinhoven, van Dyck, Van der Hart, & Vanderlinden, 1996) is a 20-item instrument that assesses for Somatoform Dissociation. It has reported internal consistency reliability of .95, and evidence for convergent, discriminant, and predictive validity (Nijenhuis, et al, 1996). The items of the SDQ-20 reflect somatic (sensory and motor) aspects of dissociation that are not included among the DSM-IV Dissociative Disorders criteria, and which are traditionally associated with conversion hysteria. Normative data are available for Dutch, Turkish and North American clinical samples.

Self-Inventory of Disorders of Extreme Stress (SIDES). The SIDES-SR is a 45-item self-report measure designed to assess for several of the associated features to PTSD. The interview format (SIDES) (Pelcovitz, et al., 1997), upon which the SIDES-SR is based, was used for the original DSM-IV field trial. The scales of the interview evidenced good internal consistency (.76-.90) (Alterations in Perceptions of the Perpetrator scale was dropped due to low reliability) (Pelcovitz, van der Kolk, Roth et al., 1997). Reliability coefficients for the modified SIDES-SR total scale are reported at .93 and from .74 to .82 for five subscales, and a somewhat lower Somatization subscale coefficient of .68 (Luxenberg, Spinazzola, & van der Kolk, 2001).

Child Maltreatment Interview Schedule (CMIS). The CMIS (Briere, 1992) was administered in self-report format, and inquires into childhood psychological, physical, and sexual abuse, as well as parental physical and psychological unavailability, parental substance abuse, and witnessing domestic violence. Information on these experiences was obtained for children and adolescents up to the age of 18. The CMIS inquires into maltreatment before the age of 17; however, we included the age of 17 so as to not leave the one year between age 17 and 18 unaccounted for in terms of victimization experiences and so that it allows for higher base rates of childhood abuse. It is also consistent with other research studies (e.g., Cloitre, et al., 1997).

The psychological abuse subscale has good alpha reliability (.87) (Briere & Runtz, 1988, 1990). Although there are no validity data on the CMIS (other than internal consistency coefficients for the psychological abuse scale), the CMIS has been successfully used in several credible studies (e.g., Cloitre, Cohen, Edelman, & Han, 2001; Cloitre, Scarvalone, & Difede, 1997; Heffernan & Cloitre, 2000; Walker, Keegan, et al., 1997; Walker, Newman, Koss, & Bernstein, 1997). We also included a question inquiring into whether the individual had ever been separated from a primary caregiver prior to age 17, and the identity of the caregiver(s).

We included feeling unloved by mother and unloved by father as independent variables for this study in addition to the more commonly examined forms of childhood maltreatment since clinical observations suggest that childhood emotional neglect has adverse effects on adult relationship functioning (Cook et al., 2005). These difficulties are believed to be based in attachment difficulties related to parental unavailability during childhood.

Maltreatment Index. We weighted each of the CMIS childhood maltreatment types to obtain severity ratings. Weights were determined in accordance with the clinical and empirical literature regarding those characteristics of childhood maltreatment that have been reported to result in greater impairment, such as frequency of abuse, duration, chronicity, severity (e.g., whether medical attention was required), number of perpetrators, and for sexual abuse, intrafamilial abuse. The severity ratings were summed and added to the number of different types of maltreatment reported by the participants to result in the maltreatment index, with a possible total score of 22.

Adult Victimization Survey. The AVS is a modified version of the Child Maltreatment Interview Schedule (CMIS). We re-worded items from the CMIS psychological, physical and sexual abuse sections such that they are suitable for adult victimization experiences. Respondents were asked to indicate experiences of psychological abuse, physical assault, and sexual assault after age 17. Adult sexual assault was coded positively if the individuals indicated they had experienced the same events as in the CMIS (e.g. sexual kissing, touching, penetration) when they did not want it or when they were too intoxicated with drugs or alcohol to give consent. Items also inquired into the individual's relationship to the

perpetrator(s), number of perpetrators, and physical severity (e.g., need for medical attention).

Participants

Two hundred and twenty-four participants (135 females; 87 males; 2 individuals did not indicate gender) were recruited by way of written advertisement, including 19 persons from a local Community Counseling Center (8.5%), 72 from Canada Corrections (32.1%), 38 from a provincial Correctional Center for Women (17%), as well as 95 from the Internet (42.4%). Seventeen individuals did not meet childhood maltreatment criteria per the CMIS, and were dropped from the study, leaving a total sample size of 207. Of the remaining sample, 130 were female (62.8%) and 76 were male (36.7%). One person did not indicate gender. The majority (n = 96) of individuals from the internet and clinic sample was female. The participants ranged in age from 18 years to 65 years and the mean age for the sample was 37.9 (SD = 10.2). The majority was Caucasian (85.5%), followed by Aboriginal (9.7%), Hispanic (1.4%), and Black, Asian or Other (1% respectively).

There were no significant differences between the internet and clinical samples on demographic or abuse history variables. Given the small number of participants from the community sample, these two groups were pooled for analysis. All but one of the participants from the internet indicated that they had received psychotherapy in the past and/or were currently in psychotherapy.

Mean differences were computed between the three remaining groups (male inmates, female inmates and the combined clinical/internet sample) on the predictors. Results of one-way ANOVA indicate significant main effects for each of the predictors. Results of post-hoc comparisons are shown in Table 1. There are significant differences on all measures between male inmates and female inmates, with the exception of SDQ-20 and MDI scores. The male inmates and clinical/internet sample (96 females; 13 males) are significantly different from each other on all measures with the exception of Peri-traumatic Dissociation. The only scales on which the female inmates and the clinical/internet sample differ are substance abuse and SDQ-20 scores. These differences suggest that gender is the main distinguishing factor on these measures, since 88% of the combined clinical/internet sample is female. Given this

gender difference, coupled with gender differences on the dependent measures (see Tables 4, 5 and 6), separate regression analyses were conducted for males and for females, controlling for group (inmates versus clinical/internet).

-insert Table 1 about here-

Regression Analyses

Hierarchical, stepwise, logistic regression analyses were calculated on the following dependent measures: physical revictimization and sexual revictimization, as well as revictimization of women by intimate partners.

Selection of Predictor Variables. As shown in Table 2, correlation coefficients were calculated between each of the childhood maltreatment variables and each of the dependent variables. Separate analyses were conducted for females and for males. Those variables with weak correlations with the dependent variables were not included in regression analyses.

-insert Table 2 here-

Zero-order correlations between trauma symptom measures and the dependent variables of interest were also computed, and results are shown in Table 3.

-insert Table 3 here-

Only those measures that correlate significantly with each dependent variable were retained and examined for multicollinearity (r of approximately .70), for women and men separately. Peri-traumatic dissociation is not associated with any index of revictimization and this scale was not examined further.

Physical Revictimization. For women, the SIDES-SR total scores and Relatedness scores are highly inter-correlated (r = .69). In addition to the SDQ-20, the SIDES-SR Relatedness score was retained for the regression analysis given it is more strongly associated

with physical revictimization than the SIDES-SR total score. None of these scales correlates with physical revictimization of males (see Table 3).

Sexual Revictimization. For women, the SIDES-SR Total score and Relatedness score are highly inter-correlated, as noted above. In addition, the Trauma-specific Dissociation scale and the MDI are highly correlated (r = .72), and the SIDES-SR total score and the CDS are highly correlated. The SIDES-SR total score and Trauma-specific Dissociation scale were removed as predictors. The remaining correlations range from .29 (SIDES-SR Relationship scale and MDI) to .56 (SIDES-SR Relationship scale and CDS), and were retained for the regression analysis.

For males, the IASC total score, IASC Relatedness problems scale and IASC Affect Dysregulation scale were highly intercorrelated (r ranges from .89 to .97). In addition, the IASC total score and IASC Relatedness problems scale were highly correlated with the CDS (r = .76 and .72, respectively). Since the CDS score has the highest zero-order correlation with outcome, the IASC scores were not included in the regression analyses and the CDS was retained.

Physical Violence Against Women in Relationships. The Substance abuse and SIDES-SR relationship problems scores correlate at .26 and both are retained for final analysis.

Sexual Violence Against Women in Relationships. For sexual violence against women in relationships, other than the high correlation between SIDES-SR Total and Relatedness scores, there was no significant multicollinearity. The SIDES-SR total score was removed as a predictor of this type of revictimization.

Combined Psychological, Physical and Sexual Violence Against Women in Relationships.

IASC total and Relatedness scores are highly correlated (r = .92), and the IASC total score was removed.

Final Regression Procedure. Age, group status (inmates versus internet/clinical) and race were entered into logistic regression analyses as covariates on the first block, using stepwise entry. In the second block, childhood maltreatment severity index and those childhood maltreatment types that are correlated with the dependent measure of interest in

each regression analysis were entered, using stepwise entry; and in the third block, those trauma-symptom measures that related to outcome of interest in each particular analysis were entered, using stepwise entry methods. The specific predictors for each outcome measure are indicated in the regression analyses results section.

We chose this hierarchical order of entry as it is assumed that childhood maltreatment precedes symptomatology, and we were interested in discerning the effects of posttraumatic symptomatology over and above the effects of demographic, group status, and childhood maltreatment variables. This allows for the determination of the effects of those posttraumatic sequelae variables in the third block that are associated with revictimization, while controlling for (partialling) any effects of demographics, group status, and childhood maltreatment.

Results

Internal Consistency

Cronbach's alpha reliabilities are excellent for the scale total scores (ranging from .92 to .99), and the subscale alpha coefficients are fair to excellent, ranging from .71 to .98. The exception is the SIDES-SR Altered Self-Perceptions scale, where the internal consistency coefficient is somewhat low (68).

To determine whether the relatively low alpha coefficient for the SIDES-SR Altered Self-Perceptions scale was due to responses associated with a specific group, the coefficients for male inmates, female inmates, and non-inmates were examined separately. The relatively low coefficient for Altered Self-Perceptions appears to derive from the male inmates. The alpha coefficients for male inmates = .66; for female inmates α= 82; and for non-inmates α = .77. Descriptive analysis suggests that the low coefficients for the male inmates may be based in a restriction in the range of scores. Male inmates were significantly more likely to provide a rating of zero on the Altered Self-perceptions scale of the SIDES-SR than were the other two groups (χ^2 = 36.5, 2, $p < .001$). The higher proportion of zero ratings for male inmates may reduce in–group variability and may have deflated the inter-item correlations.

Childhood Adversity

Percentages and results of Chi-square analyses of various forms of childhood adversity are presented in Table 4. There were group differences for most types of childhood adversity experienced, with the exception of childhood physical abuse, having felt unloved by father, and loss of a caregiver. Also shown in Table 4 is information on sample demographics and any group differences. There are significantly more females in the clinical/internet group (n = 96) than the inmate groups (n = 34), and significantly more males in the inmate group (n = 63) than in the clinical/internet groups (n = 13), $\chi^2 = 61.9, 1, p < .001$).

--insert Table 4 about here –

Adulthood Victimization

Table 5 shows the victimization percentages based on type of victimization and group. Ninety percent of the sample reported having experienced at least one type of victimization (psychological, physical, or sexual) after age 17. Male inmates report significantly less psychological and sexual victimization during adulthood as compared to female inmates and the clinical/internet sample, and female inmates report significantly more physical victimization when compared to the clinical/internet sample.

-insert Table 5 about here-

Approximately half (53.9%) of those with childhood psychological abuse histories report psychological abuse during adulthood and almost half of the sample (48.3%) reported having been psychologically abused by a partner, with no significant differences between the three groups (male inmates, female inmates, clinical/internet). Gender differences were calculated on various types of adult victimization, and are depicted in Table 6. For CPA, the overall rate of physical revictimization is 72.2%, with close to one-third of the sample (28.2%) reporting physical assault by a partner. Female inmates reported more physical abuse by a partner than the other two groups ($\chi^2 = 47.8, 2, p < .01$). Physical abuse of males was most frequently perpetrated by known associates of the men (n = 33), followed by strangers

(*n* = 15) and intimate partners (*n* = 2). About one-third of the sample (32.9%) reported having experienced non-penetrative sexual assault by a partner, with the combined internet/clinic sample reporting significantly more unwanted sexual touching than the inmates ($\chi^2 = 38.7$, 2, $p < .01$). With regard to sexual assault that involved penetration, 22.1% of the full sample reported penetrative sexual assault by a partner, with the internet/clinic sample reporting more penetrative sexual assault by a partner than the inmates ($\chi^2 = 22.7$, 2, $p < .01$).

-insert Table 6 about here-

Regression Analyses

For all regression analyses, age, group status and race were entered on the first block. Various childhood maltreatment types were entered on the second block, as determined by the strength of correlation between each maltreatment type and the outcome measure of interest. Those types of childhood maltreatment with significant zero-order correlations with outcome were entered. Trauma symptom measures with significant zero-order correlations with outcome were entered on the third block.

Physical Victimization during Adulthood. Childhood psychological abuse, childhood physical abuse and childhood maltreatment index were entered on Block 2, followed by SDQ-20 total score and SIDES-SR Relationship scale score on the third block. Results indicate that the main predictors of physical revictimization of women include childhood physical abuse and SIDES-SR Relatedness Problems ($\chi^2 = 16.5$, 2, Nagelkerke $R^2 = .16$, $p = .000$). Results are shown in Table 7.

--insert Table 7 about here –

Since none of the trauma symptom measures were significantly correlated with physical revictimization of males, only childhood maltreatment variables were entered, controlling for age, race and group status. Parental substance abuse, childhood psychological abuse, non-penetrative childhood sexual abuse, loss of parent, and childhood maltreatment

index were entered into the model. Significant predictors include parental substance abuse and childhood sexual abuse (non-penetrative), with model $\chi^2 = 14.7$, 2, Nagelkerke $R^2 = .25$, $p = .001$ (see Table 8).

-insert Table 8 about here-

Sexual Victimization during Adulthood. For women, childhood physical abuse, childhood sexual abuse involving penetration, and child maltreatment index were entered on Block 2, and PTSD (yes or no), SDQ-20, MDI, SIDES-SR Relationship and CDS total scores were entered on the third block. The main predictors of sexual revictimization include Childhood Maltreatment Index, PTSD, and SIDES-SR Relatedness Problems. The final model is shown in Table 8, with model $\chi^2 = 20.1$, 3, Nagelkerke $R^2 = .19$, $p = .000$.

--insert Table 9 about here –

For males, CSA (non-penetrative) and Childhood Maltreatment Index were entered on the second block, with PTSD (yes or no) and SDQ-20, SIDES-SR Affect Dysregulation, SIDES-SR Relatedness Problems, and CDS total scores entered on the third block. The main predictors of sexual revictimization of men include Maltreatment Index and Cognitive Distortions (see Table 10). The model χ^2, 2 = 16.7, Nagelkerke $R^2 = .35$, $p = .000$.

-insert Table 10 about here-

Intimate Relationship Victimization During Adulthood. We explored various types of victimization against women within intimate relationships. We did not examine predictors of victimization against men within intimate relationships given only two men reported this form of adulthood victimization. We looked at the following types of revictimization within partnerships, using three separate regression analyses: physical abuse by a partner, sexual abuse by a partner, and combined psychological, physical, and sexual abuse by a partner.

Physical Victimization by a Partner. Childhood psychological abuse and physical abuse were entered on Block 2, and Substance abuse and SIDES-SR Relationship Problems score was entered on Block 3. The main predictors of physical revictimization by a partner include childhood psychological abuse and substance abuse (see Table 11). The model χ^2 = 16.4, 2 Nagelkerke R^2 = .16, p = 000.

--insert Table 11 about here –

Sexual Victimization by Partner. Childhood Physical Abuse, having felt unloved by mother, and Childhood Maltreatment index were entered on Block 2, with SDQ-20, MDI, SIDES-SR Relationship Problems and PTSD total scores entered on Block 3. The main predictors of sexual revictimization by a partner include MDI total score (negatively predicts) and SIDES-SR Relationship Problems (see Table 12). The model χ^2 = 10.2, 2, Nagelkerke R^2 = .10, p = .006.

--insert Table 12 about here --

Combined Sexual, Physical, and Psychological Abuse by a Partner. Witnessing domestic violence as a child, having felt unloved by mother, Childhood Physical Abuse, Childhood Psychological Abuse, and Childhood Maltreatment index were entered on the second block, with SDQ-20, IASC Relatedness Problems, SIDES-SR Relatedness Problems, and PTSD total scores entered on the third block. Results indicate that childhood physical abuse and IASC Relatedness Problems predict this most severe form of intimate partner violence against women. The model χ^2 ,2, = 13.5 , Nagelkerke R^2 = .18, p < .001 (see Table 13). Women with childhood physical abuse history were approximately five times more likely to experience this form of partner abuse than those without this history.

-insert Table 13 about here-

Discussion

Revictimization experiences were high in the present sample, with approximately ninety percent of participants reporting some form of adult revictimization. Some very interesting gender differences in revictimization merit comment. Women in this sample are significantly more likely to experience revictimization than men, and the likelihood of revictimization varies depending on the type of revictimization examined. These women are three and a half times more likely to experience revictimization than men, and are almost four times as likely to experience some form of revictimization within interpersonal relationships. In terms of sexual revictimization, women in this sample were more likely than men to experience any sexual assault, to be sexually assaulted by a stranger, and to experience unwanted sexual contact within an intimate relationship. The only type of revictimization that is higher for men in this sample is physical assault by a stranger.

It could be argued that these rates of victimization and the gender differences for physical violence and sexual violence could be specific to this sample, given we sampled from correctional facilities. It has been estimated that over half of male inmates in Canadian federal prisons are at increased risk of physical violence, and this estimate is considered to be conservative as many inmates do not report violent incidents for various reasons. Comparisons of rates of violent victimization between males over age 15 in the community and males in prison settings show that approximately 90 males out of 1000 in the community are victimized, whereas the rate in prisons is approximately 538 per 1000 inmates (Cooley, 1992). Empirical data are fairly consistent in reporting lower rates of violence by female prisoners (Harer & Langan, 2001). It could also be argued that including female inmates in the present sample could inflate rates of sexual revictimization given many female sex trade workers are in prisons, and are at increased risk of sexual violence. However, perusal of Table 5 shows that there is no significant difference between male inmates and the other two groups on physical revictimization, and female inmates and the clinical/internet sample report equal rates of sexual revictimization.

Predictors of Revictimization

Interpersonal Relatedness Difficulties

Cloitre (1998) and others (e.g., Briere, 2002b; van der Kolk et al., 1996; Zurbriggen & Freyd, 2004) have noted that childhood maltreatment and corresponding attachment difficulties are associated with maladaptive relationship or self schemas in adulthood. These schemata may be associated with various cognitions and behaviors that increase risk of revictimization. It is conceivable that individuals who have negative perceptions and feelings about themselves are vulnerable to Relatedness Problems and to revictimization experiences, particularly when conditioned to believe that they are responsible for abuse or are undeserving of care and respect. Zurbriggen and Freyd posit that individuals abused as children may have deficits with reality-testing insofar as perpetrators tend to distort the child's reality, lie to the child (and others), engage in denial and project blame. When these children carry the resultant self-doubt into adulthood, they may disregard valid intuitions that communicate danger. Similarly, given abuse survivors have experienced significant interpersonal betrayal their mechanisms to assess trustworthiness may be impaired. As noted by Zurbriggen and Freyd, dependent children are unable to confront perpetrators or flee from them, and they may thus turn "cheater detector" mechanisms off. Should this persist into adulthood, they may fail to appropriately discern who is trustworthy from who is not.

Various forms of childhood maltreatment were significant predictors in the current study. Although the specific types of maltreatment vary between dependent measures, all forms are consistent in that they involve either bodily intrusion (physical or sexual abuse), feelings of neglect (feeling unloved by mother, parental substance abuse), or psychological abuse. Each of these types of childhood maltreatment would have probable effects of undermining self-esteem, instilling feelings of not having control over what happens (helplessness), instilling self-doubt, and causing attachment-related disturbances. For men, cognitive distortions predict sexual revictimization, and this scale includes helplessness, hopelessness, self-criticism, self-blame and preoccupation with danger.

Impaired interpersonal relatedness is a consistent predictor across most types of revictimization examined in this study, and is consistent with Cloitre's model. Zurbriggen and Freyd (2004) hold that CSA may interfere with the ability to freely consent to sexual activity (and thus would involve Relatedness Problems). Holding inaccurate beliefs about

relationships, unhealthy beliefs about the self, lack of access to internal affective states (posttraumatic numbing and/or alexithymia), and inability to formulate or activate effective sexual-decision-making rules can interfere with consensual decision-making, thereby increasing risk of sexual revictimization.

Affect Dysregulation and PTSD in Revictimization

Affect dysregulation is defined as "alternating experiences of emotional flooding and numbing" (Cloitre, 1998, p. 280). As noted by Cloitre, abuse can directly contribute to affect regulation problems because it promotes chronic arousal (which may interfere with the ability to consistently modulate affect), and it may contribute indirectly in that the learning of effective affect regulation skills would likely be impeded in abusive families (e.g., through poor modeling). Affect dysregulation is believed to increase risk of revictimization insofar as it interferes with the individual's ability to appraise or cope with dangerous situations, thereby impeding appropriate fight or flight responses when at imminent risk of victimization.

Several of the posttraumatic symptoms in this study that reflect affect dysregulation played a role in revictimization. Predictors related to affect dysregulation include substance abuse (related to physical violence against women in relationships), Somatoform Dissociation (related to sexual violence against women in relationships), and PTSD (related to any sexual revictimization against women). Although Cloitre (1998) did not subsume PTSD under affect dysregulation, the symptom clusters involve affective distress, avoidance/emotional shutdown, and excessive arousal, which reflect dysregulated affective processes. As such, PTSD can be considered a component of affect dysregulation.

Posttraumatic Hyperarousal and Numbing. As noted by Cloitre (1998), CSA and PTSD are highly related, and PTSD has been shown to contribute to risk for repeated victimization of sexual assault victims. This is consistent with the results of the current study, which shows that PTSD is a predictor of sexual revictimization for this sample. Emotional flooding and numbing may contribute to revictimization in that floods of fear or other emotions that may occur when confronted with threatening situations can impede cognitive

appraisal and fight or flight responses. Numbing or emotional shutdown can effectively result in an inhibition of activity, such as running away or fighting (Cloitre, 1998).

Individuals may "over-modulate" affect by using cognitive suppression or avoidance to keep certain information from awareness (e.g., see Briere, 2002b; Wegner & Erbner, 1992). The exclusion of such information from conscious awareness may prevent the elicitation of associated or conditioned affect (Briere, 2002b). It stands to reason that such exclusion could thus contribute to emotional numbing and result in emotional and behavioral shutdown when confronted with threat. This is consistent with findings from Field et al. (2001) and Wilson et al. (1999). Field and colleagues, using a modified Stroop task, found that revictimized women showed stronger Stroop interference to words that were associated to sexual trauma, suggesting cognitive processing interference to trauma-related stimuli. Wilson et al. (1999) found that revictimized women with PTSD waited significantly longer during an experimental date-rape scenario to take appropriate action (i.e., identify the situation as high risk). The women with longer response latencies had lower mean baseline posttraumatic hyperarousal when compared to those who were not revictimized and who had shorter response latencies. These results suggest that the individuals who experienced an initial inhibited response (hypoarousal) were less likely to stop an inappropriate scenario prior to its escalating to date-rape.

Substance Abuse. Traumatized individuals are at increased risk of substance abuse disorders such that they abuse substances in order to numb feelings relating to traumatization (Briere, 2001). Intoxication with substances may impair the individual's judgment of risky situations, thereby increasing risk of revictimization (Chu, 1992; Van der Kolk, 1989; Wilsnack et al., 2004).

Somatoform Dissociation. Somatoform dissociation refers to intrusive physical sensations (e.g., chronic pain that is not due to a known medical disorder) and “negative” symptoms (e.g., freezing/paralysis; inability to speak) that have been empirically related in several studies to childhood sexual abuse and to dissociation (Nijenhuis, 2000; Nijenhuis, Spinhoven, van Dyck, Van der Hart, & Vanderlinden, 1996; Nijenhuis, Van Engen, Kusters, & Van der Hart, 2001). Based on studies that have examined animal defenses when under

attack, Nijenhuis and colleagues relate symptoms of somatoform dissociation to innate fight, flight, and freeze responses (Nijenhuis, Spinhoven, Vanderlinden, van Dyck, & van der Hart, 1998).

Conclusions

The results of this study are consistent with Cloitre's model of revictimization. Childhood maltreatment types are clearly implicated in victimization during adulthood, and are thought to play a role through their effects on sense of self and concomitant impairments with relationships, affect regulation and cognitive processes. Posttraumatic symptoms predicted various types of revictimization, with the most consistent predictor being Interpersonal Relatedness Problems. PTSD predicted sexual revictimization of women, whereas cognitive distortions relating to sense of self predict sexual revictimization of males. Substance use plays a role in physical violence against women in relationships and somatoform dissociation plays a role in sexual revictimization of women in relationships. Future studies using larger sample sizes and homogeneous samples would likely provide greater accuracy and would have more power to detect significant predictors. The variations in posttraumatic predictors (other than Relatedness Problems) could be based in the heterogeneous samples used in this study or could reflect actual differences in the intrapsychic and interpersonal processes involved in various forms of revictimization, as well as actual gender differences in predictors of revictimization. Further study is required to clarify this issue.

Limitations

The above findings need to be understood with the limitations of this research in mind. First, the study used retrospective, self-report methodology. Individuals were asked to report on posttraumatic symptomatology that was assumed to be based in the original childhood trauma; however, it is conceivable that the posttraumatic symptomatology is based in both the childhood trauma and adult traumas (including revictimization), or that it is based solely in adult trauma. The non-prospective design of the study precludes clear conclusions regarding directionality. In addition, the vagaries of memory over time may impact the

reliability of retrospective ratings, particularly with regard to the timeline (e.g., onset) of symptoms.

The upper age cutoff of 17 to define childhood abuse could be viewed as disadvantageous by some, in that adolescence differs from childhood as a specific developmental stage, and the predictors of revictimization and perpetration for those abused at younger ages may differ from those abused during adolescence. It is possible, for example, that abuse at younger ages may impact affect regulation abilities more so than abuse during adolescence, and that abuse during adolescence may have a stronger impact on adult sexual identity than abuse during younger ages.

Suggestions for Future Study

Suggestions for future research include conducting prospective, longitudinal studies, where individuals are assessed at baseline for childhood maltreatment and posttraumatic symptoms, followed over a certain period of time (e.g., one year), and then reassessed for posttraumatic symptoms and any victimization experiences during the pre-post interval. Such data would be very useful in teasing apart the directional roles of PTSD and other sequelae (e.g., somatoform dissociation, altered self-capacities) in revictimization.

Once robust predictors of revictimization are identified, the development and validation of actuarial risk assessment instruments (for the assessment of risk of revictimization) could ensue. Such instruments could provide useful information on which clients are at the highest risk of being revictimized, and the specific risk factors endorsed by a given client could become a key focus of treatment.

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Table 1

Mean Differences between Groups Across Predictor Variables

Predictor	Female I/M	Male I/M	Combined	*F*	*df*
	Means (*SD*)				
Peritraum. Dissociation	19.0 (8.0)	14.8 (6.4)	19.4 (6.8)[a]	9.1	2, 201
Substance Use	23.3 (10.7)	18.2 (9.4)	12.2(4.3)[abc]	32.9	2, 204
Somatoform Dissociation	25.8 (7.5)	24.0 (6.0)	30.5 (11.5)[bc]	9.9	2, 204
Multiscale Dissociation	64.4 (25.8)	52.3 (19.4)	75.8 (31.5)[b]	14.7	2, 204
Altered Self Capacities	168.9 (68.7)	124.8 (44.7)	164.8 (52.3)[ab]	12.8	2, 192
PTSD Total Score	88.5 (33.6)	68.1 (28.2)	94.4 (32.4)[ab]	13.9	2, 200
SIDES-SR	20.2 (14.9)	11.8 (10.4)	24.3 (11.2)[ab]	23.3	2, 203

Note

a Significant difference between male inmates and female inmates ($p. < .05$)
b Significant difference between male inmates and combined clinical/internet ($p. < .05$)
c Significant difference between female inmates and combined clinical/internet ($p. < .05$)

Table 2

Zero Order (Phi) Correlations between Childhood Maltreatment Types and Revictimization for Females (F) and Males (M)

	Physical Revic.		Sexual Revic.		Physical (Partner)	Sexual (Partner)	Combined (Partner)
	F	(M)	F	(M)	F	(F	F
Parental Substance Abuse	.02	(.28*)	.02	(.11)	.07	-.04	.07
Witness DV	.05	(.11)	.12	(.02)	.06	.09	.19*
Unloved by Mother	.01	(.08)	.14	(.19)	-.02	.24**	.17*
Unloved by Father	.04	(.03)	.05	(.17)	-.06	.00	.00
Child Psychol. Abuse	.28**	(.22*)	.10	(.07)	.21**	.12	.18*
CPA	.31***	(.19)	.20*	(.15)	.17*	.17*	.26**
Any CSA	.08	(.23*)	.16	(.24*)	.002	.12	-.02
CSA, non Penetration	.05	(.34**)	.13	(.27*)	-.02	.08	-.07
CSA w/ Penetration	-.01	(.13)	.18*	(.25*)	-.01	.12	.06
Loss of Parent	-.03	(.23*)	.03	(-.03)	-.01	.07	-.03
Total Maltreat-ment Index	.19*	(.29*)	.23**	(.29*)	.08	.18*	.21*

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Note Values for men are in parentheses. Partner revictimization was not examined for males and Phi coefficients are not reported.

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

Table 3

Zero Order Correlations between Trauma Symptom Measures and Revictimization for Females (F) and Males (M)

	Physical Revic.		Sexual Revic.		Physical (Partner)	Sexual (Partner)	Combined (Partner)
	F	(M)	F	(M)	F	F	F
Peri-traumatic Dissoc.	.-.11	(.04)	.15	(.15)	-.04	.16	.11
Substance Abuse	.15	(-.12)	.16	(.08)	.23**	.03	.07
PTSD	.01	(.11)	..30**	(29**)	.04	.14	.13
SDQ-20	.23**	(-.01)	.21*	(.25**)	.07	.28**	.29**
MDI	-.06	(-.04)	.21**	(.06)	-.12	.19*	.13
IASC Total	..14	(.11)	.14	(.28**)	.16	.15	.24**
SIDES-SR Total	.19*	(-.03)	.23**	(.18)	.11	.20*	.19
IASC Rel. Problems	.14	(.15)	.13	(.28**)	.16	.17	.25**
IASC Affect Dysregulation	..13	(.07)	.12	(.32**)	.12	.12	.17
SIDES-SR Affect Dysr.	.15	(.03)	.06	(.27**)	.08	.06	.08
SIDES-SR Rel. Problems	.27**	(-.06)	.27**	(.28*)	.21*	.20*	.25**
Trauma-Specific Dissociation	-.15	(-.01)	.18*	(.08)	-.14	.14	.11
CDS	.05	(.00)	.18*	(.38*)	.02	.10	.16

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Note Values for men are in parentheses. Partner revictimization was not examined for males and Phi coefficients are not reported.

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

Table 4

Correctional versus Clinical/Internet samples on Demographics and Childhood Maltreatment Histories

Demographic and Childhood Maltreatment Variables	Male Inmates (*n* = 63)	Female Inmates (*n* = 34)	Internet/Comm Sample (*n* = 110)	Total Sample (*n* = 207)	$\chi 2$
Age	35.9 (*M*) 9.8 (*SD*)	31.4(*M*) 7.3(*SD*)	**41.1 (*M*)** 9.7 (*SD*)	37.9 (*M*) 10.0 (*SD*)	-
Gender					
Male	100%	0%	11.9%	63.1%	-
Female	0%	100%	88.1%	26.9%	-
Race					30.73** (2 *df*)
Caucasian	75.8%	76.5%	**94.5%**	85.9%	
Hispanic	0%	0%	2.7%	1.5%	
Black	1.6%	0%	0.9%	1.0%	
Asian	**3.2%**	0%	0%	1.0%	
Aboriginal	19.4%	20.6%	**0.9%**	15%	
Other	0%	2.9%	0.9%	1.0%	
Parental Substance Abuse	**73%**	58.8%	**32.7%**	50%	27.49** (2 *df*)
Witnessed Domestic Violence	**65.1%**	44.1%	45.5%	52%	6.99* (2 *df*)
Felt Unloved by Mother	**9.5%**	14.7%	**38.5%**	26%	20.1** (2 *df*)
Felt Unloved by Father	32.8%	21.2%	34.9%	32%	2.19 ns (2 *df*)
Childhood Psychological Abuse	**69.8%**	73.5%	**90.7%**	83%	13.2** (2 *df*)
Childhood Physical Abuse	61.8%	61.9%	66.4%	66%	0.45 ns (2 *df*)
Childhood sexual abuse	**58.7%**	79.4%	**90%**	80%	23.4** (2 *df*)

Loss of Caregiver	30.2%	20.6%	26.4%	27%	1.0 ns (2 *df*)

Note. When one group value in a row is highlighted in bold, that group is statistically different from the other two groups. When two group values in a row are highlighted in bold, those two highlighted groups are statistically different from each other.

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

Table 5

Percentages of Adult Victimization as a Function of Sample Source

Type of Adulthood Victimization	Male Inmates (*n* = 63)	Female Inmates (*n* = 34)	Internet/Comm Sample (*n* = 110)	Total Sample (*n* = 207)	$\chi 2$ (2 *df*)
Adult Psychological Abuse	**31.7**	58.8	53.6	49	9.66**
Adult Sexual Victimization	**19.4**	70.6	70.9	52	46.4**
Adult Physical Victimization	67.2	**79.4**	**55.5**	45	7.07*
Any Victimization	**74.6**	94.1	93.6	90	15.1**

Note. When one group value in a row is highlighted in bold, that group is statistically different from the other two groups. When two group values in a row are highlighted in bold, those two highlighted groups are statistically different from each other.

* $p < .05$

** $p < .01$

Table 6

Gender Differences in Adult Victimization

Victimization Type	Men (*n*)	Women (*n*)	$\chi 2$	*p*	Odds Ratio
Any Victimization	60	121	8.9	.003	3.6
Any Abuse by Partner	29	92	20.2	.000	3.8
Psychological Abuse					
Any	30	71	4.4	.036	1.8
By Partner	30	71	4.4	.036	1.8
Physical Assault					
Any	50	79	.93	ns	--
By Partner	2	57	39.8	.000	29.8
By Stranger	15	5	13.8	.000	2.7
Sexual Assault					
Any	11	76	38.0	.000	8.3
Any, by stranger	11	43	8.5	.003	2.9
Any, by partner	2	50	32.6	.000	23.1
Non-penetrative					
By Stranger	10	37	6.3	.012	2.6
By Partner	1	48	33.5	.000	43.9
By both	1	13	5.7	.017	8.3
Penetrative					
By Stranger	7	34	8.6	.003	3.4
By partner	1	31	18.5	.000	23.4
By Both	0	8	4.8	.027	1.06

Note

"By both" = both partner and stranger

Table 7

Stepwise Hierarchical Logistic Regression Model of Physical Revictimization of Women

	Predictor	*B*	*S.E.*	Wald	*df*	*p.*	Odds
Step 1							
	Childhood Physical Abuse	1.0	.40	7.1	1	.007	1.9
	SIDES-SR Relationships	.26	.11	4.9	1	.126	1.2

Table 8

Stepwise Hierarchical Logistic Regression Model of Physical Revictimization of Men

	Predictor	*B*	*S.E.*	Wald	*df*	*p.*	Odds
Step 1							
	Childhood Sexual Abuse	1.5	.53	8.0	1	.005	4.5
Step 2							
	Parental Substance Abuse	1.4	.58	5.7	1	.016	4.1
	Childhood Sexual Abuse	1.6	.57	8.3	1	.004	5.2

Table 9

Stepwise Hierarchical Logistic Regression Model of Sexual Revictimization of Women

	Predictor	*B*	*S.E.*	Wald	*df*	*p.*	Odds
Step 1							
	Maltreatment Index	.08	.04	3.2	1	.06	1.09
	PTSD	1.14	.40	8.0	1	.004	3.12
Step 2							
	Maltreatment Index	.079	.05	2.5	1	.10	1.08
	PTSD	.927	.41	5.0	1	.025	2.52
	SIDES-SR Relationships	.24	.11	4.3	1	.03	1.27

Table 10

Stepwise Hierarchical Logistic Regression Model of Sexual Revictimization of Men

	Predictor	*B*	*S.E.*	*Wald*	*df*	*p.*	*Odds*
Step 1							
	Maltreatment Index	..10	.09	4.1	1	.04	1.2
	Cognitive Distortions	.03	.01	7.6	1	.006	1.03

Table 11

Stepwise Hierarchical Logistic Regression Model of Physical Victimization of Women by a Partner

	Predictor	*B*	*S.E.*	Wald	*df*	*p.*	Odds
Step 1							
	Childhood Psychological Abuse	1.9	.74	6.7	1	.01	6.8
	Substance Abuse	.077	.027	8.3	1	.004	1.08

Table 12

Stepwise Hierarchical Logistic Regression Model of Sexual Victimization of Women by a Partner

	Predictor	*B*	*S.E.*	Wald	*df*	*p.*	Odds
Step 1							
	Felt Unloved by Mother	.842	40	4.4	1	.035	2.3
	Somatoform Dissociation	.047.	.02	5.2	1	.023	1.04

Table 13

Stepwise Hierarchical Logistic Regression Model of Psychological, Physical and Sexual Victimization by a Partner

	Predictor	*B*	*S.E.*	*Wald*	*df*	*p.*	*Odds*
Step 1							
	Childhood Physical Abuse	1.6	.79	4.2	1	.041	4.97
	Altered Self Capacities Relatedness Problems .02	.011	5.4	1	.020	1.025	