Characteristics of Child Maltreatment, Psychological Dissociation, and Somatoform Dissociation of Canadian Inmates

Anne Dietrich

This research was supported through doctoral fellowships from the Social Sciences and Humanities Research Council of Canada, an IODE (Canadian Chapter) War Memorial Doctoral Fellowship, as well as a Student Research Award from the International Society for Traumatic Stress Studies.

The author gratefully acknowledges the support of the Ministry of Attorney General and the Correctional Service of Canada in this project. However, the reported findings and their interpretation do not necessarily reflect the official policy of the Ministry or of the Correctional Service of Canada.

Data from this paper were presented in part at the Annual Meeting of the International Society for the Study of Dissociation, New Orleans, December, 2001.

ABSTRACT. Data are presented on childhood maltreatment characteristics, psychological dissociation, somatoform dissociation, and offense types with a sample of 93 Canadian inmates (62 males and 31 females), with a mean age of 34 years (SD = 9.5). The present study includes findings based on the Child Maltreatment Interview Schedule-Short Form (CMIS-SF), the Detailed Assessment of Posttraumatic Stress (DAPS), the Multidimensional Dissociation Inventory (MDI), the Somatoform Dissociation Questionnaire (SDQ-20), and indices of violent and sexual offending during adulthood. Chi-square, Cohen's d, and regression analyses were conducted with the data. Results showed that women reported more childhood sexual abuse (CSA) than men, and men committed more violent and sexual offenses than women. Mean comparisons using Cohen's d statistic showed that inmates (N = 62) reported more trauma-related dissociation (DAPS) and more MDI dissociation compared to normative data for these instruments; however, inmates had lower somatoform dissociation scores when compared to published means of dissociative disorder, somatoform disorder, and eating-disorder patients. Inmates with CSA histories had higher SDQ-20 scores than those who did not. No differences were found between sex offenders and non-sex offenders in terms of probable PTSD, probable DID, MDI scales, or the SDQ-20. CSA that involved penetration predicted MDI dissociation and also predicted later sexual offending. Of the MDI scales, derealization and memory disturbance predicted sexual offending. Neither MDI scales nor any of the CMIS-SF maltreatment types predicted violent offending. Results are discussed in terms of treatment implications for incarcerated individuals with histories of child maltreatment.

KEY WORDS. Dissociation, somatoform dissociation, child maltreatment, incarcerated offenders

Although many individuals with child maltreatment histories do not commit serious offenses against others, incarcerated adult offenders who have committed acts of physical violence and/or sexual violence against others frequently report child abuse/neglect histories (e.g., Briggs & Hawkins, 1996; Dutton & Hart, 1992a, 1992b; Haapasalo & Kankkonen, 1997; Rivera & Widom, 1990). Clinical and empirical research studies have shown that individuals with child abuse histories may experience dissociative symptoms and disorders (e.g., Anderson, Yasenik, & Ross, 1993; Chu, 1998; Putnam, 1997; Saxe et al., 1993); however, there is a paucity of empirical research on dissociation with incarcerated offenders.

A literature search using *PsycInfo* and *Medline* databases on dissociation of incarcerated felons resulted in two empirical studies on dissociative symptoms with samples of incarcerated adolescents, and seven empirical studies on dissociation with samples of incarcerated adults. Friedrich, et al. (2001) found no differences in cumulative trauma between dissociative and non-dissociative adolescent sex offenders; however, a history of physical abuse correlated with dissociation. Carrion and Steiner (2000) found that almost all (96.8%) of their sample of juvenile offenders reported a history of childhood trauma, and approximately 28% met criteria for a dissociative disorder as per the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D). Depersonalization was the most commonly reported experience.

Higher rates of childhood trauma, anger-rage, and more post-traumatic stress disorder (PTSD), dissociative, and CNS symptomatology were found with a sample of incarcerated adult male sex offenders as compared to a group of employed adult males (Hulnick, 1997). Similarly, Graham (1993) found higher Dissociative Experiences Scale (DES) scores were reported by a sample of sex offenders than by non-sex offenders and community controls.

Although Cima, Merckelbach, Klein, Shellbach-Matties, and Kremer (2001) reported high levels of childhood trauma and dissociation in a sample of male offenders, and found that poor frontal lobe functioning was related to dissociative symptoms and to self-reported childhood trauma histories, they found that trauma history and dissociation were not directly related. Timmerman and Emmelkamp (2001) found sexual and emotional abuse histories to be more common among forensic patients than prisoners, and patients reported a broader

range of trauma types than prisoners. However, prisoners were found to report significantly more dissociative symptoms than were forensic patients. It should be noted that individuals with mental health issues may be sentenced to serve their time in a regular prison environment rather than a forensic psychiatric facility, and Canadian and American prison populations frequently have significant numbers of individuals with mental health issues, and a substantial proportion of individuals with substance abuse issues and personality disorders (see Feder, 1991; Lightfoot, 1995; Motiuk & Porporino, 1992; Teplin, 1984).

Graham (1996) found that male sex offenders who were physically abused by both parents reported higher levels of dissociation than those who were not, and Ward (1995) found significant correlations between dissociation as per the Dissociative Experiences Scale (DES) and age at onset of sexual abuse and number of sexual abuse incidents with a sample of male and female inmates. However, the level of dissociative symptoms was not higher for convicted sex offenders than found in the general population. Contrary to this, Snow, Beckman and Brack (1996) found that dissociative experiences were higher in their incarcerated sample than among the general public.

The variations in findings with the above studies may be due to the use of different instruments to assess for dissociation, different means of assessing for child maltreatment, as well as potential differences based in offender sub-samples. For example, certain types of offenders, such as sexual offenders, may be more likely to report dissociative experiences than other types, such as nonviolent offenders.

None of these studies examined somatoform dissociation (Nijenhuis, 1999). Somatoform dissociation includes functional and sensory impairments and intrusions (e.g., physical pain, anaesthesias, analgesias, and so forth) in the absence of a clear medical cause, and has been shown to relate to childhood trauma (Nijenhuis, 1999). In the present study, characteristics of child maltreatment and various forms of dissociation were examined with a sample of male and female Canadian inmates. Given the documented relationships between childhood trauma and dissociation, and between childhood trauma and criminal behavior for some individuals, it was hypothesized that child maltreatment is significantly related to psychological dissociation, somatoform dissociation, and violent and/or sexual offending

during adulthood with incarcerated felons. It was also hypothesized that mean psychological dissociation scores are higher for the incarcerated sample than normative samples, and that somatoform dissociation scores of inmates are comparable to those of individuals with dissociative disorders.

METHOD

Participants

Adults with self-reported child maltreatment histories were recruited from two correctional facilities near Vancouver, Canada. Data were collected from 93 incarcerated individuals (62 males and 31 females) with a mean age of 34 years (SD = 9.5). The majority of the sample is Caucasian (77.4%), followed by Native Canadian (18.3%), Black (1.1%), Asian (1.1%), and Other (1.1%).

Procedure

Inmates with self-reported child maltreatment histories who volunteered for the study completed a package of self-report inventories that inquire into types of child maltreatment experiences and various posttraumatic sequelae, including dissociation. In addition, individuals filled out a questionnaire that asks about acts of violence and sexual violence against others after the age of 17. Legal records that documented the participants' criminal activity were also coded. All participants signed informed consent forms, and were given a small monetary honorarium to compensate for their time. Inmates were informed that their participation in the study (or their withdrawal from the study, if they so chose) would have no bearing on their treatment or legal status. Their anonymity was guaranteed through coding of questionnaires and legal information by way of number only. Since all of the participants in this study had already been convicted of and sentenced for their crimes, their participation in the study and their responses to the questionnaires, including their psychological symptoms, would have no bearing whatsoever on their legal status. Full clearance for the study was obtained from all Institutional Review Boards (the University of British Columbia, the Ministry of Attorney General, and the Correctional Service of Canada).

Instruments

Although the inmates were given a battery of self-report inventories and checklists, only those that are pertinent to this study are described here.

The *Child Maltreatment Interview Schedule – Short Form* (CMIS-SF) (Briere, 1992) is a self-report checklist that inquires into various forms of maltreatment prior to the age of 17, including parental alcohol and drug abuse, witnessing parental physical violence, feelings of being unloved by each parent when growing up, and experiences of psychological abuse, physical abuse, and sexual abuse.

Psychological abuse was rated on a scale from 0 (never) to 6 (over 20 times a year), in terms of how often caregivers yelled at them, insulted them, criticized them, tried to make them feel guilty, ridiculed or humiliated them, embarrassed them in front of others, and made them feel like bad persons. For the purpose of this study, those who reported a rating of 6 on any subscales were coded positively for psychological abuse.

Child physical abuse (CPA) was defined as physical assault (e.g., being pushed, hit, punched, cut) by caregivers that resulted in bleeding, bruises, scratches, broken bones, or broken teeth. Child sexual abuse 1 (CSA1) was defined as an adult kissing them in a sexual way, or touching their bodies in a sexual way, or making them touch sexual parts when they did not want it, or when force or coercion was used, or when they were otherwise unable to give consent. Child sexual abuse 2 (CSA2) was defined as an adult having oral, anal or vaginal intercourse with them, or digitally penetrating them, when they did not want it, or when force or coercion was used, or when they were unable to give consent.

The *Detailed Assessment of Posttraumatic States* (DAPS) (Briere, 1998, 2001) assesses for the full DSM-IV-TR (American Psychiatric Association, 2000) criteria for PTSD, as well as substance abuse, suicidality, and peritraumatic and trauma-specific dissociation. The DAPS has been normed on community and clinical samples, and contains three validity scales. All clinical scales have good reliability and validity (Briere, 1998, 2001).

The *Multiscale Dissociation Inventory* (MDI) (Briere, in press) is a self-report inventory that taps into 6 different domains of dissociation. The MDI was normed on a standardization sample with over 600 people from the general population and 90 clinical

participants. The MDI scales include Disengagement, Depersonalization, Derealization, Emotional Constriction/Numbing, Memory Disturbance, and Multiplicity. The scales have good reliability and validity.

The *Somatoform Dissociation Questionnaire* (SDQ-20) is a 20-item questionnaire that assesses for Somatoform Dissociation. Somatoform Dissociation includes “positive” (e.g., chronic pain, intrusive physical sensations) and “negative” (e.g., analgesia, anesthesia) somatic symptoms with no known medical cause. Somatoform Dissociation is highly characteristic of dissociative disorder patients, and is a core feature in many patients with somatoform disorders. It is strongly correlated with reported trauma. The SDQ-20 discriminates between dissociative identity disorder, dissociative disorder NOS, somatoform disorders, and other psychiatric diagnostic categories, including bipolar mood disorder (Nijenhuis et al., 1999; Nijenhuis, Spinhoven, Van Dyck, Van der Hart, & Vanderlinden, 1996, 1998). The SDQ-20 evidences good reliability and validity.

The *Adult Victimization Survey* (AVS) is a modified version of Briere’s (1992) Child Maltreatment Interview Schedule, Short Form (CMIS-SF). Items from the CMIS-SF psychological, physical and sexual abuse sections were re-worded such that they correspond to adult victimization experiences and victimization of others.

Analyses

Descriptive, correlational, and group comparison analyses were performed on the data. In addition, regression analyses were conducted looking at characteristics of childhood maltreatment as predictors of dissociation, and dissociation as predictors of type of adult offending behaviors. SSPS 10 software was utilized for the calculations. Effect sizes were calculated to assess for differences in dissociation between normative samples and the current sample.

RESULTS

DAPS Validity Scale

Preliminary analyses showed that a substantial portion (31.2%) of this sample reported having experienced highly unusual experiences, such as seeing flashing blue and green lights when they close their eyes. These unusual experiences are items on a validity scale of the DAPS. The elevations on this particular validity scale suggest that the respondents did not take the assessment procedure seriously, were experiencing psychotic symptoms, or had engaged in significant substance abuse. Another possibility is that some of the respondents were malingering; however, given that respondents were guaranteed anonymity and since their responses had no bearing on their legal or treatment status, this possibility seems unlikely. Chi-square analyses showed that females were more likely to have invalid profiles than males ($X^2_{1,} = 8.44$, $p < .01$), with approximately half (51.6%) of the women reporting unusual experiences, as compared to just over one-fifth (21.7%) of the men.

There were no significant differences between the valid group and invalid group in terms of type of childhood maltreatment experienced, on the number of different trauma types experienced, or on the perpetration of violence and sexual violence during adulthood. As such, data are presented on these particular variables using the full sample.

Types of Adverse Childhood Experiences

Table 1 depicts the frequency and type of adverse childhood events experienced by individuals in this study. Over half of the sample reported psychological abuse, parental drug and alcohol abuse, childhood sexual abuse, childhood physical abuse, and witnessing parental violence.

Insert Table 1 about here

Lifetime Traumatic Events

The DAPS inquires into the number and various types of traumatic stressors over the individual's lifetime, and asks respondents to identify the one specific trauma that they consider to have been the worst event ever experienced. Interpersonal violence (physical assault, sexual assault, and child sexual abuse) was most frequently identified as the worst traumatic event (see Figure 1), followed by having been shot at, witnessing death or severe injury, being mugged, other trauma, being threatened with death or serious injury, motor

vehicle accidents, and disaster. Study participants tended to report from one to eleven different types of traumatic events in their lifetimes, with a mean of 6.4 (SD = 2.8).

Insert Figure 1 about here

Offense Types

Of the 93 participants in the current study, legal records were unavailable for eleven (11.8%) and the following percentages are based on the remaining 82 participants for whom legal records were available. Fifty-eight (62.4%) of the inmates committed at least one act of non-sexual violence against others (e.g., physical assault, assault causing bodily harm, murder, attempted murder, manslaughter, forcible confinement, hostage-taking, pointing a gun, robbery with violence); 14% (N = 13) committed at least one act of sexual assault against others (including molestation of adults and/or children, rape, exposure); 48.4% (N = 45) committed other forms of violent offense not included above (robbery without a weapon, setting fires), and 8.6% (N = 8) committed nonviolent or nonsexual offenses (e.g., drug-related offenses, theft, prostitution). These percentages sum to over 100% because some offenders committed more than one type of offense (e.g., rape and murder).

Gender Differences

Child Abuse. Significantly more females (83.9%) than males (61.7%) reported childhood sexual abuse ($X^2_1 = 4.73$, $p < .05$). There were no other differences in type of childhood maltreatment based on gender.

Adult Offences. Significantly more males (93.5%) than females (77.4%) perpetrated physical violence (including robbery without a weapon) during adulthood ($X^2_1 = 5.15$, $p < .05$), and significantly more males (22.6%) than females (6.5%) perpetrated sexual violence during adulthood ($X^2_1 = 3.77$, $p < .05$).

Clinical Scales

Mean comparisons on the various clinical scales between those who had valid profiles and those with invalid profiles showed that the two groups were significantly different (with alpha set at 0.05) on the PTSD scales of the DAPS, the dissociation scales of the DAPS, the

dissociation scales of the MDI, and on the SDQ-20. As such, subsequent analyses using these scales included only the data from the valid subsample (N = 62). Mean scores and standard deviations for the dissociation scales are presented in Tables 2, along with comparison means and standard deviations from the normative samples. Effect sizes were calculated with Cohen's d statistic, which is a standardized coefficient of magnitude of mean differences (Cohen, 1990; 1992). Basically, Cohen's d provides an estimate of the size of the differences between two group means (e.g., inmate group and normative group). When there are no differences between groups, the effect size is zero. Cohen (1992) has proposed that .20 is indicative of a small effect (group difference), .50 indicates a medium effect, and .80 and higher refers to large effects. As can be seen in Table 2, inmates experienced more types of trauma than the normative DAPS sample, more peri-traumatic distress and peritraumatic dissociation, and more trauma-specific dissociation than the normative sample, with large mean differences (Cohen, 1992). Large mean differences were also found on most of the MDI scales for the inmates as compared to the normative samples, with the exception of the Multiplicity scale, which shows a moderate effect size for the inmates.

Insert Table 2 about here

As presented in Table 3, inmates reported less somatoform dissociation compared to dissociative disorder patients and somatoform disorder patients (Nijenhuis et al., 1999), with large effect sizes. Inmates also reported moderately less somatoform dissociation than eating-disordered patients, and more somatoform dissociation than patients with bipolar disorder, with moderate effect sizes. There were no differences in somatoform dissociation between the inmates and patients in terms of Axis I disorders not elsewhere included (e.g., anxiety, depressive, adjustment, substance abuse, schizophrenia), and Axis II disorders (borderline, avoidant, dependent, PDNOS) (Nijenhuis et al., 1999).

Insert Table 3 about here

Trauma, PTSD, and Dissociation

Of the valid sub-sample, 24 participants (38.7%) met cutoff scores for probable PTSD, and two participants (3.2%) met cutoff scores for probable DID, as per the DAPS. Correlational analyses showed that those who reported more traumatic events over their lifetimes reported more peri-traumatic distress ($r = .63$, $p < .01$), peri-traumatic dissociation ($r = .27$, $p < .05$), trauma-specific dissociation ($r = .31$, $p < .05$), probable PTSD ($r = .50$, $p < .05$), and Posttraumatic impairment in functioning ($r = .44$, $p < .05$) for that event identified as the worst traumatic event they had experienced. Posttraumatic impairment was significantly related to the disengagement ($r = .28$, $p < .05$) and memory disturbance ($r = .29$, $p < .05$) scales of the MDI.

In addition to the number of traumatic events experienced, PTSD correlated with the trauma-specific dissociation ($r = .37$, $p < .01$) and suicidality ($r = .41$, $p < .01$) scales of the DAPS, and with the disengagement ($r = .42$, $p < .01$), derealization ($r = .34$, $p < .01$), memory disturbance ($r = .32$, $p < .05$) and emotional constriction/numbing ($r = .40$, $p < .01$) scales of the MDI.

Suicidality significantly correlated with all MDI scales, including disengagement ($r = .51$, $p < .01$), derealization ($r = .38$, $p < .01$), depersonalization ($r = .50$, $p < .01$), memory disturbance ($r = .40$, $p < .01$), multiplicity ($r = .71$, $p < .01$) and emotional constriction/numbing ($r = .51$, $p < .01$). Suicidality was also related to probable diagnosis of DID ($r = .67$, $p < .01$).

Somatoform dissociation positively correlated with peri-traumatic distress ($r = .23$, $p < .05$), trauma-specific dissociation ($r = .31$, $p < .05$), suicidality ($r = .34$, $p < .01$), and the MDI disengagement ($r = .40$, $p < .01$), depersonalization ($r = .47$, $p < .01$), multiplicity ($r = .28$, $p < .05$) and emotional constriction ($r = .27$, $p < .05$) scales.

Childhood Maltreatment and Dissociation

As can be seen in Table 4, having felt unloved by mother, parental drug and alcohol abuse, psychological abuse during childhood, and sexual abuse during childhood, correlated with various of the MDI scales. Witnessing parental violence and physical abuse during childhood did not correlate with any of the dissociation scales. Child maltreatment did not

correlate with somatoform dissociation for this sample.

Insert Table 4 about here

Child Maltreatment and Somatoform Dissociation Cutoffs

Participants who had SDQ-20 total scores of at least 25 ($\underline{n}$ = 16) were compared with those who had a total score of less than 25 ($\underline{N}$ = 44) in terms of child maltreatment with Chi-square. Those participants who reported child sexual abuse that did not involve penetration were more likely to have SDQ-20 scores above 25 than those who did not ($X^2_1 = 3.85$, $\underline{p} < .05$). There were no other differences between high somatoform dissociation scores (>24) and low somatoform dissociation scores (<25) based on type of child maltreatment as per the CMIS-SF.

Dissociation and Offense Type

Sex offenders were compared to non-sex offenders in terms of MDI Dissociation scales and the SDQ-20. T-test comparisons resulted in no differences between sex offenders and non-sex offenders on any of the dissociation scales or on the SDQ-20. Chi-square analyses showed no differences between sex offenders and non-sex offenders in terms of probable PTSD and probable DID.

Regression Analyses

All regression analyses are based on the valid sub-sample ($\underline{N}$ = 62), consisting of 47 males and 15 females.

Childhood Maltreatment and Dissociation. Multiple regression analysis was conducted with types of child maltreatment as per the CMIS-SF entered as independent variables and MDI total dissociation scale score as the dependent variable. A history of childhood sexual abuse that involved penetration (CSA 2) is the only childhood maltreatment predictor of MDI dissociation total scores ($\underline{R} = .31$, $\underline{F} = 6.25_{1, 58}$, $\underline{p} < .05$). Regression co-efficients are presented in Table 5.

Stepwise multiple regression analyses were conducted looking at the relationship between childhood maltreatment and various scales of the MDI. Regression coefficients are

presented in Table 5. Psychological abuse during childhood predicted MDI disengagement (R = .27, $F = 4.54_{1, 59}$, $p < .05$). CSA that did not involve penetration predicted emotional constriction and numbing (R = .28, $F = 5.02_{1, 59}$, $p < .05$), whereas CSA that involved penetration predicted MDI derealization (R = .28, $F = 5.13_{1, 59}$, $p < .05$), depersonalization (R = .33, F = 7.18, $_{1, 59}$, $p < .01$), memory disturbance (R = .28, $F = 5.12_{1, 59}$, $p < .05$), and multiplicity (R = .28, $F = 4.27_{1, 59}$, $p < .05$).

Insert Table 5 about here

The stepwise multiple regression analysis was repeated using Somatoform Dissociation Questionnaire (SDQ-20) total scores as the dependent variable. None of the childhood maltreatment types predicted somatoform dissociation for this sample.

Childhood Maltreatment and Later Offending. Type of childhood maltreatment was entered into stepwise logistic regression analyses, with violent offending and sexual offending as the dependent variables, respectively. Childhood sexual abuse that involved penetration predicted later sexual offending (B = 2.3, Wald = 4.64, $p < .05$), with an overall Model X^2 of 7.49_{1}, $p < .01$. Those who experienced childhood sexual abuse that involved penetration were 10.1 times as likely to commit a sexual assault than those who did not. None of the child maltreatment variables predicted later violent offending (including robbery without violence and arson).

Dissociation and Later Offending. Stepwise logistic regression analysis was conducted with SDQ-20 and MDI dissociation scales entered as predictor variables and sexual offending as the outcome variable. The MDI Derealization and Memory Disturbance scales predicted sexual offending, with an overall model X^2 of 8.17_{2}, $p < .05$. Neither the SDQ-20 nor any of the dissociation scales predicted later non-sexual violent offending.

DISCUSSION

The results of this study are consistent with research that has documented significant child abuse trauma histories with incarcerated offenders. It is also consistent with the work of

Graham (1993), Hulnick (1997), and Snow et al. (1996), who documented higher rates of dissociation with incarcerated offenders as compared to the general population, and with the findings of Ward (1995) that CSA is related to dissociation. Contrary to the findings of Cima et al. (2001), childhood trauma and dissociation are correlated in this sample. Having felt unloved by mother, parental drug and alcohol abuse, psychological abuse during childhood, and sexual abuse during childhood, correlated with various of the MDI scales. Contrary to the findings of Friedrich et al. (2001) with adolescent offenders and the findings of Graham (1996) with sex offenders, childhood physical abuse did not correlate with any of the dissociation scales. Thus, my hypothesis that childhood maltreatment and dissociation are significantly related is partially borne out by the present data, and my hypothesis that dissociation scores of inmates will be higher than that evidenced by the normative sample is also borne out by the data. My third hypothesis, viz., somatoform dissociation scores of incarcerated felons will be similar to dissociative disorder patients, was not confirmed by the data. This latter finding may be attributed to only 3.2% of the inmates in the current study with valid clinical profiles having met the cutoff for probable DID.

The inmates in this sample had high rates of physical violence, and it is not clear whether these rates are comparable to other inmate samples. The men from the current sample were federally incarcerated offenders, which, in the Canadian Correctional system, means that they committed more serious offenses (i.e., those that result in sentences that range from two years to life); the females in the current sample were incarcerated in both the federal and provincial systems, and thus their sentences ranged from anywhere from 30 days to life.

The present study adds to the current database on dissociation of offender populations in several ways. First, areas of convergence and divergence with published findings to date are noted. Differences in the observed findings with regard to childhood maltreatment (specifically childhood physical abuse) and dissociation may be due to methodological differences, including variability in instrumentation. Incarcerated populations evidence a substantial degree of childhood maltreatment, and various forms of childhood maltreatment (particularly CSA) are significantly related to both dissociative symptomatology and later

offending behavior for this sample of incarcerated felons. Replication with various samples of incarcerated felons from various geographic locales is needed.

Second, the current study adds to the literature in terms of providing data on the degree to which offenders endorse symptoms of Somatoform Dissociation. The participants from the current study who had valid clinical profiles evidenced less Somatoform Dissociation symptomatology than non-incarcerated patients who suffer from Dissociative Disorders, Somatoform Disorders, and Eating Disorders. This suggests that incarcerated felons may be less likely to suffer from these particular disorders; however, further research is needed to clarify this question. The participants from the current sample tend to report more Somatoform dissociative symptomatology than individuals who suffer from bipolar disorder, and are akin to those who suffer from anxiety disorders, depressive disorders, and various personality disorders. Although many of the participants of this study meet criteria for antisocial personality disorder, further research that examines somatoform dissociation symptoms of individuals with antisocial personality disorder would prove enlightening. The results of the present study suggest that inmates with antisocial personality disorder report relatively low rates of somatoform dissociative symptomology. Replication with other incarcerated samples would clarify this issue.

Finally, the present study adds to the literature by identifying potential predictors of sexual offending behaviors of inmates with child abuse histories. I would like to emphasize at this point that many survivors of childhood abuse do not offend against others. However, when we consider individuals with known histories of violent and/or sexual offending who have also experienced childhood abuse, it is important to identify any potential childhood maltreatment history variables that increase the likelihood of later offending for this population, in order to inform treatment programming.

Limitations

Limitations of the present study include the relatively low number of individuals with valid clinical profiles and the absence of a comparison group of offenders who do not have childhood maltreatment histories. Replication using samples of incarcerated individuals from various geographic locales, as well as studies that include comparison groups of incarcerated

felons who do not have child maltreatment histories, are needed. In addition, studies that utilize samples from prison services that include treatment programs with an emphasis on childhood trauma in comparison to prison services that do not emphasize childhood trauma in their treatment programs would prove enlightening in terms of the effectiveness of treatment programs for sex offenders, and the findings would be useful in terms of reducing the prevalence of sexual perpetration within the larger societal context.

Given the absence of clinical diagnoses in the present study, it is difficult to interpret the findings in relation to the clinical literature on dissociation, PTSD, and trauma. The current sample shows similarities to the DSM-IV field trial sample on PTSD, which found high rates of PTSD, affect dysregulation, dissociation, and somatization (van der Kolk et al., 1996); however, the current sample did not evidence high levels of somatization in comparison to the field trial sample, and the current sample evidenced lower rates of Lifetime Disorders of Extreme Stress when compared to the field trial data (Dietrich, in submission). The findings of lower levels of somatization, low probable DID, and higher rates of MDI dissociation may be consistent with the findings of Boon and Draijer (1993), where personality disorder patients had comparable rates of depersonalization and derealization to DID participants, but lower levels of amnesia and identity problems (e.g., DID; DDNOS). The current sample may well fit a personality disorder profile with co-morbid PTSD, mood, and anxiety disorders (affective dysregulation), with less somatization and lower complex dissociation than those with DID or DDNOS.

Treatment Implications

Treatment implications for offenders with child abuse histories in the Canadian Pacific federal system include the necessity of providing individual and group treatment for inmates that specifically target childhood maltreatment, PTSD, and dissociative symptomatology that does not meet the diagnostic cutoff for DID. The treatment programs for sex offenders within the Correctional Service of Canada (CSC) fail to sufficiently address issues of childhood maltreatment. Emphasis is given to cognitive distortions and other risk factors (e.g., alcohol urges, fantasy, use of pornography), to the relative neglect of historical factors that feed into current risk factors. Undoubtedly, the identification and challenging of

cognitive distortions is an important component of prevention of sexual re-offense, and is also very useful with regard to teaching offenders affect regulation skills; however, it fails to target the underlying dynamic factors that contribute to the distortions and other risk factors pertinent to the offenders. In short, the treatment programs within the CSC do not pay sufficient attention to issues of childhood trauma.

Should the findings from this study be replicated with samples of offenders from other geographical regions, national and international treatment programs for offenders that include a substantive focus on childhood maltreatment could conceivably reduce recidivism rates of sexual offending and thus, protection of society, as well as enhancing the quality of life for offenders who genuinely wish to make changes in their lives.

REFERENCES

American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders, fourth edition, text revision*. Washington: Author.

Anderson, G., Yasenik, L., & Ross, C.A. (1993). Dissociative experiences and disorders among women who identify themselves as sexual abuse survivors. *Child Abuse & Neglect, 17*, 677 -686.

Boon, S., & Draijer, N. (1993). The differentiation of patients with MPD or DDNOS from patients with a cluster B personality disorder. *Dissociation: Progress in the Dissociative Disorders, 6*, 126-135.

Briere, J. (1992). Child Maltreatment Interview Schedule. In J. Briere, *Child abuse trauma: Theory and treatment of the lasting effects* (Appendix A, pp. 165-177). Newbury Park, CA: Sage Publications.

Briere, J. (1998; 2001). *Detailed assessment of posttraumatic states.* Odessa, FL: Psychological Assessment Resources, Inc.

Briere, J. (in press). *Multiscale dissociation inventory.* Odessa, FL: Psychological Assessment Resources, Inc.

Briggs, F., & Hawkins, R.M.F. (1996). A comparison of the childhood experiences of convicted male child molesters and men who were sexually abused in childhood and

claimed to be nonoffenders. *Child Abuse & Neglect, 20*, 221-223.

Carrion, V.G., & Steiner, H. (2000). Trauma and dissociation in delinquent adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 353-359.

Cima, M., Merckelbach, H., Klein, B., Shellbach-Matties, R., & Kremer, K. (2001). Frontal lobe dysfunctions, dissociation, and trauma self-reports in forensic psychiatric patients. *Journal of Nervous and Mental Disease, 189*, 188-190.

Chu, J.A. (1998). Dissociative symptomatology in adult patients with histories of childhood physical and sexual abuse. In J.D. Bremner and C.R. Marmar (Eds.), *Trauma, Memory, and Dissociation* (pp. 179-203). Washington: American Psychiatric Press.

Cohen, J. (1990). Things I have learned (so far). *American Psychologist, 45*, 1304-1312.

Cohen. J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159.

Dietrich, A.M. (in submission). PTSD and Disorders of Extreme Stress: Comparisons between Canadian Inmates and DSM-IV Field Trial Participants.

Dutton, D.G., & Hart, S.D. (1992a). Evidence for longterm, specific effects of childhood abuse on criminal behavior in men. *International Journal of Offender Therapy and Comparative Criminology, 36*, 129-137.

Dutton, D.G., & Hart, S.D. (1992b). Risk markers for family violence in a federally incarcerated population. *International Journal of Law and Psychiatry, 15*, 101-112.

Feder, L. (1991). A comparison of the community adjustment of mentally ill offenders with those from the general prison population: An 18 month followup. *Law and Human Behavior, 15*, 477-493.

Friedrich,W.N., Gerber, P.N., Koplin, B., Davis, M., Giese, J., Mykelbust, C., & Franckowiak, D. (2001). Multimodal assessment of dissociation in adolescents: inpatients and juvenile sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 13*(3), 167-177.

Graham, K.R. (1993). Toward a better understanding and treatment of sex offenders. *International Journal of Offender Therapy and Comparative Criminology, 37*, 41-57.

Graham, K.R. (1996). The childhood victimization of sex offenders: An underestimated issue. *International Journal of Offender Therapy and Comparative Criminology, 40*,

192-203.

Haapasalo, J., & Kankkonen, M. (1997). Self-reported childhood abuse among sex and violent offenders. *Archives of Sexual Behavior, 26*, 421-431.

Hulnick, M.J. (1997). Victim-to-perpetrator process: Effect of trauma on incarcerated adult male sex offenders. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 57*(9-A), 3826.

Lightfoot, L.O. (1995). Assessment and treatment of substance abuse in offenders: Practice guidelines for correctional psychologists. In T.A. Leis, L.L. Motiuk, & J.R.P. Ogloff (Eds.), *Forensic Psychology. Policy and Practice in Corrections* (pp. 164-183). Ottawa: Correctional Service of Canada.

Motiuk, L. & Porporino, F. (1992). *The prevalence, nature and severity of mental health problems among federal inmates in Canadian penitentiaries. Research report #24*. Ottawa: Correctional Service of Canada.

Nijenhuis, E.R.S. (1999). *Somatoform dissociation. Phenomena, measurement, and theoretical issues*. Assen: Van Gorcum.

Nijenhuis, E.R.S., Spinhoven, P., Van Dyck, R., Van der Hart, O., Chatrou, M., Moene, F. & Vanderlinden, J. (1999). Somatoform dissociation discriminates among diagnostic groups over and above general psychopathology. *Australian and New Zealand Journal of Psychiatry, 33*, 512-520.

Nijenhuis, E.R.S., Spinhoven, P., Van Dyck, R., Van der Hart, O., & Vanderlinden, J. (1996). The development and the psychometric characteristics of the Somatoform Dissociation Questionnaire (SDQ-20). *Journal of Nervous and Mental Disease, 184*, 688-694.

Nijenhuis, E.R.S., Spinhoven, P., Van Dyck, R., Van der Hart, O., & Vanderlinden, J. (1998). Psychometric characteristics of the Somatoform Dissociation Questionnaire: A replication study. *Psychotherapy & Psychosomatics, 67*, 17-23.

Putnam, F.W. (1997). *Dissociation in children and adolescents. A developmental perspective*. New York: The Guilford Press.

Rivera, B. & Widom, C.S. (1990). Childhood victimization and violent offending. *Violence & Victims, 5(1)*, 19-35.

Saxe, G.N., van der Kolk, B.A., Berkowitz, R., Chinman, G, Hall, K. Lieberg, G., & Schwartz, J. (1993). Dissociative disorders in psychiatric inpatients. *American Journal of Psychiatry, 150*, 1037-1042.

Snow, M.S., Beckman, D., & Brack, G. (1996). Results of the Dissociative Experiences Scale in a jail population. *Dissociation: Progress in the Dissociative Disorders, 9*, 98-103.

Teplin, L. (1984). Criminalizing mental disorder: The comparative arrest rate of the mentally ill. *American Psychologist, 39*, 794-803.

Timmerman, I.G.H., & Emmelkamp, P.M.G. (2001). The relationship between traumatic experiences, dissociation, and borderline personality pathology among male forensic patients and prisoners. *Journal of Personality Disorders, 15*(2), 136-149.

van der Kolk, BA, Pelcovitz, D., Roth, S., Mandel, F.S., McFarlane, A., & Herman, J.L. (1996). Dissociation, somatization, and affect dysregulation: The complexity of adaptation to trauma. *American Journal of Psychiatry, 153(7)*, *Fetschrift Supplement,* 83-93.

Ward, J.D. (1995). Dissociation and other defense mechanisms among convicted sex offenders and multiple personality disorders. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 56*(3-B), 1714.

TABLE 1. Type and frequencies of childhood maltreatment (N = 93).

	N	%
Psychological abuse	65	69.9
Parental drug & alcohol abuse	64	68.8
CSA1	61	65.6
Physical abuse	60	64.5
Witnessing parental violence	56	60.2
CSA2	55	59.1
Feeling unloved by father	42	45.2
Loss of parent	26	28.0
Feeling unloved by mother	21	22.6

Table 2. Means and standard deviations for clinical trauma and dissociation scales for the incarcerated sample and the normative samples.

		Incarcerated		Normative Samples[a]		
Scale	N	Mean	SD	Mean	SD	Cohen's d statistic
Types of Traumas (DAPS)	61	6.3	3.0	3.0	2.1	1.27
Peri-traumatic Distress (DAPS)	62	27.1	9.0	19.1	6.0	1.05
Peri-traumatic Dissociation (DAPS)	62	15.5	6.6	10.1	4.5	0.96
Trauma-specific Dissociation (DAPS)	61	6.6	3.6	4.5	1.6	0.75
Disengagement (MDI)	62	9.7	3.3	6.4	2.3	1.16
Derealization (MDI)	62	8.0	3.0	5.6	1.6	1.00
Depersonalization (MDI)	62	6.5	2.2	5.2	1.0	0.76
Memory disturbance (MDI)	62	7.1	2.4	5.6	1.6	0.74
Multiplicity (MDI)	62	6.2	2.6	5.2	0.7	0.53
Emotional constriction/numbing (MDI)	62	9.3	4.6	5.8	2.1	0.98
MDI total	62	47.7	14.6	33.8	7.2	1.21

[a] Normative means and standard deviations for men and women are pooled. Ns for the normative sample for the DAPS range from 388 to 406, and for the MDI, from 616-618. The rates vary due to some missing responses (Briere, 1998, 2001).

Table 3. Means and standard deviations for total SDQ-20 scores for the incarcerated sample and the comparison samples (Nijenhuis et al., 1999).

Group	N	Mean SDQ-20	SD	Cohen's d statistic
Inmates	61	23.3	4.5	
Dissociative disorder patients	44	49.1	12.8	-2.69
Somatoform disorder patients	47	32.0	9.6	-1.16
Eating disorder patients	50	27.7	8.8	-0.63
Bipolar disorder patients	23	21.6	1.9	0.49
Axis I and II disorder patients not included elsewhere	45	22.9	3.9	0.09

TABLE 4. Pearson r correlation coefficients[a] for childhood maltreatment types and dissociation.

	Not loved by father	Not loved by mother	Psycho-logical abuse	Parental substance abuse	Parental violence	Witness CPA	CSA1	CSA2
PTSD	.13	.11	.34**	.27*	.01	.10	.15	.07
Substance abuse	-.04	.45**	.07	-.09	-.04	.02	-.08	.05
Disengagement	.06	.07	.26*	.16	-.01	.11	.22	.21
Derealization	.05	.17	.20	.04	-.03	.22	.18	.29*
Depersonalization	.05	.26*	.07	.00	.10	.22	.33**	.34**
Memory disturbance	-.06	.14	.25*	.06	-.07	.13	.21	.29**
Multiplicity	.07	.02	.06	.11	.10	.21	.27*	.28*
Emotional Constriction/Numbing	.12	.21	.22	.12	-.09	.14	26*	.22

[a] Two-tailed
*p. < .05
**p. < .01

TABLE 5. Regression analysis coefficients for childhood maltreatment and MDI scales.

Predictor	MDI Scale	B	t
CSA2	Derealization	1.69	2.27*
	Depersonalization	1.47	2.68**
	Memory disturbance	1.40	2.26*
	Multiplicity	1.44	2.23*
	Total Dissociation	9.02	2.5*
Psychological abuse	Disengagement	1.92	2.13*
CSA1	Emotional Constriction/Numbing	2.62	2.24*

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

FIGURE 1. Worst traumatic event experienced.