

_____ **Research Report** _____

**Assessment, Intervention and
Prevention of Self-Injurious
Behaviour in Correctional
Environments**

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**Assessment, Intervention, and Prevention of
Self-Injurious Behaviour in Correctional Environments**

Amelia Usher

Jenelle Power

&

Geoff Wilton

Correctional Service of Canada

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Executive Summary

Key words: *self-injurious behaviour; offender suicide; best practices.*

Self-injurious behaviour (SIB) is a significant concern for the Correctional Service of Canada (CSC) because of the risks it can pose to the safety of staff and offenders within federal correctional institutions. SIB can be defined as any type of direct bodily harm or disfigurement that is deliberately inflicted on oneself that is not considered to be socially acceptable, including cutting, ligature use, burning, hitting, swallowing sharp or indigestible objects, inserting and removing objects, and head banging. To contribute to a safer environment for offenders and staff, CSC must respond to SIB in an effective manner and work towards the reduction and prevention of this behaviour. This literature review was undertaken to determine the best practices for preventing and treating SIB in correctional settings.

While it is difficult to predict with certainty which offenders will exhibit SIB while incarcerated, certain factors have been consistently associated with increased risk for SIB. A number of variables such as ethnicity, lower socio-economic background, same-sex attraction, borderline personality disorder, depression, anxiety, substance abuse, impulsivity, dissociation, and history of childhood trauma have been found to correlate with SIB. CSC's offender population has high rates of many of these factors and therefore likely have an elevated risk for SIB.

SIB, and particularly non-suicidal self-injury (NSSI), is a troubling and complex behaviour which presents a challenge for effective treatment. A number of risk assessment tools have the potential for early identification of offenders at risk, but currently no instrument has been proven to be empirically valid in correctional settings. Research indicates that certain interventions can reduce the frequency and severity of this behaviour. Therapeutic treatments such as cognitive behavioural therapy, dialectical behaviour therapy, and manual assisted cognitive therapy have demonstrated effectiveness for treating SIB in both the community and in correctional settings. Further, certain elements common to these therapies such as creating a positive therapeutic relationship, incident analysis, and cognitive restructuring have been found effective in the literature. These elements can be incorporated into existing correctional programs for improved prevention and treatment of SIB. A number of systemic interventions have also been proposed and are supported in the literature such as suicide awareness training and peer support programs.

Correctional staff working closely with self-injuring offenders require additional support in dealing with this behaviour, as it can lead to increased stress and burnout. Evidence in the literature supports increased training for staff and the provision of support services such as critical incident stress debriefing and employee assistance programs.

Currently, CSC has implemented a number of policies and initiatives that are in-line with evidence based practices for the treatment and prevention of self-injury. The research examined in this literature review presents a number of options that CSC could continue to develop or adopt to improve current management of SIB.

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Introduction

Self-injurious behaviour (SIB) is a significant concern for the Correctional Service of Canada (CSC) because of the risks it can pose to the safety of staff and offenders within federal correctional institutions. SIB can be defined as any type of direct bodily harm or disfigurement that is deliberately inflicted on oneself that is not considered to be socially acceptable (Favazza, 1998, 1999; Simeon & Favazza, 2001; Walsh & Rosen, 1988). It can include a wide range of behaviours, such as cutting, ligature use, burning, hitting, swallowing sharp or indigestible objects, inserting and removing objects, and head banging. To contribute to a safer environment for offenders and staff, CSC must respond to SIB in an effective manner and work towards the reduction and prevention of this behaviour.

It is difficult to ascertain an accurate prevalence rate for SIB, particularly in correctional institutions. Currently research in CSC has not yet established rates for SIB among incarcerated federal offenders. Best estimates suggest that the prevalence of ever having engaged in SIB in the general adult population is 4% (Briere & Gil, 1998; Klonsky, Oltmanns and Turkheimer, 2003). Incarcerated populations may be at an elevated risk for SIB compared to community populations, although the best estimates for the general incarcerated population range from 1-5% (Fotiadou, Livaditis, Manou, Kaniotou, & Xenitidis, 2006; Maden, Chamberlain, & Gunn, 2000; Maden, Swinton, & Gunn, 1994; Smith & Kiminski, 2009; Toch, 1975; Western Australia Department of Justice, 2002). However, estimates for offenders who are receiving psychiatric services while incarcerated are considerably higher, ranging from 15-18% (Western Australia Department of Justice, 2002; Young, Justice, & Erdberg, 2006), and rates as high as 53% have been found in studies involving mentally disordered offenders (Gray et al., 2003).

The study of SIB has been plagued with many difficulties, not the least of which is the confusion of definitions and terms used to refer to the behaviour. While suicide attempts and non-suicidal self-injury (NSSI; i.e., SIB that is undertaken without suicidal intent) have been found to be correlated and have overlapping risk factors, they are distinct behaviours (Allen, 1995; Battle & Pollitt, 1964; Brown, Comtois & Linehan, 2002; Fulwiler, Forbes, Santangelo, & Folstein, 1997; Matsumoto et al., 2004; Matsumoto et al., 2005; Muehlenkamp, 2005; Nixon et al., 2002; Pattison & Kahan, 1983; Walsh, 2006). Individuals who engage in NSSI are at increased risk for suicide, yet the vast majority of individuals (97%-99%) who engage in NSSI

do not die by suicide (Hawton, Zahl & Weatherall, 2003; Owens, Horrocks, & House, 2002). It is, however, often difficult to differentiate between suicide attempts and NSSI, particularly in the complex environment of a correctional institution (Claes & Vandereycken, 2007) and the distinction is frequently blurred in practice and in the literature. Determining whether an incident was an attempted suicide or NSSI often relies upon the self-report of the individual. When reviewing the literature, it is important to be aware of the definition that a source has used. Since much of the literature does not clearly differentiate between suicide attempts and NSSI, the term SIB will be used in this paper to encompass both of these behaviours. Since the focus of this paper is on the prevention and treatment of NSSI the intervention approaches reviewed will largely be those that address this type of behaviour.

This review of the literature on SIB in correctional settings will begin with a profile of individuals who engage in SIB and a description of external factors associated with SIB. A review of evidenced-based interventions for SIB and approaches to assist staff who work with at risk offenders will be presented, followed by a summary of CSC's current practices and policies surrounding SIB. Finally, future directions for research and intervention will be proposed.

Profile of Offenders and Factors Associated with Self-Injurious Behaviour

In order to effectively target treatment and prevention efforts, it is important to understand the individuals who are most susceptible to these behaviours. A component of this profile should include situations or events that are correlated with SIB that may increase the risk of individuals engaging in these behaviours. For a more complete review of risk factors and correlates of SIB, please see *Self-Injurious Behaviour: A Review of the Literature and Implications for Corrections* (Power & Brown, in press).

Demographic Profile

Research indicates that people who engage in SIB are more likely to be younger, of Caucasian ethnicity, and economically disadvantaged (Claes, Vandereycken & Vertommen, 2001; Gunnel, Peters, Kammerling & Brooks; Klonsky & Muehlenkamp, 2007; Skegg, 2005). Self-injury is most common in adolescent populations and age of first onset of self-injury is usually between 13 and 16 years of age (Skegg, 2005; Claes, Vandereycken & Vertommen, 2001; Klonsky & Muehlenkamp, 2007). Older adults appear to be less likely to engage in SIB, although the consequences can be more serious because elderly individuals who self-injure are more likely to die by suicide than those who are younger (NICE, 2004).

There is conflicting research on whether SIB is more common in women than in men (Klonsky, Oltmanns & Turkheimer, 2003). Whereas earlier literature assumed the behaviour was more common in women, recent studies have found similar rates of self-injury in men and women (Klonsky & Muehlenkamp, 2007; Klonsky, Oltmanns & Turkheimer, 2003; Briere & Gil, 1998).

People who identify as gay, lesbian or bisexual are more likely to self-injure than those who identify as heterosexual (Skegg, 2005). In a New Zealand cohort study of 946 participants, risk of SIB increased significantly with increasing degree of same sex attraction, a finding that was true for both men and women (Skegg, Nada-Raja, Dickson, Paul & Williams, 2003). This finding appears to be more pronounced for men, as even a minor degree of same-sex attraction increased the likelihood of self-harm for men, which was not the case for women. Indeed, there appears to be an indication in the literature that the risk of self-injury is higher for men exhibiting same-sex behaviour than for women (Skegg, 2005). It should be noted, however, that these

groups tend to have higher rates of being victims of bullying, as well as depression and substance abuse, all of which are factors related to self-injury (NICE, 2004; Jorm, Korten, Rodgers, Jacomb & Christensen, 2002). It is not clear that homosexuality alone accounts for the increased rates of self-harm in this population although one study found that after adjusting for substance abuse and depressive symptoms, homosexual males were still at increased risk for SIB (Herrell, Goldberg, True, Ramakrishnan, Lyons, Eisen & Tuang, 1999).

SIB in offender populations.

A study examining SIB in a sample of women in federal custody in CSC found that women who had self-injured during their current sentence had a more serious and lengthy criminal history than those who did not self-injure (Wichmann, Serin & Abracen, 2002). The women who engaged in SIB were more likely to have been convicted of a violent offence and have one or more previous convictions. They also tended to have problems with institutional adjustment reflected in being placed in disciplinary segregation, being designated to a higher security level, ratings of higher risk and higher need, and a history of escape-related behaviours. Interestingly, these women were also more likely to have been victimized within the institution. Cookson (1977) found that women who engaged in self-injurious behaviours in prison tended to be younger, have a history of previous self-injury, have longer sentences and be convicted of a violent offence. Similar findings have been reported in male inmates in other countries (Ireland, 2000).

Research has yet to determine the effect that incarceration has on NSSI. Whether NSSI starts before or after incarceration and, if it does start before incarceration, whether it increases or decreases after entering a correctional institution, are still unclear. There is some evidence that the prevalence of NSSI among offenders prior to their incarceration may be higher than that of community samples (Jones, 1986). It has been suggested that SIB is too complex a behaviour to be explained by incarceration alone (Maden, Chamberlain & Gunn, 2000) and that NSSI behaviours that occur in correctional institutions are probably multi-determined.

Research from a variety of community samples typically indicates that people of Aboriginal descent tend to have elevated rates of suicide (Colman, Yiannakoulis, Schopflocher, Svenson, Rosychuk & Rowe, 2004; Hunter & Harvey, 2002), although less research has been conducted on NSSI. Within CSC, the proportion of Aboriginal offenders who die by suicide is similar to the rate of suicide in the CSC offender population (CSC, 2009). This suggests that

while incarcerated in CSC, Aboriginal offenders are not of increased risk for suicide. There is, however, some evidence that Aboriginal women offenders in CSC have higher rates of SIB than non-Aboriginal women offenders (Wichmann, Serin & Abracen, 2002) and that Aboriginal male offenders have higher rates of suicide attempts than non-Aboriginal males (Wichmann, Serin & Motiuk, 2000).

Based on available research, it is not possible to determine whether there is a significant difference in prevalence or etiology of self-injury in Aboriginal offenders. Dear (1999) conducted a review of self-injury incidents occurring in Australian prisons and examined a number of factors related to SIB based on Aboriginal status. The author concluded that there were no apparent differences in the precipitating events or the reported motives for engaging self-injury between the Aboriginal and non-Aboriginal groups. While the Aboriginal group reported lower levels of suicidal intent and a higher likelihood of prior SIB, the lack of a significant interaction between race and self-injury suggests that similar conclusions about the correlates of self-injury can be reached for both Aboriginal and non-Aboriginal offenders.

Psychiatric Disorders

Various psychiatric and mental disorders have been linked to SIB in the literature. Common co-occurring mental disorders are depression and anxiety disorders (Skegg, 2005; Klonsky, Oltmanns & Turkheimer, 2003; Haw, Hawton, Houston & Townsend, 2001; Trepal & Wester, 2007). Both anxiety and depression are components of negative affect. Given that relief from negative emotions is often cited as a function of self-injury, it is not surprising that individuals who self-injure have higher rates of depression and anxiety (Klonsky, Oltmanns, & Turkheimer, 2003).

Research has also linked SIB to schizophrenia and to eating disorders (NICE, 2004; Claes, Vandereycken & Vertommen, 2001; Trepal & Wester, 2007). The presence of self-injury in the context of an eating disorder may indicate increased pathology and poorer outcomes. There is some indication that SIB is more common in individuals with bulimia or purging-type anorexia (Claes, Vandereycken & Vertommen, 2001).

Borderline Personality Disorder is commonly associated with SIB. Borderline personality disorder is characterized by a pervasive pattern of unstable interpersonal relationships, impulsiveness, identity disturbance and intense emotional instability. It is one of the only disorders in the DSM-IV-TR that includes suicide attempts and self-injury as criteria for

diagnosis (American Psychiatric Association, 2000). In a study of male offenders who received psychiatric treatment while in prison, a diagnosis of borderline personality disorder was a significant predictor of self-injury (Young, Justice & Erdberg, 2006). Similar findings have also been found in a study that excluded the self-injury criteria from diagnosis of borderline personality disorder in order to avoid confounding results. Individuals with a history of self-injury were almost twice as likely to present with borderline personality disorder symptoms as those without a history of self-injury (Klonsky, Oltmanns & Turkheimer, 2003).

Substance abuse, particularly alcohol abuse, has also been found to be common in individuals with a history of self-injury. This result has been found in both community and prison populations (Haw, Hawton, Houston, & Townsend, 2001; Young, Justice, & Erdberg, 2006; Borril, Burnett, Atkins, Miller, Briggs, Weaver, & Maden, 2003). Alcohol or drug consumption may be a factor during the act of self-injury or immediately preceding it (NICE, 2004).

Several studies have reported a correlation between Posttraumatic Stress Disorder (PTSD) and SIB (Prinstein et al., 2008; Weierich & Nock, 2008; Zlotnick, Mattia, & Zimmerman, 1999). It appears that a cluster of PTSD symptoms, such as numbing, avoidance and hyperarousal play a role in increasing the likelihood of SIB in trauma victims (Weaver, Chard, Mechanic & Etzel, 2004; Weierich & Nock, 2008). An association between PTSD and SIB has also been found in offender populations (Salina, Lesondak, Razzano & Weilbaecher, 2007).

Family Environment and Social Support

Many studies have investigated the relationship between childhood trauma, poor family environment, and social support and the later development of SIB, frequently finding strong relationships. Studies correlating SIB with childhood sexual abuse are particularly common (Borril et al., 2003; Boudewyn & Liem, 1995; Gratz, Conrad & Roemer, 2002). The relationship between a history of childhood sexual abuse and SIB has been established for both men and women. One study found that 25% of sexual abuse survivors had a lifetime history of cutting and 41% had a history of hitting themselves (Weaver, Chard, Mechanic & Etzel, 2004). A meta-analysis conducted by Klonsky and Moyer (2008), however, found the relationship between childhood sexual abuse and SIB to be small. This discrepancy in findings may be due to studies not disentangling the contribution of related variables. Because factors such as socioeconomic

status and domestic violence are associated with sexual abuse, it is possible that these variables are linked in their relation to SIB. A study of 74 clinical patients offers further support that childhood trauma combined with other experiences may contribute to the development of SIB. In this study, the combination of being a victim of childhood trauma and parental neglect predicted self-cutting behaviour better than having been the victim of trauma alone.

Other negative childhood experiences including domestic violence, neglect, and poor attachment to caregivers may also influence the development of SIB later in life. These factors tend to cluster, making it difficult to tease out the influence of individual variables; however, taken together, they may represent indicators of dysfunctional family life (Skegg, 2005). There is evidence to suggest that such an environment can lead to the development of interpersonal difficulties and poor social skills which in turn can increase the risk for later SIB (Johnson et al., 2002).

While poor familial attachment and negative childhood experiences may increase the risk of NSSI, positive social support may be a protective factor. Studies have found that satisfaction with social support is negatively correlated with NSSI in young adult and adolescent populations (Brausch & Gutierrez, 2010; Heath, Ross, Toste, Charlebois, & Nedecheva, 2009; Tuisku et al., 2009; Wichstrom, 2009).

Situational Variables

In addition to the potential distal effects of childhood trauma and poor family environments, SIB may be preceded by more immediate adverse life events such as interpersonal conflict, relationship breakdown or loss (Skegg, 2005; Walsh, 2006). There is indication, however, that it is not the specific event, per se, that triggers an act of self-injury, but rather the individual's reaction to it. Conceivably, any event that causes distress may become a trigger of SIB. Research indicates that negative affect increases, and positive affect decreases, prior to an act of NSSI (Muehlenkamp et al., 2009). Individuals who self-injure typically experience extreme and intolerable physiological arousal in response to a stressful event. In a study comparing adolescents with a history of NSSI with a group of individuals who do not self-injure, the self-injury group experienced greater physiological arousal during a distressing task as well as poorer distress tolerance (Nock & Mendes, 2008). This suggests that individuals who self-injure experience greater distress and arousal following a negative event than those who do not self-injure.

Knowledge that others have been involved in SIB may be another situational variable contributing to the behaviour. There may be a contagion effect in rates of self-injury, meaning that some individuals may be more likely to self-injure after seeing or hearing another individual self-injure. A number of accounts of outbreaks of SIB in institutionalized populations have been published (Cookson, 1977; Matthews, 1968; Menninger, 1935; Offer & Barglow, 1960; Rosen & Walsh, 1989; Walsh & Rosen, 1985). Rigorous empirical research, however, has not definitively demonstrated the existence of this phenomenon. The large proportion of individuals (73-91%) who report that they did not get the idea to first self-injure from other people or situations suggests that if a contagion effect does exist, it is not a strong contributor to the onset of self-injury, or the individuals involved are not conscious of the impact of others' SIB on them (Favazza & Conterio, 1989; Nixon et al., 2002; Nixon et al., 2008).

Personality Variables

Besides external factors such as childhood trauma and distressing events, individual personality characteristics may also influence SIB. Several studies have linked SIB with impulsivity and aggression. Herpertz, Sass, and Favazza (1997) found that those who self-injured scored higher on measures of impulsive personality functioning and spontaneous aggression than did a control group. It has also been found that severity of self-injury is correlated to impulsivity, chronic anger and aggression (Simeon et al., 1992).

Some research indicates that dissociation is related to SIB. Dissociation refers to a state of separation or disconnect from thoughts, emotions, or physical state. Individuals may experience dissociation when overcome with intense negative emotions or unwanted traumatic memories (Briere & Gil, 1998). Van der Kolk, Perry and Herman (1991) report that dissociation predicted cutting behaviour in a sample of psychiatric patients. It has also been found that higher levels of dissociation were related to self-injury for patients with and without borderline personality disorder (Zlotnick, Mattia, & Zimmerman, 1999). It has been hypothesized that SIB may help to end a dissociative state and reduce feelings of numbness by inducing physical pain or seeing blood (Allen, 1995; Briere & Gil, 1998).

There is evidence that a broad range of historical, social, and personality factors influence SIB. CSC's population tends to comprise offenders who are at an increased risk for SIB given their relatively young age, lower socio-economic status, history of past trauma, substance abuse and mental health problems. What is more, factors such as racial background, sexual orientation,

incarceration, mental health issues, childhood living environment and trauma, distressing situations and individual personality traits often combine and interact in unique ways for every individual who engages in SIB. Given the complexity of the behaviour, it is not surprising that various intervention strategies have been applied to address it. The following section reviews the evidence-based practice in the management and treatment of SIB.

Evidence-Based Interventions for Self-Injurious Behaviour

While several intervention and treatment approaches have been proposed for SIB, few empirically validated approaches are available. The majority of the published literature is composed of anecdotes and personal experiences of mental health care providers. While these types of reports are important for hypothesis generation, empirical studies are required to determine if approaches work and, if so, for which groups.

The therapeutic methods described below offer a variety of strategies to assist individual offenders who self-injure. Many of these techniques will be more specific to mental health staff working directly with self-injuring offenders. However, some front-line staff including correctional officers and primary workers may also have direct involvement with offenders displaying this behaviour. The clinical and administrative intervention strategies described below will have direct application to staff who regularly work with offenders who engage in SIB within an institution.

Risk Assessment

Identification of offenders at risk of SIB is an important first step in its management and prevention. Unfortunately, there is a dearth of research concentrating on the development and validation of screening tools for identifying individuals generally, and offenders, specifically, who are at risk for SIB. Currently, no formal means for identifying prisoners who are at risk for SIB has been developed (Lanes, 2009). Frontline staff, health care workers, and mental health professionals must regularly assess whether an offender is at risk of SIB and, if so, they need to develop a strategy to determine how to react to this risk.

The unique population and unusual environment of correctional institutions make the application of risk measures designed for non-offender populations to offenders problematic (Perry & Olason, 2009). Any instrument that could be used with an offender population must be valid across diverse groups representing a range of mental health and ethnic backgrounds as well as consider the unique environment of a correctional institution (Hawton & James, 2007; Pratt, Piper, Appleby, & Shaw, 2006).

Ideally, good screening or risk prediction tools should have high sensitivity (i.e., they must detect most people who will engage in the behaviour) and high specificity (i.e., that is, they

should exclude those who will not engage in the behaviour; Greenhalgh, 1997). In SIB, high sensitivity is more important than high specificity because identifying those at risk for SIB is of greater importance than correctly categorizing those who will not self-injure. However, specificity should be considered in so far as an instrument that has a low specificity screens in too many people who are not at risk for SIB, thus wasting resources.

One of the most commonly used instruments for the prediction of SIB is the Beck Hopelessness Scale (BHS), a 20-item, true-false, self-report questionnaire that taps into pessimism and hopelessness (Beck, Brown, & Steer, 1989; Beck, Weissman, Lester, & Trexler, 1974). Some studies support the use of the BHS to predict suicide in psychiatric inpatients and outpatients (Beck, Brown, & Steer, 1989), although other studies have found its predictive validity to be insufficient (Beck, Brown, Berchick, Stewart, & Steer, 1990; Beck & Steer, 1989; Niméus, Traüskman-Bendz, & Alsén, 1997). The BHS had also been found to predict SIB in the general population (Colman, Newman, Schopflocher, Bland, & Dyck, 2004; Hawton, Houston, Haw, Townsend, & Harriss, 2003; Tyrer et al., 2003), and one study supported the use the BHS to predict SIB in a small sample of mentally disordered offenders (Gray et al., 2003). A meta-analysis on the utility of the BHS in predicting future SIB, particularly repetitive SIB, found that while the sensitivity of the test is high enough to identify the majority of people who would repeat the behaviour, the specificity is quite low, so that an unfeasibly large number of individuals who will not repeat the behaviour will be identified as at risk (McMillan, Gilbody, Beresford & Neilly, 2007).

Recently, a screening instrument named Suicide Concerns for Offenders in Prison Environment (SCOPE) has been developed and validated on young adult offenders (Perry & Olason, 2009). This self-report questionnaire contains 27 items that participants rate on a scale of one (strongly agree) to six (strongly disagree). This scale has been used to measure retrospective and prospective risk of suicide and non-fatal self-harm behaviour. It was tested prospectively (over a period of up to 4 years) on a sample of 465 young female offenders. For this group, the sensitivity of the SCOPE was much better than that of the BHS (meaning that more individuals who were at risk were screened in with the SCOPE than with the BHS) and the specificity was comparable (about the same number of individuals were incorrectly screened in using both measures). For this sample, 70% of the women who did have an incident of SIB were identified positively by the SCOPE (sensitivity) and 63% of women who did not have an

incident of SIB were correctly identified as not being at risk. While these rates are somewhat better than the BHS, many individuals would still be incorrectly identified by this test.

Lanes (2009) attempted to predict the presence of SIB in male prisoners via archival data by comparing a group of offenders with a known history of SIB and a group with no known history. The author conducted analysis on variables in the following categories: 1) developmental, including age at the time of study, years of formal education, history of abuse/neglect during childhood, parental status, a history of significant head injury or other central nervous system insult, and current relationship status; 2) mental health, including diagnosis of a psychological or psychiatric disorder, history of mental health contact in the community, history of genuine suicide attempts, and history of significant substance abuse; 3) legal/offence, including number of prior nonviolent and violent offences and history of poor community supervision outcome while on probation or parole; and 4) institutional functioning, including number of assaultive major misconducts, number of moves within the past two years (including facility transfers), presently housed in long-term maximum security segregation, and history of protective custody placements and/or requests. Using the model created from these variables, 95% of the offenders who had a history of SIB were correctly identified (sensitivity) and 93% of offenders who did not have a history of SIB were correctly identified (specificity). These positive predictive values are very high and, if applicable to other populations, the model could prove to be a useful tool for assessing risk for SIB in offenders. However, since some of the information is based on the offenders' behaviour in the institution, the model may not be useful for the prediction of SIB in newly admitted inmates. Although the method shows promise, it still needs to be tested prospectively on other populations to determine its utility in predicting future SIB.

Comprehensive Therapies

Once offenders who have engaged in SIB or who are at risk of SIB are identified, the correctional institution's next step is to provide these individuals with appropriate intervention. Several therapeutic models have been proposed including the following, which are described below: Cognitive Behaviour Therapy (CBT), Dialectic Behaviour Therapy (DBT), Manual Assisted Cognitive Behaviour Therapy (MACT), and Acceptance and Commitment Therapy (ACT).

Cognitive behaviour therapy (CBT).

CBT refers to a diverse set of approaches that generally aim to systematically target problem behaviours through the use of cognitive restructuring. CBT has been used to target a wide range of psychological problems, including suicide attempts and SIB. CBT can be offered individually or in a group setting (Freeman, Pretzer, Fleming, & Simon, 2004).

A universal, formulaic CBT approach to treating self-injury does not exist. All CBT approaches, however, regardless of the target psychological problem, will generally adhere to a number of overarching principles. CBT takes the approach that dysfunctional behaviours are cognitively mediated and can therefore be overcome by modifying the dysfunctional beliefs and cognitions associated with the problem behaviours (Butler, Chapman, Forman, & Beck, 2006). When addressing suicidal and self-injurious behaviours, CBT aims to help the individual identify the thoughts and core beliefs that are activated prior to self-injuring. Cognitive and behavioural techniques are used to address the identified thoughts and beliefs and help the individual develop better ways to cope with stressors (Brown et al., 2005).

A recent meta-analysis examined the degree to which CBT was successful in reducing suicidal behaviour, including SIB, across 28 published studies (TARRIER, Taylor, & Gooding, 2008). Results of this meta-analysis indicated CBT was significantly more effective at reducing suicidal behaviours as compared to minimal treatment or “treatment as usual”, consisting of alternative psychosocial interventions.

Dialectical behaviour therapy (DBT).

DBT is a type of CBT first developed by Marsha Linehan (1993) as a comprehensive treatment program for people with borderline personality disorder (BPD). DBT places particular emphasis on the suicidal and self-injurious behaviours common to individuals with BPD, making DBT an appropriate treatment method for individuals displaying these behaviours even if they do not meet full criteria for the personality disorder.

DBT is based on a biosocial theory of personality and behaviour functioning that posits that individuals with borderline personality traits experience severe emotion dysregulation that results from an interaction between biological irregularities and dysfunctional environments (Linehan, 1993). These individuals are highly emotionally vulnerable and have great difficulty regulating their emotions, thus lacking in emotion modulation skills. The dialectical framework of this theory also posits that individuals who are borderline and suicidal are characterized by

rigid and extreme thinking, and are frequently caught between polarized views. This is exacerbated by an inability to deal with changing environments (Linehan, 1993). The basic crux of DBT is to address these emotional and cognitive deficits and teach the necessary skills to overcome them. DBT focuses on four skill modules: mindfulness skills, distress tolerance skills, emotion regulation skills, and interpersonal effectiveness skills (Berzins & Trestman, 2004). The dialectical framework is also used to deal with the possibility that staff may experience burnout when working with individuals who have borderline personality disorder or engage in SIB. DBT acknowledges that it is common for staff to experience role duality (e.g., should their emphasis be placed on security or on treatment?) and conflicting emotions. The dialectical framework is used to explore these emotions and help staff deal with potential burnout (McCann, Ball & Ivanoff, 2000).

While DBT was originally developed as a community-based treatment, the theoretical basis of this therapy is particularly relevant to offenders who must deal with a range of negative emotions, such as anger, shame, guilt and sadness, as well as adapt to a constrained prison environment (Eccleston & Sorbello, 2002). McCann, Ball and Ivanoff (2000) argue that DBT is an appropriate treatment for forensic populations because it is a structured cognitive-behavioural approach, a modality that has been shown to be effective in reducing recidivism, which systematically treats aggressive and life-threatening behaviours. It also addresses staff burnout, which is common in correctional settings. Many studies have addressed the effectiveness of DBT in treating SIB in community and psychiatric settings. The majority of these studies found that DBT was an effective way of reducing self-injurious and suicidal behaviours (Low, Jones, Duggan, Power, & MacLoed, 2001; Stanley, Ivanoff, Brodsky, Oppenheim & Mann, 1998; Bohus et al., 2000). Hayes, Masuda, Bissett, Luoma and Guerrero (2004) systematically reviewed seven randomized control trials of DBT in the treatment of BPD and found that DBT was significantly more effective than “treatment as usual”, defined as alternative psychosocial interventions.

More recently, a controlled study comparing DBT to a community treatment by experts (CTBE) condition found solid evidence for the ability of DBT to reduce SIB (Linehan et al., 2006). One-hundred and one women with BPD and a history of two or more suicide attempts or self-injuries in the past five years were randomly assigned to either the DBT or CTBE group. Participants received treatment for one year, and were followed-up one year post-treatment.

Results indicated that the DBT group had significantly fewer suicide attempts over the two year period than the CTBE group. Further, the DBT group used crisis services, such as visiting or being admitted to an emergency department for any psychiatric reason, significantly less than the CTBE group over the two-year study period. In addition, participants in the DBT group were three times less likely to drop out of the study therapy.

DBT has been found to be an effective treatment of the suicidal and self-injurious components of borderline personality disorder, and has been adapted for specific use with offender populations. A number of jurisdictions have adapted DBT for use in correctional settings, including the United States, Canada, Australia, and the United Kingdom (Berzins & Trestman, 2004).

Many of these correctional implementations of DBT are only just being launched, but evidence to date suggests that DBT may be as effective in forensic settings as it is in the community. Nee and Farman (2005) reported that a pilot DBT program for women offenders in the UK was successful in reducing the frequency and lethality of self-harm incidents within the institution. While the sample size was small (14 participants), results are promising for this DBT adaptation.

An Australian adaptation of DBT for forensic settings is called the RUSH (Real Understanding of Self-Help) Program (Eccleston & Sorbello, 2002). The RUSH Program targets offenders displaying borderline personality disorder traits, specifically suicidal ideation and recurrent self-harm. The program aims to validate offenders' current and past emotional, behavioural, and cognitive responses to stressful situations and life events. Ultimately, the goal of the program is to reduce inmate suicide attempts and self-harm incidents by teaching more adaptive skills.

The RUSH Program follows the original framework of Linehan's (1993) DBT; however, some program modifications were made to ensure applicability to an offender population. For example, some changes were made to simplify the modules to accommodate for lower literacy skills. The terminology and case examples were also modified to be gender neutral and offender relevant. A significant modification was also made to reduce the amount of individual therapy necessary for the program. Standard DBT typically calls for weekly individual and group sessions, as well as telephone consultations (Linehan, 1993). Due to budgetary and environmental constraints of the institutions, primary focus was placed on group sessions with

individual therapy offered only on an as-needed basis. The resulting RUSH Program created was of moderate intensity, at 20 sessions over in the course of 10 weeks.

The RUSH Program was piloted in an Australian correctional facility, on male offenders of various ages and sentence lengths. Preliminary outcome research of this DBT adaptation indicates a decline in symptomatology, especially stress level scores. Participant feedback was reported as positive, with offenders indicating high motivation and perceived usefulness of the skills being taught. While the preliminary results were not able to conclusively report any effect on rates of self-injury incidents, anecdotal reports from staff indicated lower levels of dysfunction and self-harming behaviours from the participants (Eccleston & Sorbello, 2002).

In Canada, CSC has adapted the DBT framework for use in correctional settings to treat women offenders displaying severe emotional and behavioural dysregulation (McDonough, Taylor & Blanchette, 2002). Many offenders who undergo DBT in the institutions have a history of self-injury and suicide attempts. CSC's comprehensive DBT model includes individual psychotherapy, skills training sessions, support and coaching, as well as team and national consultations for DBT facilitators.

DBT was first introduced into the women's institutions in CSC in 1997 and is delivered within the Structured Living Environment (SLE) section of the institutions as well as in the secure units. The SLE operates the DBT program on a full time basis, where residents integrate DBT modules and principles into their daily routines. The DBT program delivered in the secure units follows a similar model to the SLE approach, however, does not operate with the same 24 hour approach. A preliminary evaluation was conducted of this initiative in 2003. Results indicate that the majority of participants and staff felt that the DBT program was helpful in achieving personal goals. It was reported that the offenders felt they were making positive behavioural changes and learning new skills (Sly & Taylor, 2003).

Based on the information currently available, DBT appears to be one of the most effective options for treating chronic SIB. A note of caution is warranted: the evidence for the efficacy of DBT is strongest for individuals who are chronically suicidal or self-injuring and meet the criteria for BPD or have pervasive emotion dysregulation (Koerner, Dimeff, & Swenson, 2007). Individuals who self-injure but do not experience the emotion dysregulation common to BPD may not be appropriate candidates for DBT. While many individuals who self-injure in the institutions fit this description, there are many who do not. Other treatment options

may be better suited to these individuals, and will be explored in the next section.

Manual assisted cognitive behaviour therapy (MACT).

Recently, a new form of therapy has been created to treat suicidal and self-injurious behaviour combining elements of both DBT and CBT. MACT is intended as a brief therapy that focuses on cognition and problem-solving (Boyce, Oakley-Browne, & Hatcher, 2001). MACT uses a combination of individual therapy and a treatment manual. Individuals following MACT receive up to five sessions within a three-month period, and an option of two additional booster sessions within six months. Ideally, MACT would begin within three months of self-injury incident. The therapy sessions are cognitively oriented and focus on the individual's current problems (Tyrer et al., 2003a). Integral to this intervention is the use of a manual, consisting of a 70-page booklet covering topics such problem solving, basic cognitive techniques for managing emotions and negative thinking, and relapse prevention strategies (Evans et al., 1999). The manual uses case examples to illustrate these topics. MACT is a fairly new treatment approach, and has only recently been studied for effectiveness. Three studies were found evaluating this approach.

A pilot study of the MACT approach was implemented using a sample of 34 outpatients with personality disturbances who had recently experienced a self-injurious incident, and had had at least one prior self-injury incident. Participants were randomly assigned to MACT treatment or treatment as usual (TAU). In this study TAU referred to the standard psychiatric treatment provided by the community. Assessments were made at baseline and all participants were followed up in six months. Results of the pilot indicated that the MACT group had lower rates of self-injury incidents per month (Evans et al., 1999).

A follow up study was conducted with a larger sample comparing MACT to TAU (Tyrer et al., 2003b). Four hundred and eighty participants were randomly assigned to either the MACT or the TAU group and followed for one year. Baseline measures of self-injury, depression, and social functioning were taken. No significant differences were found between the MACT group and the TAU group in terms of number of self-harm incidents reported after treatment. Both groups saw equal improvements in baseline measures.

A third study examining the effectiveness of the MACT approach used a sample of 30 women with BPD and a history of repetitive self-harm (Weinberg, Gunderson, Hennen, & Cutter, 2006). Participants were randomly assigned to MACT or TAU. Results indicated a

significantly greater decrease in rate of self-injury incidents in MACT group as compared to the TAU group. These results were maintained at six month follow-up.

Although few studies have been conducted evaluating this new approach, preliminary results are promising. MACT is a brief and cost effective form of therapy that could be implemented in a correctional setting. Given its relative brevity and problem-solving focus, MACT may be an appropriate alternative to the more intensive DBT format, and for those populations that are not adequately targeted by DBT.

Acceptance and Commitment Therapy (ACT).

ACT is a relatively new form of therapy, and has been used to treat a wide variety of psychological problems ranging from depression, anxiety, and psychosis to weight loss and sports performance enhancement. ACT is based on Relational Frame Theory (RFT) with postulates that people relate their cognitions, emotions, and behaviours primarily to the context in which they occur. Problematic contexts are those in which emotions and cognitions need to be explained and controlled, rather than simply experienced (Hayes, Masuda, Bissett, Luoma, Guerreo, 2004; Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004). Further, the core of human language and cognition is contextually controlled (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Based on this theory, ACT conceptualizes psychopathology as unhealthy attempts to control emotions, thoughts, memories and other private experiences, unhealthy emphasis on cognitively-based functions over actual experience, and a lack of understanding of core values and how to behave accordingly (Hayes, Masuda, Bissett, Luoma, Guerreo, 2004; Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

Evidence for this form of therapy is mixed. A recent meta-analysis of controlled studies comparing ACT to other forms of the therapy reported that ACT was more effective than wait-list or placebo groups, but was not significantly more effective than established treatments (Powers, Zum Vorde Sive Vording, & Emmelkamp, 2009).

A recent review of studies specifically evaluating ACT in the context of depression noted that ACT was equally or more effective than cognitive therapy (Ruiz, 2010). However, sample sizes were small and only two studies have been conducted to date in the area of depression. With respect to anxiety, the same author reported mixed results, with some studies finding no significant differences between ACT and either wait-list control or other established treatment

options while other studies found ACT to be more effective (Ruiz, 2010).

Only one study could be found examining the effectiveness of ACT on self injury. A sample of 22 psychiatric outpatients who met the criteria for BPD including one self-injury incident in the past 6 months were assigned to either an emotion regulation group intervention or treatment as usual (Gratz & Gunderson, 2006). The emotion regulation group intervention treatment consisted of a 14-week acceptance based group therapy program which was based on a combination of ACT, DBT, emotion-focused therapy and behaviour therapy. The treatment as usual group continued their current outpatient treatment program. Baseline measures of self-harm, emotion regulation, and borderline symptom severity were taken before commencement of treatment, and again upon completion. Results indicated the emotion regulation group showed significant positive improvements in severity of borderline symptoms, self-harm, emotion regulation, as well as symptoms of anxiety, depression and stress.

Despite these promising results, caution is warranted given that the emotion regulation group treatment examined in this study did not use a pure form of ACT. The combination of ACT with DBT and other therapies would seem to confound any conclusions about the effectiveness of ACT in the treatment of self-injury. Further research is warranted at this time as to the usefulness of this relatively new form of therapy in the treatment of self-injury.

Common Features of Effective Interventions

The treatment therapies mentioned thus far are typically intensive in both time and content. While research generally indicates that DBT and other similar therapies are the most effective at treating self-injury, their structure does not always make them practical choices in a correctional environment. There are, however, some common features of interventions found to be effective in reducing SIB.

Positive therapeutic relationship. The formation of a positive and supportive relationship is essential to successfully treating SIB. A strong working relationship between the helper and the self-injuring individual is the first step in targeting the behaviour and ultimately reducing it (Linehan, 1999; Muehlenkamp, 2006; Skegg, 2005). This is consistent with clinical research in general which consistently finds that a strong working relationship between service provider and client is one of the most important factors in producing positive outcomes, regardless of the type of therapy offered (Horvath & Symonds, 1991; Kozart, 2002; Skeem, Loudon, Polaschek, &

Camp, 2007)

The literature points to a number of important factors that facilitate a positive therapeutic relationship. Above all, it is important that the service provider use a non-judgemental approach when interacting with the individual (Walsh, 2006). Frequent self-injurers are likely to have already faced significant judgement in the past with respect to this behaviour. It is suggested that using an approach of “respectful curiosity” is best when discussing the behaviour (Walsh, 2006). Further, the literature indicates that it is important to acknowledge and validate the feelings and emotions that lead up to the behaviour as well as the purpose it serves for the self-injurer (Linehan, 2006; Muehlenkamp, 2006). Given that self-injury is commonly cited as a coping strategy (albeit an ineffective one), it is important to express acceptance of this in order to establish an empathic relationship.

Integral to the development of a positive relationship is the use of appropriate language when discussing self-injury. Walsh (2006) notes labelling self-injury as a suicide attempt should be avoided when the actual intent is unclear. The literature indicates that the purpose of non-suicidal self-injury and the emotions related to it are quite different than suicide attempts (Muehlenkamp, 2005; Walsh, 2006). Labelling the behaviour is not conducive to creating a positive and empathic relationship. Similarly, it is recommended that helpers avoid using the term “suicide gesture”, as it implies the act is insignificant and manipulative (Walsh, 2006). The best practice is to reflect the language used by the individual when referring to their self-injury. The practice of mirroring client language is frequently cited as a way of developing a therapeutic alliance in therapy and fostering respect (Duncan & Miller, 2000). Using the language chosen by the individual will help convey understanding and build trust. The same principles should be applied when interacting with offenders who engage in self-injury.

Incident analysis.

Once a positive relationship has been established between the individual who self-injures and the helper, an analysis of the self-injury incident should take place. The purpose of the analysis is to help the individual identify and understand the context of their self-injury (Muehlenkamp, 2006). The precipitating events should be identified, including the emotions, cognitions and environmental factors leading up to the SIB. The triggers for SIB will be different for each individual; however, some examples could include loss, interpersonal conflict, frustration, anger, isolation, sadness, or negative interpretation of seemingly neutral events

(Walsh, 2006). It is important to help individuals link their emotional and cognitive response to the event with the event itself. Given that research indicates that people who engage in self-injury tend to have difficulty regulating their emotions, their response to negative events is likely to be disproportionate (Linehan, 1999).

It is also important to identify the events that maintain and reinforce the SIB (Walsh, 2006). SIB may be used as a means of reducing emotional distress and to provide psychological relief. As part of an SIB incident analysis, it may be necessary to explore the specific ways in which self-injury provides relief. For example, self-injury may be used to reduce feelings of anger, sadness, or fear. The subsequent relief of negative emotions following self-injury is likely to reinforce the behaviour.

Identification of any secondary social reinforcements is critical. There may be specific responses from staff or other offenders that are serving to reinforce the behaviour. Overly positive reactions of concern and support, although well-intentioned, can inadvertently increase the risk of reinforcing the behaviour. At the same time, responding with shock or recoil, which is often a natural reaction to SIB, can elicit feelings of rejection and abandonment, which may, in turn, trigger another incident of self-injury. Staff are generally cautioned to minimize the intensity of their emotional reactions and instead respond with a calm, dispassionate demeanour (Walsh, 2006).

The process of incident analysis should be undertaken collaboratively with the individual who is engaging in SIB and the intervener. As mentioned previously, a supportive relationship will help these individuals explore their behaviour more openly. There can be a lot of shame associated with self-injury (McAllister, Creedy, Moyle & Farrugia, 2002), so a trusting relationship is critical to this process.

Skills training.

Research indicates that individuals who self-injure tend to have poor problem solving skills. Nock and Mendes (2008) found that adolescents with a history of SIB chose more negative solutions when faced with a social problem and rated their own self-efficacy in problem solving as significantly lower than did non self-injurers. Research on offenders who self-injure has also found a deficit in appropriate coping skills for this population (Dear et al. 2006).

Skills training is a common component of the more intensive treatment therapies such as DBT and CBT, based on the premise that individuals who engage in SIB are lacking in adaptive

coping skills (Linehan, 1993). Typically, skills training will address alternative behaviours and teach skills that target distress tolerance, problem solving, and coping strategies (Muehlenkamp, 2006). The primary objective is to help the individuals adopt new skills to manage their emotional distress more effectively than they can by using self-injury (Walsh, 2006). The rationale is that self-injury is often used as a coping mechanism (Klonsky, 2007), so to eliminate it as an option, it must be replaced with more effective and adaptive alternatives.

Specific skills will vary depending on the individual and what he or she finds useful. Some examples cited in the literature include behaviour replacement, mindfulness breathing, visualization techniques, physical exercise, writing or journaling, creating artwork, listening to music, seeking social support, and the use of diversion techniques (Dear et al., 2006; Walsh, 2006).

The practice of using diversion techniques or replacement behaviours is often cited by clinicians as a useful method of harm reduction. Examples of replacement behaviours include using a red-coloured marker on the body rather than cutting the skin, snapping a rubber band or applying ice on areas of the body that are usually cut or burned, or drawing a visual image of the self-injury without actually doing any tissue damage (Walsh, 2006). Anecdotally, these techniques may be useful in the short term to stop SIB when used in conjunction with other methods. However, empirical evidence for the effectiveness of these techniques is lacking in the literature. These techniques may prove to be useful in a correctional setting to reduce immediate and severe injury, although caution is warranted. Because of they approximate actual SIB, there are some concerns that these strategies may serve to reinforce self-injury in the long run if other, more effective therapies are not provided in conjunction (Conterio & Lader, 1998).

Exercise was found to be helpful in reducing self-injury in a case study outlined by Wallenstein and Nock (2007). Currently, offenders have access to gym facilities and are provided with opportunities to seek out physical activity. However, the practicality of increasing physical activity for offenders who self-injure may depend on the institution and security level of the offender. More research is needed in this area to determine the extent to which increasing physical activity is helpful in reducing self-injury.

In a survey of 39 young adults with a history of non-suicidal self-injury, participants were asked to rate the methods they used most frequently to resist the urge to self-injure, as well as indicate which ones they found to be most effective. The top four most effective methods were

indicated as exercise and physical activity, removal of means of self-injury from the home, seeking out someone who is understanding, and turning to spirituality/religion (Klonsky & Glenn, 2008). Interestingly, the methods reportedly used most frequently did not necessarily correspond to those that were rated as the most effective. This finding points to the importance of working collaboratively with the individual to teach them effective coping skills. Once a set of skills has been taught and the choice of favoured skills agreed to, it is important to track the use of these new skills to determine if they are effective (Walsh, 2006).

There is evidence in the effective corrections literature that skills training should be part of any program delivered to reduce criminal recidivism. Basic coping and social skills are important to address a range of problematic behaviours including, but not limited to, preventing self-injury (Dear et al., 2006). Broadly based programs that include skills training could assist those offenders with the potential for self-injury who were not screened in for a specific SIB treatment and reduce the stigma of participating in such programs since it would be offered to everyone. CSC does incorporate a skills training component in its correctional programs, such as the Violence Prevention Program, the Family Violence Prevention Programs, the Women's Violence Prevention Program, the National Substance Abuse Program and the Women's Substance Abuse Program. The problem-solving techniques and approaches used in current correctional programs could be adapted to the prevention of self-injury.

Cognitive restructuring.

In addition to the behavioural techniques used in skills training, another strategy common to effective clinical interventions is cognitive restructuring. Individuals who self-injure tend to have negative beliefs about themselves, their abilities, and their future. Walsh and Rosen (1988) identified four key cognitions or beliefs of non-suicidal self-injurers: 1) SIB is acceptable; 2) the body and self are disgusting and worthy of punishment; 3) immediate action is needed to reduce negative feelings; and 4) action is needed to communicate negative feelings to others. The goal of cognitive restructuring is to challenge these thoughts and replace them with more adaptive beliefs.

Cognitive restructuring in this context can be conducted by examining a previous SIB incident in depth with the individual in order to identify any prevalent thoughts and beliefs. Typically the individual will experience recurrent automatic thoughts and beliefs that are activated prior to self-injuring (Berk, Henriques, Warman, Brown & Beck, 2004). The individual

may not be aware of these automatic thoughts. Once negative thoughts have been identified, the helper can work with the individual to challenge these thoughts and replace them with something more adaptive.

In order to reduce or even ultimately eliminate SIB, helpers should use cognitive techniques to challenge these maladaptive beliefs. One of the methods of restructuring the problem thinking around self injury is to have individuals emphasize that self-injury is incompatible with self-respect and self-esteem (Muehlenkamp, 2006).

It is worth noting that all of the common features of effective interventions for SIB mentioned in this section are consistent with elements of effective correctional programming in general. Positive therapeutic relationships and motivational based strategies are key to successful correctional programs; incident analysis approximates the relapse prevention analysis completed in all current correctional programs in CSC and all these programs are cognitive behavioural-based, with a foundation in skills training and cognitive restructuring.

Interventions for Aboriginal Offenders

It is likely that similar factors contribute to SIB for both Aboriginal and non-Aboriginal offenders, but more research is required in order to verify that this holds true for the Canadian federal offender population (Dear, 1999). It is possible that similar models of interventions for self-injury can be implemented for both groups. It may be beneficial, however, to tailor aspects of the delivery of these interventions to meet the individual needs of Aboriginal offenders. CSC currently offers a number of Aboriginal specific correctional programs that run parallel to the non Aboriginal programs. For example, Aboriginal-specific versions of the substance abuse and violence prevention programs are provided within CSC. These programs target the same criminogenic needs and use the same cognitive-behavioural model as the standard programs, but include cultural ceremonies and teachings that are relevant to the Aboriginal background of the group attending the program. Often an Elder is a member of the program delivery team. A similar approach could be adopted in the provision of self-injury interventions. Further research is required to determine what additional components would be most beneficial for Aboriginal offenders.

Administrative Responses

The following section describes institutional responses to SIB found in the literature

including the use of segregation and security level. Other institutional factors that may affect rates of SIB such as size and staff-offender ratios are also discussed.

Segregation.

Institutional responses to SIB often include placing the individual in administrative segregation or isolation rooms in order to create a safer environment for the offender through increased monitoring and more limited access to instruments that may be used to self-injure. Segregating offenders who are at risk of harming themselves may be counterproductive, however, since some research indicates that social isolation increases the risk of self-injury among inmates (Howells, Hall, & Day, 1999; Thomas, Leaf, Kazmierczak, & Stone, 2006; Winkler, 1992). Being placed in segregation can exacerbate deterioration in mental health status and increase feelings of desperation (Bonner, 2006; Howells, Hall & Day, 1999). Forced isolation increases distress levels given that offenders in environments of sensory deprivation are more apt to ruminate on stressors as well as their feelings of hopelessness and despair (Howells, Hall & Day, 1999; Winkler, 1992). Further, placement in a segregation cell can undermine existing coping skills as the strategy permits only limited social interaction as an option to deal with stressors (Howells, Hall, & Day, 1999). As SIB typically occurs in situations of seclusion, segregation may “increase both the motive and opportunity for further self-injury” (Thomas, Leaf, Kazmierczak, & Stone, 2006, p.198).

In fact, rather than reducing the frequency of self-injury, there is evidence that segregation may actually increase the likelihood of SIB. In a study of 134 inmates, Bonner (2006) reported that those in segregation had higher levels of depression and suicidal ideation than inmates in the general population. Even more compelling is the result of a recent study indicating that placement in administrative segregation drastically reduced the amount of time certain inmates were SIB-free. Lanes (2009) compared 132 inmates with a record of SIB with 132 non-SIB inmates. Both groups were matched on length of time served and security level. Results indicated that for the SIB group, length of SIB-free time in months was dependent on housing status, where SIB inmates in administrative segregation were found to have their SIB-free time reduced by a median 17 months. SIB-free time was further reduced if SIB inmates in segregation had a DSM-IV Axis I disorder, especially mood disorders. However, it is important to note that these offenders were not randomly assigned to segregation and therefore those in segregation were likely at increased risk of these behaviours compared to offenders in the

comparison groups.

Women who are put in isolation as a result of SIB may be particularly vulnerable, especially given the high rates of mental health issues in this population. Women offenders who are placed in segregation due to an SIB incident may view this response as a form of punishment rather than for safety or monitoring purposes (Heney, 1990; Kilty, 2006). Further, women who engage in SIB while incarcerated are more likely to be placed in segregation during their sentence than those women who do not engage in this behaviour (Wichmann, Serin & Abracen, 2002).

The use of segregation for offenders who are at heightened risk for SIB is often necessary to improve the offender's safety and even preserve the offender's life. However, given research that indicates that this practice may not be effective in reducing the behaviour, and may, in fact, increase the risk of SIB for some individuals, segregation should be used with caution and only when absolutely required to preserve the offender's safety. Research has not yet explored whether some of the factors that increase feelings of isolation while the offender is residing in a segregation cell can be reduced by increasing in-person staff contact and support services during their stay in segregation. Methods of mediating the negative emotions that often accompany placement in segregation, such as increased staff contact, should be explored.

Currently, CSC operates a Peer Support Program that may prove to be useful in addressing the social isolation inherent to placement in segregation. First established in 1990 at the Prison for Women in Kingston, the program was created in response to the spontaneous network of support the offenders created in times of crisis. Following the decentralization of the Prison for Women, the Peer Support Program was established in each of the regional women's institutions (Blanchette & Eljdupovic-Guzina, 1998). A Peer Support Team is composed entirely of inmates who have completed training in the Peer Support Program, which is facilitated by a staff psychologist. The primary purpose of the Peer Support Program is to provide inmates with crisis intervention skills and peer delivered short-term counselling. Specific training is provided on suicide and self-injury intervention and prevention (Darke, Diamond & Heney, 1996a; 1996b).

An evaluation of the Peer Support Program was conducted at Edmonton Institution for Women, Nova Institution, Joliette Institution, and Grand Valley Institution. Results of this evaluation indicated that the program was successful in meeting the needs of the recipients, and

that it was helpful in crisis intervention. Importantly, recipients reported that using this program was helpful in overcoming feelings of depression, anxiety, self-injury and suicidal thoughts (Blanchette & Eljdupovic-Guzina, 1998; Syed & Blanchette, 2000a; 2000b). Currently the Peer Support Program is available at Nova Institution, Grand Valley Institution, Edmonton Institution for Women, and Fraser Valley Institution. It has also been implemented at the Okimaw Ohci Healing Lodge under the name Circle of Knowledge Keepers. It is also available at 11 of the men's institutions.

Given the positive preliminary outcomes of this program and its continued implementation in the institutions, it is possible that the Peer Support Program could be expanded to other institutions. In particular, it could be used as a means of providing additional support for SIB offenders housed in segregation.

Security level. Few studies have investigated the relationship between security level and SIB. The degree to which a history of SIB affects initial security level placement or subsequent reclassification is not known. While some critics have stated that SIB in women offenders is disproportionately viewed as a security threat, rather than a mental health issue (Kilty, 2006), research to date does not support this view. Irving and Wichmann (2001) found no evidence that self-injury while incarcerated contributed to women offenders being reclassified at higher security levels.

A study examining suicide attempts in custody noted that male offenders who attempted suicide while incarcerated were more likely to have been placed in a higher security institution (Wichmann, Serin & Motiuk, 2000). In other words, these offenders were classified as higher risk at intake as compared to offenders who did not attempt suicide in custody. With respect to NSSI, however, no research has investigated the relationship between initial security level classification and risk for self-injury.

Institutional characteristics.

Potentially important institutional factors that could affect the incidence of SIB include institutional size, physical layout, staff-offender ratio, and presence of mental health workers. A recent survey of SIB in 473 adult correctional facilities in the United States (Kaminski, Smith, & DeHart, 2009) found no statistically significant relationship between size of institution and the

number of offenders who self-injure. Many of the SIB incidents reported in this survey required the use of objects such as cutting devices and burning tools. Staff who responded to this survey indicated considerable difficulty in keeping these implements away from self-injuring inmates. Specifically, over 61% of respondents indicated that restricting prohibited implements from self-injuring inmates was moderately to very difficult.

More research is needed to determine the specific effect that institutional characteristics have on the rate of SIB among offenders. A better understanding of why rates of SIB vary drastically between institutions may provide avenues of interventions to improve institutional settings for offenders who engage in SIB. At this time, there is not enough empirical evidence to comment on these institutional factors.

Helping Staff Deal with Self-Injurious Behaviour

Dealing with chronic SIB can be incredibly stressful for correctional staff, particularly working long term with offenders who repeatedly display this behaviour (Sheppard & McAlister, 2003). It is widely reported that many correctional staff members have expressed that they would like more training and strategies to help them deal with frequent self-injury of offenders. Given that staff burnout is common with self-injuring populations (D'Onofrio, 2007), evidence-based strategies are needed to help staff adequately cope with this behaviour.

Staff Perceptions of Self-injury and Staff Burnout

Correctional staff play a crucial role in the management and prevention of self-injury in institutions, which understandably places increased pressure and stress on them (Marzano & Adler, 2007). Unfortunately, there is a dearth of information in the literature on coping with self-injury that is specific to correctional staff. As such we do not have an accurate picture of the extent to which dealing with chronic self-injury affects correctional staff stress levels and workplace satisfaction. Information in the literature on other work groups that typically deal with this behaviour, such as nurses and psychiatric clinicians, can be applied to the correctional field.

Nurses and clinical staff who deal frequently with individuals who self-injure typically report a negative general perception of the behaviour and its effect on stress levels. Feelings of frustration, distress, anger, anxiety and a lack of empathy are common reactions to individuals who frequently self-injure (McAllister, Creedy, Moyle, & Farrugia, 2002; Reece, 2006). Further, the emotions evoked by self-injury may become part of a cyclical pattern. SIB tends to illicit negative cognitions and emotions in the caregiver (i.e., nurse, clinician, correctional staff) which can lead to a negative interaction between the self-injuring individual and the caregiver. This negative interaction then leads to increased negative emotions and cognitions in the person who is at risk for further self-injury and may ultimately trigger another self-injury event (Rayner, Allen, & Johnston, 2004). While this theory has yet to be explored in a correctional setting, it is plausible that a similar cycle may occur in institutions where some individuals engage in frequent self injury. An understanding of the motivations for self-injury and how staff reaction may influence the behaviour is a critical part of the management of self injury in these cases and

should be a component of staff training.

Current Approaches to Support Staff in the Management of Self-injury

CSC currently provides a number of avenues to help staff manage offenders who self-injure and to cope with the stress of working with this population. CSC policy stipulates that all staff who have regular contact with inmates must receive suicide prevention training (CSC, 2009b). This training is delivered to all staff through either the Correctional Training Program (CTP) or the New Employee Orientation Program (NEOP). These staff members must take refresher training every two years. The refresher training is available in a computer based format.

Additionally, National Headquarters has recently developed an in-service staff training program that deals specifically with the management of complex cases. This training is focused on helping front-line staff manage offenders with challenging mental health issues who are high risk for self-injury. Topics focus on understanding self-injury and its purpose for the offender as well as assessment and treatment strategies. The in-service training also discusses how to help staff members who deal frequently with SIB.

CSC has also outlined specific policies related to the provision of the Employee Assistance Program and Critical Incident Stress Management (CSC, 2002). The Employee Assistance Program (EAP) is a confidential, voluntary program aimed at helping CSC employees deal with personal or work related problems that affect their well-being and productivity on the job (CSC, 2008c). EAP is intended to provide short-term help as well as specialized community referrals that may be covered under the Public Service Health Care Plan. With respect to self-injury, staff members who are experiencing distress when dealing with offenders who frequently or seriously self-injure can use the EAP program for peer support and community referrals.

Critical Incident Stress Management (CISM) is more specific subset of EAP and is designed primarily for staff members who are involved in critical incidents in the course of their work. This could include, but is not limited to, correctional officers, behavioural counsellors and parole officers. CISM provides support for staff in two respects. First, CISM is designed to be preventative by educating and preparing employees who may be exposed to stressful events in their line of work. Second, CISM provides support, assistance and follow-up services to staff who may be affected by a critical incident in the institution. The CISM team is composed of peer support staff members and registered mental health professionals trained in CISM intervention. Any staff member experiencing a critical incident, including the management of serious SIB,

may access CISM services (CSC, 2008d).

Interventions in the Literature for Helping Staff

Stress is multifaceted, and interventions in the workplace should not focus on only one method. Rather, interventions should take a holistic approach aimed at all levels of the organization (Marzano & Adler, 2007). Theories of workplace stress management typically categorize intervention strategies into three levels: primary, secondary, and tertiary (Murphy, 1996; Cooper & Cartwright, 1997; Marzano & Adler, 2007). Primary interventions are aimed at addressing the source of the stress within the workplace environment. With respect to self-injury, primary strategies of staff stress management would include such measures as discussed in the previous section to prevent and reduce incidences of self-injury in the institution.

A recent small scale qualitative study revealed that psychiatric nurses working with self-injuring patients often lacked a proper formulation of appropriate strategies and used interventions on an ad-hoc basis. The nurses expressed that they were working extremely hard to manage the behaviour but felt let down by the lack of appropriate training (Thompson, Powis, & Carradice, 2008). The authors suggest that without an appropriate theoretical framework of self-injury from which to base interventions, individuals working with self-injuring patients will increasingly feel overwhelmed and ineffective in working with this population. This adds weight to the possibility of a cyclical interaction between self-injurious behaviour and staff behaviours, as staff may unwittingly react in ways that enrage or overwhelm the individual. With respect to primary interventions for stress management, prevention and appropriate intervention of self-injury will play a major role in reducing staff stress levels. A better understanding of SIB in federal offenders is required to inform these types of interventions.

Secondary interventions refer to strategies aimed at reducing the effect of stress on employees and increasing staff abilities to cope with stressors (Marzano & Adler, 2007). This would include skills training and stress management training, with a specific focus on coping with the stress of working with chronically self-injuring offenders.

Finally, tertiary stress interventions are focused on treatment and recovery for those staff members who may be suffering ill effects from workplace stress. Typically these would involve use of an EAP or individual counselling (Cooper & Cartwright, 1997). Post-incident debriefing can also be a helpful mechanism for staff following a particularly stressful self-injury incident. Debriefing can help staff to regain control of their emotions and harness to support of other staff.

This strategy should be made available to all employees who wish to use it; however it should not be made mandatory following a critical incident. Research suggests that debriefing is not helpful if it forces an individual to relive an incident before they are ready (Borrill & Hall, 2006).

Ideally, addressing staff burnout would be integrated into a comprehensive, systemic approach to self-injury prevention and intervention. Howells, Hall and Day (1999) suggest an integrated approach to suicide and self-injury prevention in correctional facilities that incorporates primary assessment of risk with active prevention including staff training and intervention. Using a broad-based approach could address staff burnout by targeting it on a number of levels.

Current Practices in CSC to Treat and Prevent Self-Injury

In order to address the complexity of SIB, CSC currently has in place a number of policies and interventions to deal with the treatment and prevention of SIB within the institutions. There are many policy directives outlining SIB risk assessment and identification, as well as procedures for handling incidents of self-injury and suicide attempts. Specific initiatives aimed at preventing self-injury have been implemented, including training and awareness sessions for both staff and offenders. Targeted treatment programs have also been put in place to address the needs of offenders who self-injure.

Intake Procedures

CSC policy requires that every offender undergo an intake health status assessment within 24 hours of entry to one of CSC's institutions (CSC, 2009a). During the intake health assessment, specific information is recorded about the offender's mental health status including any previous suicide attempts or history of self-injury, as well as any current suicidal ideation or thoughts of self-injury as self-reported by the offender. If it is found that an offender has any current or previous history of SIB, he or she is referred for a comprehensive psychological assessment, where a more in-depth review of the offender's mental health will be conducted.

An immediate needs identification document is prepared based on the information obtained in the initial assessment. If an offender is found to have any previous or current suicidal or self-injurious behaviour, an alert or flag is created in the offender's file (CSC, n.d.). The purpose of these flags/alerts is to properly identify offenders who may be at risk for self-injury within the institution.

Policy Directives

In the event of a self-injury incident occurring within an institution, CSC has created a number of policy documents outlining the required procedures. In the CSC policy directive addressing suicide and self-injury, the protocol for ensuring offender safety and appropriate intervention is outlined (CSC, 2009b). Offenders who are suicidal and self-injurious are to be referred to a psychologist or health service professional in order to determine the degree of risk and appropriate level of intervention. Should the inmate be deemed high risk, he or she can be

placed on suicide watch (i.e., placed in a closely monitored segregation cell). This policy directive also outlines regulations involving transfers to other institutions. Transfers are prohibited unless it is deemed that the transfer would reduce or eliminate the potential for suicide or self-injury. Should a self-injury incident occur, the policy states that restraints can be used for physical or mental health purposes in any situation where there is a risk of serious bodily injury to the inmate and when it is deemed that other less restrictive measures have not been successful in resolving the situation (CSC, 2008a).

One of CSC's primary goals in self-injury intervention is preservation of life. Therefore, any item used by an inmate to inflict self-injury or attempt to inflict self-injury can be seized through appropriate intervention, as outlined in relevant security documents (CSC, 2008b). Additionally, CSC has explicitly prohibited the use of helmets to prevent injury as a result of head banging, as they are not designed to protect against multiple impacts and may in fact cause or aggravate head injuries (CSC, 2009c).

Interventions

CSC has undertaken a number of initiatives designed to treat and prevent SIB. Two such initiatives are the implementation of DBT and the Peer Support Program, which were discussed in an earlier section of this report. DBT is currently available in each of the six women's institutions as well as the Regional Psychiatric Centre. DBT models have been developed for use with male offenders, and are currently offered at the Shepody Treatment Centre. Peer Support Programs are currently being implemented in a number of CSC institutions.

CSC has also implemented an Inmate Suicide Awareness and Prevention Workshop which is intended for all inmate populations (all security levels and both genders). All inmates are offered this three hour workshop as well as refresher courses throughout their sentence. The purpose of this workshop is to provide a basic level of suicide awareness and to promote overall mental health and well-being. The workshop is typically delivered by volunteers, nurses, or chaplaincy, and is often incorporated into existing correctional or educational programs. The facilitator is trained in suicide prevention (CSC, 2001).

Awareness and intervention in suicide and SIB is provided to CSC staff in the form of Staff Suicide Prevention Training. CSC policy requires that all staff with regular contact with inmates undergo suicide prevention training, as well as receive a refresher course every two years (CSC, 2009b). Both suicide and self-injury are addressed in these training courses. Topics

covered include risk factors, intervention strategies and common staff responses to SIB.

Currently in Development

The National Working Group on Self-Injury, formed with the goal of reducing the frequency and severity of self-injury within CSC, developed a national strategy and action plan to address the needs of offenders who engage in SIB. The group identified a number of strategic priorities that will contribute to the attainment of this goal. Regional committees are now being created to assist institutional sites with the management of offenders who engage in frequent and/or serious SIB.

The first strategic priority is to further enhance CSC's knowledge of self-injury through several research initiatives that are currently underway. Another strategic priority will be to revise and update existing policy documents. Once revised, they will include up-to-date guidelines and tools for the assessment and clinical management of offenders who repeatedly self-injure. Amendments are also slated for the Offender Management System (OMS) for improved flagging, monitoring, and tracking of self-injury incidents.

The national strategy for offenders who self-injure will also address staff support by working with the National Employee Assistance Program Advisory Committee to review existing support programs and identify additional support needs and opportunities for improvements.

CSC has implemented several key strategies to prevent SIB and continues to seek new initiatives to improve the intervention plan. For the most part, the current SIB strategy is consistent with recommended practices. SIB is acknowledged as a concern by the Service beginning at the time of the offenders' intake when an attempt is made to identify those who are at risk. Once identified, at-risk offenders are provided with therapeutic interventions such as DBT, psychological counselling, and peer support. Staff working with SIB offenders are offered training and support services. These strategies could be further augmented by empirically based interventions such as the ones outlined in this report which would broaden the menu of interventions currently in place and assist staff in dealing with this troubling and complex behaviour.

Conclusion

SIB is still not well understood, particularly in offender populations, but it is known that there are a broad range of historical, social, and personality factors which may influence this behaviour. A more complete understanding of the factors that influence SIB could allow for more effective treatments and interventions.

CSC is already using a number of empirically validated approaches to manage SIB, such as initial risk assessment, implementation of Dialectical Behaviour Therapy and peer support programs, as well as staff training and awareness. Other potential options that have some preliminary empirical support and are consistent with the general approach to correctional programs within CSC is the Manual Assisted Cognitive Behaviour Therapy (MACT) and incident analysis. CSC should also explore methods of reducing feelings of isolation when offenders who engage in SIB require segregation to determine if frequency of the behaviour can be decreased while providing the safety of segregation. These methods could include increased contact with staff and increased contact with other offenders through the Peer Support Program.

Research on risk assessment (i.e., predicting future incidents of SIB) is still in the development stages. This area of research should be pursued in order determine an effective way of identifying at risk offenders. An effective prediction tool would aid health care workers in targeting their care of individuals who engage in SIB by more effectively focus their limited resources on those who need it most.

CSC currently has in place training and support programs for staff who deal with offenders who engage in SIB. However, staff may need more training to manage individuals who self-injure more effectively. Additionally, increased support could be offered staff to decrease burnout and improve quality of life. More research is needed to determine what type of support staff would benefit from most in CSC's institutions, but early evidence points to the importance of staff training to help them understand the motivations for self injury and strategies with empirical support that help to reduce its incidence.

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