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_____ **Research Report** _____

**Mental Health Needs of Federal
Women Offenders**

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Mental Health Needs of Federal Women Offenders

Dena Derkzen

Laura Booth

Ashley McConnell

&

Kelly Taylor

Correctional Service of Canada

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Executive Summary

Key words: *Mental Health, Women Offenders*

Mental health problems are increasingly being recognized as one of the greatest challenges faced by correctional systems in the effective management of their populations. One of the key priorities of the Correctional Service of Canada (CSC) is continual improvement in the capacity to address the mental health needs of offenders. Women offenders have emerged as a correctional population with unique needs in this area. Over the past decade, the number of federal women offenders identified at admission as presenting with a current mental health problem has risen significantly, from 13% in 1996/1997 to 29% in 2008/2009 (Correctional Service Canada, 2009a). Accordingly, the current research aims to further facilitate CSC's ability to address issues related to mental health by examining the specific mental health needs of women offenders.

All federally sentenced women¹ incarcerated in Canada between September, 2009 and February, 2010 were invited to complete two measures: the Computerized Diagnostic Interview Schedule (C-DIS-IV) and the Personality Assessment Inventory (PAI). Valid data were available for 88 women for the C-DIS-IV and 217 for the PAI.

The C-DIS-IV (screener version) is reflective of the respondents' experience of symptoms and provides approximations of clinical diagnoses. The PAI provides a comparison of the current sample of women offenders to community norms and highlights areas of particular concern for the current sample.

Lifetime diagnostic criteria on the C-DIS-IV were met for certain diagnoses. The most commonly identified disorders were Posttraumatic Stress Disorder (52%), Major Depressive Episodes (69%), and Antisocial Personality Disorder (83%). These findings were mirrored in the PAI data. In contrast, Dysthymic Disorder (3%) and Schizophrenia (5%) were the least commonly identified lifetime disorders on the C-DIS-IV among the women offender population.

Substance dependence emerged as a significant area of need in the sample. Alcohol and drug dependence had been experienced at some point by the majority of the sample (80%). These individuals also had psychiatric diagnoses. While few significant differences emerged on psychiatric disorders, when disaggregated by Aboriginal and non-Aboriginal status, Aboriginal women exhibited greater difficulties with substance abuse, particularly alcohol, than their non-Aboriginal counterparts.

It is evident that the correctional population, in particular women offenders, have unique mental health needs. With the overwhelming majority of women who participated in the C-DIS-IV showing evidence of lifetime psychiatric diagnoses, it is apparent that this population needs comprehensive and ongoing assessment and treatment to facilitate their successful reintegration. Ongoing refinement of CSC's approach to dealing with women offenders and considering the cultural needs of Aboriginal women, especially in regards to substance dependence, warrants specialized treatment strategy and intervention.

¹ Federally sentenced women refers to those women serving sentences of two years or more in one of Canada's federal women's facilities.

Table of Contents

| | |
|---|-----|
| Acknowledgements | ii |
| Executive Summary | iii |
| Table of Contents | iv |
| List of Tables | vi |
| List of Appendices | vii |
| Introduction | 1 |
| History of the Mental Health Strategy for Women Offenders | 2 |
| Prevalence of Mental Disorders | 3 |
| Offenders and the general population..... | 3 |
| Gender differences in mental health needs among offenders | 4 |
| Aboriginal Women and Mental Health | 6 |
| Co-morbidity and Concurrent Disorders | 7 |
| Current Study | 7 |
| Method | 9 |
| Participants | 9 |
| Measures/Material | 10 |
| Computerized Diagnostic Interview Schedule (C-DIS-IV)..... | 10 |
| Personality Assessment Inventory (PAI) | 12 |
| Offender Management System (OMS)..... | 13 |
| Procedure/Analytic Approach..... | 15 |
| Pilot testing and training | 15 |
| Data collection | 15 |
| Data analysis | 16 |
| Results | 17 |
| Sample Profile..... | 17 |
| Overview of Diagnostic and Self-Report Results | 21 |
| Lifetime and Active C-DIS-IV Diagnoses | 21 |
| Anxiety and anxiety-related disorders..... | 23 |
| <i>C-DIS-IV results</i> | 23 |
| <i>PAI results</i> | 23 |
| Mood disorders..... | 24 |
| <i>C-DIS-IV results</i> | 24 |
| <i>PAI results</i> | 24 |

| | |
|--|----|
| Schizophrenia and other psychotic disorders..... | 26 |
| <i>C-DIS-IV results</i> | 26 |
| <i>PAI results</i> | 26 |
| Personality disorders | 26 |
| <i>C-DIS-IV results</i> | 26 |
| <i>PAI results</i> | 27 |
| Disorders usually diagnosed prior to adulthood | 28 |
| Substance-related disorders | 29 |
| <i>C-DIS-IV results</i> | 29 |
| <i>PAI results</i> | 30 |
| Discussion..... | 32 |
| Limitations | 34 |
| Future Directions..... | 35 |
| Conclusions..... | 35 |
| References | 36 |
| Appendices | 45 |

List of Tables

| | | |
|----------|--|----|
| Table 1 | <i>Number of Sample Participants by Site</i> | 10 |
| Table 2 | <i>Demographic and Sentence Characteristics</i> | 18 |
| Table 3 | <i>Risk, Need, Motivation and Reintegration Potential</i> | 19 |
| Table 4 | <i>Mental Health and Suicide Risk Indicators</i> | 20 |
| Table 5 | <i>Lifetime and Active C-DIS-IV Diagnoses</i> | 22 |
| Table 6 | <i>PAI – Anxiety and Anxiety Related Disorders Cutoffs</i> | 24 |
| Table 7 | <i>PAI – Depression and Mania Cutoffs</i> | 25 |
| Table 8 | <i>PAI Schizophrenia and Psychotic Disorders Cutoffs</i> | 26 |
| Table 9 | <i>PAI – Personality and Paranoia Cutoffs</i> | 28 |
| Table 10 | <i>C-DIS-IV Diagnoses – Drugs of Dependence: Lifetime</i> | 30 |
| Table 11 | <i>PAI – Alcohol and Drug Problems</i> | 31 |

List of Appendices

| | |
|--|----|
| Appendix A: C-DIS-IV Definitions..... | 45 |
| Appendix B: PAI Definitions | 47 |
| Appendix C: Dynamic Factor Domains | 48 |
| Appendix D: PAI Scale and Subscale Mean Scores - Anxiety and Anxiety Related Disorders ... | 49 |
| Appendix F: PAI Scale and Subscale Mean Scores - Mood Disorders | 51 |
| Appendix H: PAI Scale and Subscale Mean Scores - Schizophrenia..... | 53 |
| Appendix J: PAI Scale and Subscale Mean Scores – Personality Disorders and Paranoia | 55 |
| Appendix K: C-DIS-IV Drug Abuse | 56 |
| Appendix L: PAI Scale and Subscale Mean Scores – Alcohol and Drug Problems | 57 |

Introduction

Globally, there has been an increased interest in the assessment and treatment of mental illness as well as the provision of mental health services during the past decade. Although, great advancements have been made, there remains a great deal to understand with respect to the assessment and implementation of effective intervention strategies.

Within Canada, awareness of the widespread impact of the mental health problems affecting the Canadian population has risen in recent years. Initiatives are currently focusing on education, public outreach, and enhancing services to provide Canadians with an effective overarching mental health strategy. The Mental Health Commission of Canada is a catalyst for this change whereby they envision living in a society “that helps people who live with mental health problems and mental illness to lead meaningful and productive lives” (MHCC, 2012). Women have been identified as having unique mental health needs compared to men, experiencing higher overall rates of mental health problems, and requiring gender-specific treatment and intervention options. Women offenders, in particular, are being increasingly recognized as a distinctive subpopulation, with research suggesting higher rates of mental health problems compared to the general population, women in general, and their male offender counterparts. Developing a comprehensive understanding of the mental health needs of women offenders is essential to enhancing capacities to provide effective gender-specific and culturally appropriate mental health services and interventions (CSC, 2002).

Over the past decade, the number of federal women offenders identified at admission as presenting with a current mental health problem has risen significantly, from 13% in 1996/1997 to 29% in 2008/2009 (Correctional Service Canada, 2009a). Improvement in the capacity to address the mental health needs of offenders is one of the key priorities of the Correctional Service of Canada (CSC, 2010a). In light of this ongoing priority, CSC has developed a comprehensive mental health strategy to address mental health needs in Canadian federal institutions. The primary components targeted by this mental health strategy include: the introduction of clinical mental health screening; implementation of primary mental health care in all institutions; implementation of intermediate care units for male offenders; enhanced clinical staffing ratios; enrichment of community support; and mental health training for both mental health professionals and correctional staff (CSC, 2009b).

History of the Mental Health Strategy for Women Offenders

In 1989, the Commissioner of the Correctional Service of Canada established the Task Force on Federally Sentenced Women to examine the lives and experiences of federal women offenders. The goal of this Task Force was to examine the management practices of federal women offenders and develop a plan and guidelines for policies and interventions concerning the future of women's corrections. The result was the groundbreaking 1990 report of the Task Force on Federally Sentenced Women entitled *Creating Choices*. Five guiding principles for change (empowerment, meaningful and responsible choices, respect and dignity, supportive environment, and shared responsibility) were rooted in all goals and recommendations prompting significant changes to women's corrections.

Some of these changes included the development and implementation of several programs and strategies to address the gender-specific needs of federal women offenders. The *Mental Health Strategy for Women Offenders* (Laishes, 1997; 2002) was one specific initiative implemented by CSC to provide a framework for the development and provision of mental health services for women. This strategy paralleled the Mental Health Strategy developed for male offenders, however, it specifically recognized the unique mental health needs of women in general and federal women offenders in particular (Laishes, 1997; 2002). Revisions and updates of the strategy have occurred to reflect the changing needs of federal women offenders. Some significant developments that prompted these changes included: the closure of the Prison for Women in 2000; the implementation of the Intensive Intervention Strategy (IIS); the evolution of existing mental health programs and services, and the development of new services; and an increase in resources for psychological services.

The purpose of this strategy is to describe the continuum of care that addresses women offenders' mental health needs in an effort to increase their overall well-being and promote successful community reintegration. It provides an outline of the principles and elements essential to the development, implementation and delivery of mental health services for women offenders, and stipulates the necessity in continuously monitoring and evaluating all ongoing interventions. Additionally, the strategy describes the mental health services available to women offenders including those services related to assessment, programs and interventions, individual counselling, and follow-up. In partnership with external and internal organizations and members, the strategy was revised in a collaborative process with experts in mental health, wardens, deputy

wardens, psychologists, women's inmate committees, the Office of the Correctional Investigator, Canadian Association of Elizabeth Fry Societies, and other women's organizations (Laishes, 2002).

Ensuing initiatives implemented by CSC to enhance mental health services for federal women offenders include: the implementation of Structured Living Environment Houses (SLE) in each regional institution; Mental health teams and /or Co-ordinated Care Committees in each regional institution that identify, prioritize and co-ordinate treatment services; Intensive Healing Program at the Regional Psychiatric Centre (RPC); agreements with local psychiatric hospitals for emergency services (CSC, 2004); implementation of the *Community Mental Health Initiative 2005*; implementation of the *Infectious Disease Strategy 2009* (CSC, 2009c); and implementation of the *National Strategy to Address the Needs of Offenders Who Engage in Self-Injury 2009* (CSC, 2009d).

Prevalence of Mental Disorders

Offenders and the general population

CSC data indicates that mental health problems are two to three times more common in Canadian correctional institutions than in the general population (Gabora, 2009). In a Canadian study of newly sentenced male federal offenders, Brink, Doherty, and Boer (2001) compared men's mental health prevalence rates to rates in the general population and found that the rates for male federal offenders were significantly higher for mood disorders (30.2% vs. 7.1%), major depression (18.3% vs. 5.9%), anxiety disorders (18.3% vs. 8.7%), and substance use disorders (75.7% vs. 32.5%). In a study with federal women offenders, Blanchette and Motiuk (1996) reported that the rates for federal women offenders exceeded both those of community samples and male offenders, noting higher prevalence rates for such diagnoses as depression (32.9%) generalized anxiety disorder (19.7%), and psychosexual dysfunction (34.2%). In general, the offender population typically suffers to a greater extent from psychosis, depression, anxiety and personality disorders when compared to the general population (Adams & Ferrandino, 2008; Brink et al., 2001; Moloughey, 2004; Porporino & Motiuk, 1992).

Studies conducted with offender populations in the United States (Abram, Telpin, & McClelland, 2003; James & Glaze, 2006; Lewis, 2005; Teplin, 1990), the United Kingdom (Brooke, Taylor, Gunn, & Maden, 1996; Brugha et al., 2005; Lord Bradley Report, 2009;

Vollum & Dolan, 2009), New Zealand (Brinded et al., 1999) and Australia (Butler, Allnutt, Cain, Owens, & Muller, 2005; Butler et al., 2006; Tye & Mullen, 2006) have found similar results, suggesting that this issue is not only evident within the Canadian correctional context. While the underlying reasons for the over-representation of individuals with mental disorders in the correctional system continue to be debated, it has been suggested that mentally ill offenders have an increased vulnerability to being arrested (Lamb, Weinberger, & Gross 2004; Teplin, 1984; Teplin, 2000;), may have their parole revoked for more technical violations (Cloyes, Wong, Latimer, & Abarca, 2010; Soloman, Draine, & Marcus, 2002;) or inadequate social support may exist upon community release (Dvoskin, 2007; Lamb, & Weinberger, 2001; Lovell, Gagliardi, & Peterson, 2002; Ogloff, Davis, Rivers, & Ross, 2007). As such, the mental health needs of offenders is a global concern requiring enhanced understanding of specific issues relating to offenders and the development of services and provision of mental health interventions.

Gender differences in mental health needs among offenders

There is general consensus that the mental health needs of federal women offenders are qualitatively as well as quantitatively different from those of their male counterparts (Blanchette & Brown, 2006). A number of studies have reported that the majority of mental disorders are more prevalent among federal women offenders than federal male offenders (Lindquist & Lindquist, 1997; Maden, Swinton, & Gunn, 1994; Trestman, Ford, Zhang, & Wiesbrock, 2007). It has been estimated that female offenders are twice as likely as male offenders to have a mental health diagnosis at the time of admission; currently 21.8% for female offenders and 10.4% for male offenders (Public Safety, 2009). Studies suggest that women offenders have considerably higher rates than male offenders of major mental disorders (e.g., schizophrenia), post-traumatic stress disorder, depressive disorders, various personality disorders (with the exception of antisocial personality disorder) and substance abuse (Blanchette & Brown, 2006; Bloom, Owen, & Covington, 2003; Brinded et al., 1999; Drapalski, Youman, Stuewig, & Tangney, 2009; Earthrowl & McCully, 2002; Lindquist & Lindquist, 1997; Maden et al., 1994; Moloughey, 2004; Veysey, 1998).

It is important to note that mental health problems may also affect women offenders differently than male offenders. Possible gender differences can be seen in symptom expression (Covington, 2003; Drapalski et al., 2009), vulnerability to environmental stressors of the institutional environment, separation from children (Belknap, 1996; Covington, 2003; Lindquist

& Lindquist, 1997), and level of involvement in treatment programs (Blitz, 2005).

Incarcerated women represent a particularly marginalized population. In comparison to the general population of women, federal women offenders typically come from a lower socioeconomic background, have less education and minimal employment histories, are often raising young children with little or no support, and many have histories of childhood/adulthood sexual/physical/emotional abuse (Barrett, Allenby, & Taylor, 2010; Blanchette & Brown, 2006; Bloom et al., 2003; Lewis, 2005; Veysey, 1998).

These aspects of women offenders' lives, notably the prevalence of abuse and victimization, have been associated with the increased occurrence of mental health problems among women offenders (Bloom et al., 2003; Martin & Hesselbrock, 2001; Messina & Grella, 2006). Mental illness in victimized women can manifest itself in a variety of forms, including post-traumatic stress disorder (PTSD), depression, and anxiety-related disorders. Henderson, Schaeffer, & Brown (1998) found PTSD to be more common among women offenders as compared to male offenders, estimating prevalence at almost 30%. These experiences and conditions increase women's vulnerability within the correctional environment and are important factors to consider with regard to mental health interventions (Veysey, 1998).

These increased vulnerabilities have the potential to influence other risks, such as engaging in self-injurious behaviours. There is evidence to suggest that it is not uncommon for women who experience a mental health diagnosis or clinical symptoms to have an increased risk of self-injury. Notably, self-injurers are not a homogenous group and may exhibit various psychological issues (Klonsky, Oltmann, & Turkheimer, 2003; Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006). Due to their increased vulnerability, women with mental health diagnoses or symptoms may also experience increased rates of victimization (Blitz, Wolff, & Shi, 2008; Wolff & Shi, 2009). Wolff, Blitz, & Shi (2007) reported higher rates of sexual victimization among women offenders with a mental disorder than other female inmates. Additionally, Human Rights Watch (2003) reported persons with mental health problems being victimized at high rates within correctional institutions. Knowledge of these vulnerabilities can help assist CSC to take preventative steps against these and other potential risks through additional training of staff and dissemination of information. For these reasons, it is essential that results pertaining to the mental health of male populations not be generalized to female populations.

Aboriginal Women and Mental Health

The Changing Federal Offender Population (2009) report indicates a steady increase, over the past decade, in the proportion of Aboriginal offenders in custody, from 15% in 1996/1997 to 20% in 2008/2009. More specifically, the number of federal Aboriginal women offenders has increased 87%, from 84 Aboriginal women incarcerated in 1999/2000 to 157 in 2008/2009 (Public Safety Canada, 2009). Aboriginal women offenders are markedly overrepresented in the federal correctional system comprising 31.4% of the federal women offender population, while representing only 3.8% of the Canadian population (Public Safety, 2009).

With an increasing federal Aboriginal women offender population, it is essential to be aware of this population's unique health needs and to ensure that culturally appropriate and culturally sensitive services are being provided. While this need is evident, it is critical to note the dearth of current literature regarding the mental health needs, diagnostic patterns, and treatment and intervention options specific to Aboriginal women. While comparatively less is known about this population, the existing research highlights the significant needs of Aboriginal peoples in general and Aboriginal women offenders specifically.

In comparison to the general population, Aboriginal peoples, and especially Aboriginal women, tend to have higher unemployment rates, lower levels of educational attainment, to be single parents, to live in crowded conditions, and be victims of violent crime (Statistics Canada, 2006). It is estimated that the rate of violent victimization is 3.5 times higher among Aboriginal women compared to non-Aboriginal women (Statistics Canada, 2006). CSC (2006) reports extremely high rates of previous victimization among Aboriginal federal women offenders with 90% compared to 68% of non-Aboriginal women indicating some form of previous victimization. The proportion of Aboriginal offenders presenting with a mental health problem at admission has increased from 5% in 1996/1997 to 14% in 2006-2007 (CSC, 2009). In addition, CSC data suggests that the mental health needs of Aboriginal women, assessed at intake, have steadily increased within the past decade in regards to being prescribed psychiatric medication (33% to 44%), previous mental health diagnoses (14% to 27%), and current mental health diagnoses (7% to 22%) (CSC, 2010b). While the proportion of Aboriginal women who abuse alcohol and drugs has remained relatively consistent, averaging 95% since 2003, this highlights the elevated alcohol and drug prevention needs of Aboriginal women (CSC, 2010b). Overall,

experiences of colonization, residential schooling, and the resulting poverty and familial breakdown have increased the rates of depression, anxiety, substance abuse, and suicide in the Aboriginal population compared to the general population (Mental Health Commission of Canada, 2008).

Co-morbidity and Concurrent Disorders

Co-morbidity refers to the co-occurrence of more than one mental health disorder and is often found in the offender population. It is estimated that more than 90% of all offenders diagnosed with a mental disorder suffer from at least one additional disorder (Gabora, 2009). The co-morbidity of mental disorders adds to the already complex nature of mental health and effective treatment. Typically, co-morbidity occurs more frequently within women offender populations (Sung, Mellow, & Mahoney, 2010; Trestman et al., 2007) and for many women, a co-occurring disorder is trauma-related (Bloom & Covington, 2008) with past exposure to violence as well as a history of physical/sexual abuse or molestation found to be significant risk factors for co-morbidity (Sung et al., 2010).

One of the key concerns related to co-morbidity among offenders is the existence of a concurrent alcohol and/or drug use disorder. Nearly three-quarters of incarcerated women diagnosed with a serious mental illness are also dealing with problems of substance abuse (Veysey, 1998). An American study conducted by the Bureau of Justice (James & Glaze, 2006) reported that 75% of the women in state prisons who had a mental health disorder also had a substance abuse problem. Abram and colleagues (2003) report 72% of women in their study with a serious mental disorder also had a substance use disorder, with 21.6% having both an alcohol and drug use disorder. It is evident from the literature (Abram & Teplin, 1994; Messina, Burdon, Hagopian, & Prendergast, 2004; Teplin, Abram, & McClelland, 1996) that concurrent disorders pose a challenge to service providers since many treatment services focus on specific disorders and do not address concurrent issues, with concurrent disorders often being an exclusionary criteria for treatment. This emphasizes the need for corrections to incorporate multidimensional treatment services that will target both mental disorders and substance abuse.

Current Study

Exploring the unique mental health needs of federal women offenders will contribute to the understanding of the unique needs that exist among the federal women offender population

and expand the knowledge of mental health professionals and other stakeholders in the correctional system. This will provide a detailed understanding of women offender issues, allowing for the effective development and implementation of strategies and interventions.

In addition, this knowledge will further enhance CSC's capacity to address the needs of women offenders who experience issues related to mental health. The current project aims to provide an overview of mental health needs by examining the lifetime rates of psychiatric disorders and patterns of psychological distress in a sample of federally incarcerated women offenders. This will assist CSC in creating safer institutions and enhancing successful reintegration by providing information that will aid in targeting prevalent mental health issues with gender-specific and culturally appropriate mental health services and interventions.

Method

Participants

Recruitment and data collection took place between September, 2009 and February, 2010. All women incarcerated in Canada's six federal women's facilities (Nova Institution for Women, Edmonton Institution for Women, Fraser Valley Institution, Joliette Institution, Okimaw Ohci Healing Lodge, Grand Valley Institution for Women) and Philippe-Pinel Institute were eligible for participation². In all, there were approximately 503 women inmates in federal custody at the time of data collection³ and 254 women volunteered to participate in the study, representing approximately 50% of the federal women offender population. Recruitment of participants was established prior to the arrival of the contractors through information and sign-up sheets sent to all institutions. Additional women were recruited via face-to-face interactions in the institutions. Of these 100% completed the Personality Assessment Inventory and 36% completed the C-DIS-IV. Both the PAI and C-DIS-IV samples are representative of the population.

Incomplete or invalid data, and data associated with invalid consent forms were removed, resulting in a final sample of 88 women completing the Computerized Diagnostic Interview Schedule (C-DIS-IV; 17% response rate) and 217 women completing the self-report Personality Assessment Inventory (PAI; 43% response rate). A snapshot of all other women offenders incarcerated at the six federal institutions during the mid point of data collection was used as a comparison group ($n = 278$).

² Philippe-Pinel Institute is a psychiatric hospital with a specialized secure Mental Health Unit for Women Offenders. In addition, Women offenders at the Regional Psychiatric Centre (RPC) were invited to participate in the pilot study for this project and are not included in the final study sample.

³ The number of women in federal custody for 2009 – 2010 taken from the Women Offender Statistical Overview: Fiscal Year 2009-2010 (CSC, 2010c).

Table 1
Number of Sample Participants by Site

| Institution | PAI (<i>n</i> =217) % (<i>n</i>) | C-DIS-IV (<i>n</i> =88) % (<i>n</i>) |
|------------------------------------|---|---|
| Grand Valley Institution for Women | 22.1 (48) | 26.1 (23) |
| Nova Institution for Women | 14.7 (32) | 6.8 (6) |
| Edmonton Institution for Women | 20.3 (44) | 23.9 (21) |
| Fraser Valley Institution | 10.6 (23) | 11.4 (10) |
| Okimaw Ohci Healing Lodge | 8.3 (18) | 10.2(9) |
| Joliette Institution | 23.0 (50) | 19.3 (17) |
| Philippe Pinel Institute | 1.0 (2) | 2.3 (2) |

Measures/Material

Computerized Diagnostic Interview Schedule (C-DIS-IV)

The Computerized Diagnostic Interview Schedule (C-DIS-IV; Cottler, Buchholz, Compton, North, & Rourke, 2000) is a structured interview designed to establish the presence or absence of major psychiatric disorders as defined by the *Diagnostic and Statistical Manual of Mental Disorders* (4th e., [DSM-IV]; American Psychiatric Association, 1994). The structure of the C-DIS-IV mimics a clinical interview in order to determine whether symptoms endorsed by a respondent are clinically significant and are not better explained by a medical condition or substance use. Administration for the screening version, on average, can take anywhere from two to three hours, depending on factors such as the degree of impairment experienced by the respondent.

As noted above, due to operational considerations concerning the length of administration, a screening version of the C-DIS-IV was utilized. An algorithmic approach is taken in the scoring of the screening version, wherein items relating to a given diagnosis cease to be asked once a sufficient number of symptoms have been endorsed to ensure that a diagnosis will be met. Questions relating to a given diagnosis are also ceased once a sufficient number of symptoms have been denied to ensure that a diagnosis cannot be met, even if all remaining symptoms are endorsed. For example, if a positive diagnosis requires that four out of ten symptoms be present, in the screening version of the C-DIS-IV, if the first four symptoms are endorsed by the participant, the remaining six are not asked, as a sufficient number of symptoms

have been endorsed and will ensure a positive diagnosis. Likewise, should the first seven symptoms be denied, the remaining three would not be asked of the participant, as a diagnosis would not be given even if all three symptoms were endorsed. While the full version of the C-DIS-IV provides detailed information on lifetime and current diagnosis, symptomatology, course of disorder, level of impairment, and treatment, the screening version used in the current study provides information on lifetime presence of the disorder and, for certain diagnoses, the presence of an active disorder, and partial or full recovery in the year prior to participation.

In light of the algorithmic approach taken in the screening version of the C-DIS-IV, limited information is available concerning exclusionary criteria outlined in the DSM-IV. Accordingly, lifetime and past year diagnostic information reported is a direct reflection of the number of diagnostic symptoms endorsed, regardless of the possible existence of exclusionary criteria. For example, while sufficient diagnostic criteria indicating the existence of a Major Depressive Episode may have been met, no distinction can be made between whether this episode was experienced independently, or as a part of a Mixed Bipolar Episode. Accordingly, the results presented should be interpreted as reflective of the participants' experience of symptoms sufficient for a given diagnosis rather than as a strict diagnostic tool. By virtue of the use of lifetime diagnoses, and the existence of possible exclusionary criteria, the results represent maximal values for each diagnosis. Additionally, it should be noted that the C-DIS-IV was not designed to replace clinical diagnosis and judgement, and results on the C-DIS-IV are more accurately described as approximations of clinical diagnoses.

In order to reduce administration time, only diagnoses of theoretical interest or those more likely to be exhibited in an offender population were included in the C-DIS-IV administration. Psychiatric diagnoses chosen for assessment were: Specific Phobia, Social Phobia, Agoraphobia, Panic Attack, Generalized Anxiety Disorder, Posttraumatic Stress Disorder, Obsessive-Compulsive Disorder, Major Depressive Episode, Dysthymic Disorder, Manic Episode, Hypomanic Episode, Schizophrenia, Schizophreniform Disorder, Attention-Deficit/Hyperactivity Disorder, Oppositional Defiant Disorder, Conduct Disorder, Antisocial Personality Disorder and Pathological Gambling Disorder (see Appendix A for definitions of diagnoses). These diagnoses were chosen due to their greater representation among the offender population warranting further exploration in the current profile. Excluded diagnoses included Pain Disorder, Dementia, Separation Anxiety Disorder, Anorexia Nervosa Disorder, and Bulimia

Nervosa Disorder. Substance abuse and substance dependence are both assessed by the C-DIS-IV. Substances assessed are: alcohol, nicotine, marijuana, PCP, amphetamines, cocaine, sedatives, inhalants, hallucinogens, opiates, and other substances not otherwise specified.

A number of studies have supported the psychometric properties of the C-DIS-IV including test-retest reliability studies, test-comparison studies, longitudinal studies and factor analytic studies (e.g., Hasin & Grant, 1987; Helzer, Robins, & McEvoy, 1985; Robins, Helzer, & Croughan, 1981; Robins, Helzer, Croughan, & Ratcliff, 1981 ; Semler & Wittchen, 1987; Wittchen, et al., 1989). The reliability coefficients of the specific diagnoses range from .60 to .86.

Personality Assessment Inventory (PAI)

The Personality Assessment Inventory (PAI; Morey, 1991; 2007) is a 344 item multiscale objective test of personality designed for the clinical assessment of adults aged 18 years and older. The PAI is comprised of 22 non-overlapping scales: 4 validity scales, 11 clinical scales, 5 treatment scales, and 2 interpersonal scales. Items are rated by the respondent on a four-point scale indicating the extent to which they feel the statement reflects their experience (False, Not at all true; Slightly true; Mainly true; Very true). Sample items include: “Much of the time I’m sad for no real reason” and “I keep reliving something horrible that happened to me”. Scores on the PAI take the form of linear *T*-scores with higher scores on clinical scales indicating more severe impairment. A *T*-score for an instrument for a given population has a mean of 50 and a standard deviation of 10. Approximately 68% of the given population would score within one standard deviation on either side of the mean (i.e., a *T*-score between 40 and 60) and only approximately 16% of the population would receive a *T*-score over 60. The vast majority of the population would score below a *T*-score of 70 (97.7%). Accordingly, individuals receiving a *T*-score of over 70 would be extremely unusual in contrast to the comparison population. Several normative samples have been created for the interpretation of the PAI. The current analyses compare the study sample with a mixed gender non-correctional community normative sample⁴. Results in comparison to a mixed gender normative correctional sample are presented as appendices (see appendices E, G, & I). Percentages of respondents receiving *T*-scores over 70 when compared to these two normative samples are presented, in order to highlight the proportion of the sample

⁴ Correctional norms specific only to women offenders were not used. All women offenders willing to participate are included in the mixed-gender normative sample.

receiving extremely elevated scores.

Completion of the PAI requires a reading level of grade 4. The primary clinical scales assess: Somatic Complaints, Anxiety, Anxiety-Related Disorders, Depression, Mania, Paranoia, Schizophrenia, Borderline Features, Antisocial Features, Alcohol Problems, and Drug Problems (see Appendix B for definitions of scales and subscales). Each clinical scale is further divided into subscales reflecting different aspects of symptom expression. It is essential to note that while the PAI was designed to provide information relevant to clinical diagnosis, diagnostic decisions cannot be made solely on responses to the PAI. For example, an elevated score on the Depression scale of the PAI does not necessarily equate to a clinical diagnosis of depression.

For the purpose of the current report, ten of the eleven clinical scales were assessed. In order to maximize the conceptual overlap between the PAI and the C-DIS-IV, the Somatic Complaints scale was not included in the reported analyses. Similarly, of the supplemental, non-clinical scales, only the Suicide Ideation and Suicide Potential Index were included in the current analyses due to their conceptual link to diagnosable psychiatric disorders.

Previous psychometric work has established the reliability and validity of the PAI in community, psychiatric and correctional samples (Boone, 1998; Edens, Cruise, & Buffington-Vollum, 2001; Edens & Ruiz, 2006; Morey, 1991; Morey & Quigley, 2002). Reliability estimates of the PAI subscale scores were generally within the adequate to good range in correctional samples (.56 to .88) with these values equal to or greater than reliability values previously reported in other studies with other samples (Boone, 1998; Morey, 1991; Schinka, 1995). Convergence with other established instruments has also been reported (Morey, 1991; Rogers, Ustad, & Sewell, 1998).

Offender Management System (OMS)

Secondary data were extracted from the Offender Management System (OMS), CSC's automated offender data system. Demographic information (e.g., age, ethnicity, marital status); offence history; overall intake assessment of risk, need, motivation level, and reintegration potential; assessment of specific criminogenic needs; and assessment of indicators specific to mental health were retrieved. Overall risk, which is used to establish service requirements for offenders, is rated as low, medium, or high. This rating is based on an assessment of static factors related to criminal history, offence severity and sex offence history (CSC, 2007). Overall need, also used to assess service requirements is similarly rated as low, medium or high, and is

based on the severity and number of criminogenic need domains experienced by the offender. These include *Education/Employment*, *Marital/Family*, *Associates/Social interaction*, *Substance Abuse*, *Community Functioning*, *Personal/Emotional orientation*, and *Attitude*. *Education/Employment* examines the value an offender places on work and the role of work in ones' life. *Marital/Family* examines the support from and value of family. *Associates/Social interactions* consider the value placed on pro-social associates. *Substance abuse* considers the role of substances in an offenders' life and potential role of current and previous alcohol and drug use. *Community functioning* considers the ability and value of day to day life skills. *Personal/Emotional orientation* considers factors such as interpersonal skills, impulsivity, problem solving and the value of the being able to manage ones' life. Finally, *Attitude* examines general perspectives towards a pro-social lifestyle. Within each domain, offenders are classified on the severity of criminogenic need. For example, within the *Education/Employment* domain, an individual is rated as one of the following based on current and previous work and educationally history: *Factor seen as an asset to community adjustment*, *no immediate need for improvement*, *some need for improvement*, and *considerable need for improvement*. *Substance abuse* and *Personal/Emotional orientation*, in contrast, are rated on a three point scale from *no immediate need for improvement* to *considerable need for improvement*. A woman's overall criminogenic need is determined based upon the number of need areas identified as a concern at intake. For example, offenders with a high level of criminogenic need are identified by multiple factor ratings as having a *considerable need for improvement*. Whereas, a low criminogenic need would be demonstrated by only a few factors rated as *some need or no need for improvement*. Essentially, the greater number of domains identified as an area of concern, the greater their overall criminogenic need or dynamic risk.

Motivation level, assessed as low, medium, or high, is based on an offender's motivation and willingness to follow and complete his or her correctional plan. Reintegration potential, based on an assessment of the Custody Rating Scale and both the Dynamic (i.e., overall needs) and Static (i.e., overall risk) Factor Ratings for women offenders, assesses the risk an offender poses to the community and is used in decision making regarding level of intervention and in consideration for conditional release (CSC, 2003).

Procedure/Analytic Approach

Pilot testing and training

In July 2009, primary researchers piloted the two assessment measures (Personality Assessment Inventory (PAI) and the full version of the Computerized Diagnostic Interview Schedule (C-DIS-IV)) at the Regional Psychiatric Centre in Saskatoon, Saskatchewan in order to identify potential operational issues with test administration. Although all women were invited to participate ($n=8$), only two women chose to complete both the C-DIS-IV and the PAI, and one additional woman completed only the PAI. Based on the length of time required to complete the full version of the C-DIS-IV during pilot testing (approximately three to four hours), a screening version of the C-DIS-IV was ultimately chosen for data collection in order to maximize participation rates and reduce potential participant fatigue. No operational issues arose in the administration of the PAI in the pilot testing. Potential language or reading comprehension difficulties on the PAI were determined to be resolvable with interviewer support. Post-pilot, contractors were utilized for the purpose of primary data collection. Prior to beginning data collection, all contractors were provided with training on the administration of the C-DIS-IV by the Washington University School of Medicine.

Data collection

Prior to the arrival of the contractors, information sheets and sign-up sheets were sent to all institutions. Additional women were recruited via face-to-face interactions in the institutions. All federal women offenders were eligible to participate, however a convenience sample⁵ was used. C-DIS-IV interview data were collected individually to ensure confidentiality and PAI self-report questionnaire administration was conducted in small group settings to maximize participation rates. Participants could choose to complete either one or both assessment instruments. In some cases, the length of the C-DIS-IV may have led to the lower response rate than that for the completion of the PAI. Participants were briefed as to the purpose of the study and the requirements of participation and provided with an Informed Consent Form. All participants were informed that participation was voluntary and confidential, as per ethical standards. Participants were also asked to provide their offender identification number, a unique

⁵ Only those women who were available and volunteered were included in the study.

identifier provided to each offender by CSC, in order to retrieve additional secondary data (e.g., demographic information, offence and sentence information).

Data analysis

Secondary data were extracted from OMS for both the study and comparison samples. Descriptive analyses were first conducted in order to examine the profile of women offenders in the study sample. Chi-square tests of independence and t-tests were conducted to determine whether the study sample differed significantly from the comparison sample. Raw primary data were cleaned using conventional data cleaning measures and data quality issues that could affect the integrity of the data analysis were identified and resolved. PAI data considered invalid according to the questionnaire's scoring protocol (less than 85% of questions answered, significantly elevated scores on validity scales) were removed from the dataset. This resulted in 13.5% of the PAI participants being removed. Descriptive analyses were conducted on all primary data. All data were analyzed separately for Aboriginal women. Chi-square tests and t-tests were conducted to determine if groups differed significantly based on ethnic status (i.e., Aboriginal vs. non-Aboriginal offenders). Due to the limited number of Aboriginal women in the sample, some analyses did not comply with the underlying assumptions of the statistical tests and are not reported because of lack of confidence in statistical validity.

Results

Sample Profile

The data were assessed against the comparison sample in order to determine the representativeness of the study sample. Few significant differences emerged between the study and comparison samples.⁶ Descriptive analyses of the secondary data extracted from the Offender Management System (OMS) were conducted in order to provide a profile of study participants.

Examining the demographic characteristics of each subgroup, the study sample is made up overwhelmingly of Caucasian (60%) and Aboriginal (30.4%) women with an average age in the mid 30s. The majority of participants were single (50.8%), or married/in common-law relationships (36.6%) (see Table 2). The most common serious offence types were homicide (25.8%, 30.2%), robbery (22.1%, 19.1%) and drug-related offences (22.5%, 19.4%) for the study subgroup and comparison sample respectively. At intake, nearly half of the sample was classified as medium security with over three-quarters of the sample classified to either minimum or medium security. The majority of both samples were serving determinate sentences of less than five years with an average sentence length of 3.3 years for the study sample and 4.0 years for the comparison sample. The only demographic variable to vary significantly between the study and comparison samples was sentence length, with the study sample having shorter sentence lengths than the comparison group, $t(370.92) = -3.023, p < 0.01$ (equal variances not assumed).

As is seen in Table 3, while the majority of the sample was split quite evenly between classifications of medium and high levels of risk, more than half of the sample exhibited a high overall level of need at intake. Levels of reintegration potential are relatively evenly distributed across all levels, however, the overwhelming majority of participants fall into either medium or high levels of motivation. Significant differences were noted between the study and comparison samples on motivation level with a trend towards higher levels of motivation in the study sample ($\chi^2(2, N = 496) = 6.28, p < 0.05$). No significant differences were found between the study and comparison samples on any of the dynamic factor domains (see Appendix C). However, of note for the current study, well over half of the sample was classified as having considerable difficulty

⁶ All comparisons were recalculated using the smaller sample of women participating in the diagnostic interview against the comparison group. The sole significant difference to emerge was sentence length, with study participants serving shorter sentences ($t(297) = -1.97, p < .01$).

in both the Personal / Emotional and Substance Abuse domains.

Table 2
Demographic and Sentence Characteristics

| | Study Sample (<i>N</i> = 240) | C-DIS-IV Subsample (<i>N</i> = 79) | Comparison Sample (<i>N</i> = 278) |
|---|--------------------------------------|--|--|
| Demographics | % (<i>n</i>) or Mean (<i>SD</i>) | % (<i>n</i>) or Mean (<i>SD</i>) | % (<i>n</i>) or Mean (<i>SD</i>) |
| Age (at admission) | 34.65(<i>SD</i> =9.62) | 35.04 (<i>SD</i> = 9.61) | 33.85 (<i>SD</i> =10.94) |
| Race | | | |
| Caucasian | 60.0 (144) | 54.4 (43) | 52.5 (146) |
| Aboriginal | 30.4 (73) | 31.6 (25) | 34.2 (95) |
| Black | 3.8 (9) | 3.8 (3) | 5.8 (16) |
| Asian | 0.8 (2) | 1.3 (1) | 3.2 (9) |
| Other/Unknown | 5.0 (12) | 8.9 (7) | 4.3 (12) |
| Marital Status | | | |
| Single | 50.8 (122) | 50.6 (40) | 56.1 (156) |
| Married/Common Law | 36.6 (88) | 34.2 (27) | 27.7 (77) |
| Divorced/Separated/Widowed | 11.7 (28) | 13.9 (11) | 15.8 (44) |
| Other/Not determined | 0.8 (2) | 1.3 (1) | 0.4 (1) |
| Most Serious Current Offence ^a | | | |
| Homicide | 25.8 (62) | 29.1 (23) | 30.2 (84) |
| Sexual Offence | 2.9 (7) | 2.5 (2) | 3.2 (9) |
| Robbery | 22.1 (53) | 20.3 (16) | 19.1 (53) |
| Assault | 10.8 (26) | 8.9 (7) | 12.2 (34) |
| Other Violent | 0.8 (2) | 1.3 (1) | 2.9 (8) |
| Drug Related | 22.5 (54) | 22.8 (18) | 19.4 (54) |
| Other Non-violent | 15.0 (36) | 15.2 (12) | 12.9 (36) |
| Sentence Type | | | |
| Indeterminate | 16.3 (39) | 17.7 (14) | 18.3 (51) |
| Determinate | 83.8 (201) | 82.3 (65) | 81.7 (227) |
| Sentence Length ^{b*} | 3.33 (<i>SD</i> =1.68) | 3.36 (<i>SD</i> =1.72) | 4.01 (<i>SD</i> =2.89) |
| Security Level at Intake | | | (<i>n</i> =271) |
| Minimum | 36.7 (88) | 35.4 (28) | 29.5 (80) |
| Medium | 43.8 (105) | 40.5 (32) | 49.1 (133) |
| Maximum | 19.6 (47) | 24.1 (19) | 21.4 (58) |

Note ^a Most serious offence was determined according to a hierarchy of offences with the following offences ranging from most to least serious: homicide (including manslaughter, attempted murder), sex offences, robbery, assault, other violent offences, drug offences (e.g., trafficking, possession) and other non-violent (e.g., property, break and enter).

^b Mean and standard deviation reported in years for those offenders serving determinate sentences.

* *p* < 0.01, two-tailed (equal variances not assumed) *SD* = Standard deviation

Table 3
Risk, Need, Motivation and Reintegration Potential

| | Study Sample % (n) | C-DIS-IV Subsample % (n) | Comparison Sample % (n) |
|-------------------------|-----------------------|-----------------------------|----------------------------|
| Risk Level | (n=213) | (n=68) | (n=245) |
| Low | 17.8 (38) | 14.7 (10) | 20.0 (49) |
| Medium | 43.2 (92) | 44.1 (30) | 40.4 (99) |
| High | 39.0 (83) | 41.2 (28) | 39.6 (97) |
| Need Level | (n=213) | (n=68) | (n=245) |
| Low | 6.6 (14) | 4.4 (3) | 6.5 (16) |
| Medium | 32.4 (69) | 29.4 (20) | 31.0 (76) |
| High | 61.0 (130) | 66.2 (45) | 62.4 (153) |
| Reintegration Potential | (n=231) | (n=75) | (n=265) |
| Low | 31.2 (72) | 36.0 (27) | 32.1 (85) |
| Medium | 36.8 (85) | 33.3 (25) | 34.7 (92) |
| High | 32.0 (74) | 30.7 (23) | 33.2 (88) |
| Motivation Level* | (n=231) | (n=75) | (n=265) |
| Low | 3.9 (9) | 6.7 (5) | 9.1 (24) |
| Medium | 50.2 (116) | 44.0 (33) | 51.7 (137) |
| High | 45.9 (106) | 49.3 (37) | 39.2 (104) |

Note. No differences were identified between Aboriginal and non-Aboriginal offenders.

* $p < 0.05$.

In addition to information pertaining to demographic and sentence characteristics, CSC collects information concerning the mental health of offenders and potential suicide risk in order to assist in treatment planning. These indicators assess both current and prior needs related to mental health. Prior to September 2009, both mental health and suicide risk indicators were assessed as part of the Offender Intake Assessment (see Table 4).⁷ Approximately half of the study sample self-reported mental health (49%) or emotional problems and recent treatment for mental health or emotional problems (47%). While a similar number in the comparison sample self-reported mental health problems, significantly fewer had received recent treatment (47% vs 33%) ($\chi^2 (1, N = 204) = 4.60, p < .05$). Approximately one-fifth of the study and comparison samples had mental health needs requiring immediate attention at intake. On suicide risk indicators, a similar pattern of treatment experience was noted, with significantly more individuals in the study sample having recent psychiatric intervention or hospitalization ($\chi^2 (1, N = 507) = 4.09, p < .05$). Although a relatively low rate of current suicidal ideation or planning was evident, just under one-quarter of the study sample had attempted suicide in the five years prior

⁷ While mental health indicators have been collected post-September 2009, they are not currently available for analysis. Accordingly, sample sizes are much lower for mental health indicators than suicide indicators which have been continually available.

to intake.

Table 4
Mental Health and Suicide Risk Indicators

| Mental Health / Suicide Risk Indicators | Study Sample (N = 213) % (n) | C-DIS-IV Subsample (N = 79) % (n) | Comparison Sample (N = 245) % (n) |
|--|------------------------------------|--|---|
| Mental Health | | | |
| Appears mentally disordered | 10.3 (10/97) | 6.5 (2/31) | 9.2 (10/109) |
| Reports having emotional / mental health problems | 49.5 (48/97) | 48.4 (15/31) | 40.4 (44/109) |
| Recent history of treatment for emotional/mental health problems * | 47.4 (46/97) | 32.3 (10/31) | 32.7 (35/107) |
| Has emotional or mental health problems requiring immediate attention | 16.8 (16/95) | 3.3 (1/30) | 18.5 (20/108) |
| Requires immediate medication for mental health problems | 22.8 (21/92) | 12.9 (4/31) | 19.6 (21/107) |
| Requires immediate special cell placement for observation and mental health intervention | 0.0 | 0.0 | 5.5 (6/109) |
| Suicide | | | |
| Inmate may be suicidal | 6.9 (16/233) | 6.5 (5/77) | 5.7 (15/264) |
| Inmate has previous suicide attempt(s) in the past 5 years | 22.4 (53/237) | 25.3 (20/79) | 21.1 (57/270) |
| Inmate has had recent psychiatric/psychological intervention/hospitalization ** | 24.4 (58/238) | 19.0 (15/79) | 17.1 (46/269) |
| Recent loss of relationship, death of close relative/friend | 26.1 (62/238) | 31.6 (25/79) | 26.2 (71/271) |
| Excessively worried about problems | 20.5 (48/234) | 15.8 (12/76) | 14.1 (37/263) |
| Influence of alcohol / drugs, signs of withdrawal | 8.1 (19/235) | 7.7 (6/78) | 6.7 (18/269) |
| Inmate shows signs of depression / hopelessness | 12.1 (29/240) | 8.9 (7/79) | 12.2 (33/270) |
| Thinks / has expressed intention to commit suicide | 2.2 (5/230) | 1.4 (1/74) | 0.4 (1/226) |
| Inmate has plan for suicide | 0.8 (2/240) | 1.3 (1/79) | 0.4 (1/269) |

Note. No differences were identified between Aboriginal and non-Aboriginal offenders.

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

Overview of Diagnostic and Self-Report Results

There is considerable conceptual overlap between the constructs assessed by the C-DIS-IV and the PAI. Accordingly, overall diagnostic results of interest will be presented first, followed by more detailed results presented thematically based on generally accepted conventions for the clustering of psychiatric disorders. Throughout the thematic results, diagnostic outcomes from the C-DIS-IV are presented first, followed by conceptually linked results from the PAI. Results of the PAI are presented both in the form of average sample T-scores on scales and subscales as well as by the percentage of respondents receiving elevated T-scores.

All data were analysed separately for Aboriginal and non-Aboriginal participants in order to identify significant differences based on ethnic status. With the exception of substance abuse variables, very few significant differences were found. Accordingly, for all sections other than substance abuse, results are presented in aggregate form with specific significant differences highlighted where relevant.

Lifetime and Active C-DIS-IV Diagnoses

Overall, on the C-DIS-IV, 85.2% of the sample ($n=75/88$) had a lifetime experience of more than one clinical disorder. An additional 9.1% had only experienced one disorder and only 5.7% of the sample had no lifetime history of any disorder, emphasizing the widespread nature of co-morbid disorders in the women offender sample⁸. Table 5 outlines the overall results of the C-DIS-IV, both in terms of the proportion of the sample experiencing a lifetime diagnosis of a given disorder, as well as the proportion of the sample experiencing an active disorder at some point in the year prior to participation in the current research.

⁸ Substance-use disorders are not included in these totals and are assessed independently.

Table 5
Lifetime and Active C-DIS-IV Diagnoses

| Disorder | All Diagnostic Criteria Met % (n) | |
|---|-----------------------------------|------------------------------------|
| | Lifetime % (n) | Active Disorder in Past Year % (n) |
| Anxiety Disorders | | |
| Generalized Anxiety Disorder (n=88) | 26.1 (23) | 15.9 (14) |
| Specific Phobia (n=88) | 22.7 (20) | 18.2 (16) |
| Social Phobia (n=88) | 6.8 (6) | 4.5 (4) |
| Agoraphobia (n=88) | 27.3 (24) | n/a |
| Panic Attack (n=88) | 33.0 (29) | n/a |
| Obsessive-Compulsive Disorder (n=87) | 12.6 (11) | 9.2 (8) |
| Posttraumatic Stress Disorder (n=86) | 52.3 (45) | 31.4 (27) |
| Mood Disorders | | |
| Major Depressive Episode (n=88) | 69.3 (61) | n/a |
| Dysthymic Disorder (n=87) | 3.4 (3) | 2.3 (2) |
| Manic Episode (n=88) | 21.6 (19) | n/a |
| Hypomanic Episode (n=88) | 6.8 (6) | n/a |
| Schizophrenia (n=88) | 4.5 (4) | 4.5 (4) |
| Oppositional Defiant Disorder (n=88) | 43.2 (38) | 12.5 (11) |
| Conduct Disorder (n=88) | 48.9 (43) | 6.8 (6) |
| Antisocial Personality Disorder (n=88) | 83.0 (73) | n/a |
| Attention-Deficit / Hyperactivity Disorder (n=87) | 26.4 (23) | 17.2 (15) |
| Pathological Gambling Disorder (n=87) | 11.5 (10) | 0.0 (0) |
| Alcohol/Substance Dependence | 80.0 (68) | n/a |

Note. Classification as “n/a” indicates that data were not assessed for presence of an active disorder in the year prior to participation. No differences were identified between Aboriginal and non-Aboriginal offenders.

Overall, the prevalence of lifetime diagnoses of psychological disorders in the current sample of women offenders is markedly high on numerous disorders. Notably, over half the sample experienced Posttraumatic Stress Disorder, Major Depressive Episode or Antisocial Personality Disorder at some point in their lives. While data pertaining to the presence of active diagnoses in the year prior to participation were unavailable for some of the particularly conceptually relevant diagnoses as it was not included in the screener version (Major Depressive Episode, Antisocial Personality Disorder), the data suggests that many women in the sample were actively experiencing symptoms indicative of a psychiatric diagnosis in the year prior to participation. A more in depth examination of results related to clusters of psychological

disorders is presented below.

Anxiety and anxiety-related disorders

C-DIS-IV results. Lifetime diagnoses of anxiety disorders on the C-DIS-IV were common in the sample, with approximately one-quarter to one-third of the sample meeting all diagnostic criteria for a lifetime episode of Generalized Anxiety Disorder, Specific Phobia, Agoraphobia or Panic Attacks (see Table 5). Posttraumatic Stress Disorder was by far the most common anxiety disorder in the sample with 52.3% ($n=45/86$) meeting criteria for a lifetime diagnosis. Across all anxiety disorders, with available data concerning current symptomatology, the majority of women with lifetime diagnoses continued to experience an active disorder in the year prior to participation. Of particular note, 31% of the total sample was experiencing active Posttraumatic Stress Disorder in the year prior to participation. Rates of active disorders for other anxiety disorders ranged from a low of 4.5% for Social Phobia to 18.2% for Specific Phobias.

PAI results. As a group, when compared to the community normative sample, the current sample is elevated, with most scales and subscales approximately one standard deviation above the mean. A notable high is seen on the Traumatic Stress subscales of the Anxiety Related Disorders scale (see Appendix D).

When broken down into the proportion of the sample scoring over 70T, a significant proportion of the sample was elevated on both overall scales with over a quarter of the sample represented, when compared to the community norms (see Table 6). Of particular note, 38.2% of the study sample received a score over 70T for the Traumatic Stress subscale of the Anxiety Related Disorders subscale, a subscale which, while not a direct assessment, is conceptually linked to Posttraumatic Stress Disorder.

Table 6
PAI – Anxiety and Anxiety Related Disorders Cutoffs

| | Normative Sample Community |
|--|-------------------------------|
| | T Score |
| | ≥ 70 |
| | % (<i>n</i>) |
| Clinical Scales and Subscales | |
| Anxiety (<i>n</i> =217) | 25.3 (55) |
| Cognitive | 18.9 (41) |
| Affective | 22.6 (49) |
| Physiological | 23.5 (51) |
| Anxiety Related Disorders (<i>n</i> =217) | 28.1 (61) |
| Obsessive-Compulsive | 10.1 (22) |
| Phobias | 13.8 (30) |
| Traumatic Stress | 38.2 (83) |

Note. *n*=number of participants receiving scores above cutoff.
 No differences were identified between Aboriginal and non-Aboriginal offenders.

Collectively, the C-DIS-IV and PAI results suggest that the experience of symptoms related to anxiety and anxiety related disorders are common for women offenders. The area of greatest concern, reflected on both the C-DIS-IV and the PAI, relates to the impact of traumatic stress and PTSD.

Mood disorders

C-DIS-IV results. The experience of a lifetime Major Depressive Episode was extremely common within the sample, with 69.3% (*n*=61/88) experiencing an episode at some point in their life. Just over one-fifth of the sample had experienced a lifetime Manic Episode (21.6%, *n*=19/88). Very low lifetime rates were obtained for both Dysthymic Disorder and Hypomanic Episodes. Data concerning the presence of current symptomatology were only available for Dysthymic Disorder, with two women experiencing active Dysthymia in the year prior to participation (see Table 5).

PAI results. On the PAI, overall, the average sample scale score for the Depression scale was considerably higher than the Mania scale when compared to community samples. The overall Depression scale and all subscales were approximately one standard deviation above the mean with the highest score obtained on the overall Depression scale. Scores on the Mania scale were only slightly elevated when compared to the community sample (see Appendix F).

Almost one quarter of the study sample (22.6%) was elevated at the 70T level in comparison to the community sample on the overall Depression scale, with similar proportions

noted on each subscale. Elevated scores were far less frequent on the Mania scale. Irritability was the only subscale with more than 10% of sample participants scoring over 70T.

Differences emerged between the Aboriginal and non-Aboriginal women on the overall Depression scale when compared against community norms, with a significantly greater proportion of non-Aboriginal women received scores over 70T (27.0%, $n=41/152$) than Aboriginal women (12.5%, $n=8/64$).

Table 7
PAI – Depression and Mania Cutoffs

| Clinical Scales and Subscales | Normative Sample Community |
|-------------------------------|-----------------------------------|
| | T Score ≥ 70 % (<i>n</i>) |
| Depression ($n=217$) | 22.6 (49) |
| Cognitive | 20.7 (45) |
| Affective | 19.4 (42) |
| Physiological ($n=216$) | 19.0 (41) |
| Mania ($n=217$) | 9.7 (21) |
| Activity Level | 7.8 (17) |
| Grandiosity | 8.3 (18) |
| Irritability | 13.4 (29) |

Note. n = number of participants receiving scores above cutoff.

No differences were identified between Aboriginal and non-Aboriginal offenders.

Suicidal ideation is a critical issue in mental health and is both conceptually and diagnostically linked to mood disorders. While questions related to suicidal ideation and intent are embedded within the C-DIS-IV Depression module as diagnostic criteria, Suicidal Ideation and Suicide Potential are assessed as supplemental scales on the PAI. Average scores on the Suicide Ideation scale were only slightly elevated, by less than one standard deviation, in comparison to the community samples ($M=55.88$, $SD=14.49$). The Suicide Potential Index, which is compared against the community norms, was also only slightly elevated ($M=54.94$, $SD=11.08$).

With regard to mood disorders, the C-DIS-IV, while reflecting maximal rates, highlights the widespread nature of the experience of depressive episodes in this population. While less pronounced, the frequency of elevated depression scores on the PAI echoes this finding. Although far less frequent, the experience of a lifetime manic episode by over a fifth of the C-

DIS-IV sample is notable, though self-report on the PAI suggests only moderate differences from the community sample.

Schizophrenia and other psychotic disorders

C-DIS-IV results. Diagnosed psychotic disorders were extremely infrequent in the sample with only four individuals (4.5%, $n=4/88$) receiving a lifetime diagnosis of Schizophrenia and one individual a lifetime diagnosis of Schizophreniform disorder. All four women with a lifetime diagnosis of Schizophrenia displayed active symptoms for more than six months in the year prior to participation (see Table 5).

PAI results. The overall scale and subscale scores for Schizophrenia were only slightly elevated on certain components in comparison to the community sample, with all mean T-scores within one standard deviation of the community sample (see Appendix H).

Notwithstanding the comparable overall sample average scale and subscale scores, approximately one fifth of the sample (19.4%) received an overall scale score over 70T in comparison to the community sample (see Table 8). Scores above 70T were most common on the Thought Disorder subscale, suggestive of possible difficulties in cognitive functioning.

Table 8
PAI Schizophrenia and Psychotic Disorders Cutoffs

| | Normative Sample Community |
|-------------------------------|-------------------------------|
| | T Score |
| Clinical Scales and Subscales | ≥ 70 |
| | % (n) |
| Schizophrenia ($n=217$) | 19.4 (42) |
| Psychotic Experience | 6.9 (15) |
| Social Detachment | 14.3 (31) |
| Thought Disorder | 19.4 (42) |

Note. n =number of participants receiving scores above cutoff. No differences were identified between Aboriginal and non-Aboriginal offenders.

While a diagnosis of schizophrenia was rare in the sample, as expected, the PAI results indicate that there may be a subsection of the sample who struggle with difficulties related to cognitive functioning as 19.4% of participants scored over the 70T levels on the Thought Disorder subscale.

Personality disorders

C-DIS-IV results. The C-DIS-IV assesses primarily Axis I disorders of the DSM-IV. The

one personality disorder assessed on this measure is Antisocial Personality Disorder. The rate of lifetime diagnostic criteria met for Antisocial Personality Disorder was extremely high, at 83.0% of the sample ($n = 73/88$). Data pertaining to presence in the year prior to participation was not available (see Table 5).

PAI results.

Antisocial Features. The overall Antisocial Features scale and two of its subscales, Antisocial Behaviours and Stimulus Seeking, were more than one standard deviation above the mean of the community sample, with Antisocial Behaviours approaching two standard deviations above the mean ($M=68.33$, $SD=10.06$) (see Appendix J).

In comparison to the community sample, a marked overrepresentation was noted at the 70T levels (see Table 9) as on the overall scale; over one-third of the sample (35.9%) scored over 70T. Of particular note, on the Antisocial Behaviours subscale, nearly half of the sample (46.1%) was elevated at the 70T level. Additionally, a high proportion of women were also elevated at the 70T level on the Stimulus Seeking subscale

Borderline Features. Similarly, on the Borderline Features scale and associated subscales, when compared to the community sample, most average scores were in excess of one standard deviation above the mean, with the overall scale and the Negative Relationships subscale approximately one and a half standard deviations above the mean (see Appendix J).

Participant scores were markedly elevated in comparison to the community sample with over a third of the sample scoring over 70T on both Negative Relationships (36.9%) and Self-Harm (34.6%).

A significant difference emerged between Aboriginal and non-Aboriginal women on the self-harm subscale of the Borderline Features scale when compared to the community sample, with a significantly higher proportion of non-Aboriginal women receiving scores over 70T (39.9%, $n=61/152$) than Aboriginal women (21.9%, $n=14/64$).

Paranoia. In terms of the Paranoia scale, (see Appendix J) the overall scale and all subscales were approximately one standard deviation above the community mean with a high of 62.69 ($SD=12.76$) on the Hypervigilance subscale.

When compared to the community sample, more than one-quarter of the sample were elevated to the 70T level on the overall scale (27.6%) (see Table 9). While approximately one quarter of the sample scored above 70T on both Hypervigilance (24.0%) and Persecution

(24.9%), lower rates were noted for Resentment (11.1%).

The C-DIS-IV and PAI results suggest that difficulties in personality functioning are frequent in the sample. The experience of symptoms related to Antisocial Personality Disorder, in particular antisocial behaviours, is extremely common in the sample of women offenders. Moreover, features related to Borderline Personality Disorder, as assessed by the PAI, are pronounced when compared to the community sample, particularly in regard to negative relationships and self-harm. By contrast, while still elevated in comparison to the community sample, difficulties associated with paranoia were less pronounced in the sample.

Table 9
PAI – Personality and Paranoia Cutoffs

| Clinical Scales and Subscales | Normative Sample Community |
|-------------------------------|-------------------------------|
| | T Score ≥ 70 % (n) |
| Antisocial Features (n=217) | 35.9 (78) |
| Antisocial Behaviours | 46.1 (100) |
| Egocentricity | 14.7 (32) |
| Stimulus Seeking | 27.2 (59) |
| Borderline Features (n=217) | 31.8 (69) |
| Affective Instability | 17.1 (37) |
| Identity Problems | 25.8 (56) |
| Negative Relationships | 36.9 (80) |
| Self-Harm | 34.6 (75) |
| Paranoia (n=217) | 27.6 (60) |
| Hypervigilance | 24.0 (52) |
| Persecution | 24.9 (54) |
| Resentment | 11.1 (24) |

Note. n=number of participants receiving scores above cutoff. No differences were identified between Aboriginal and non-Aboriginal offenders.

Disorders usually diagnosed prior to adulthood

Disorders typically diagnosed in childhood or adolescence are assessed by the C-DIS-IV only (see Table 5). High lifetime rates, approaching half of the sample were found for both Oppositional Defiant Disorder (43.2%) and Conduct Disorder (48.9%). Attention-Deficit / Hyperactivity Disorder was experienced at some point by over one-quarter of the sample (26.4%). Not surprisingly, rates for Conduct Disorder and Oppositional Defiant Disorder in the year prior to participation were much lower, likely due largely to the fact that a diagnosis of Antisocial Personality Disorder supersedes a diagnosis of Conduct or Oppositional Defiant Disorder. Sixty-five percent of women diagnosed with lifetime Attention-Deficit / Hyperactivity

Disorder were assessed as having an active disorder in the year prior to participation, which equates to 17.2% of the total sample ($n=15/87$). One significant difference emerged based on ethnic status, with a higher lifetime prevalence of Conduct Disorder criteria being met by Aboriginal women (64.3%) than non-Aboriginal women (41.7%) ($\chi^2(1, N = 88) = 3.91, p < .05$).

Substance-related disorders

C-DIS-IV results. The majority of the study sample (80%, $n=68/85$) had a lifetime diagnosis of dependence to at least one drug or alcohol.⁹ Of note, all women with a lifetime diagnosis of substance dependence had at least one co-morbid diagnosis. The most common drugs of dependence for the sample were alcohol (55.2%) and cocaine (54.8%). More than one quarter of the sample experienced a lifetime diagnosis of marijuana dependence (28%) and opiate dependence (26.2%) and nearly one-fifth experienced amphetamine dependence (18.8%).

Unlike the majority of the clinical scales on both the C-DIS-IV and the PAI where differences based on ethnic status were extremely uncommon, significant differences emerged more frequently between the groups on substance use related scales and subscales. Lifetime rates for alcohol dependence were elevated in both groups, however, significant differences were found between Aboriginal and non-Aboriginal women with a prevalence of 71.4% (20/28) for Aboriginal women compared to 47.5% (28/59) for non-Aboriginal women ($\chi^2(1, N=87) = 4.41, p < 0.05$). Significant differences were also found for lifetime diagnoses of marijuana dependence ($\chi^2(1, N=75) = 4.71, p < 0.05$), amphetamine dependence ($\chi^2(1, N=85) = 7.80, p < 0.01$), and sedative dependence ($\chi^2(1, N=84) = 5.76, p < 0.05$). In all cases, the proportion of Aboriginal women receiving a lifetime diagnosis was higher (see Table 10).

The presence of an active disorder in the year prior to participation was infrequent. Most common was an active dependence to cocaine (13.1%, $n=11/84$), followed by alcohol (9.2%, $n=8/87$), opiates (8.3%, $n=7/84$), marijuana (5.3%, $n=4/75$), sedatives (3.6%, $n=3/84$) and amphetamines (1.2%, $n=1/85$). No active disorders were seen for PCP, hallucinogens, inhalants, or other drugs. Abuse, without dependence, was also assessed for all drugs other than alcohol. Rates of abuse were much lower than rates of dependence indicating the severity of substance use problems in the sample (see Appendix K).¹⁰

⁹ Nicotine dependence is excluded from this total.

¹⁰ Given small sample sizes, differences in substance abuse rates by ethnic status could not be assessed.

Table 10

C-DIS-IV Diagnoses – Drugs of Dependence: Lifetime

| All Diagnostic Criteria Met % (n) | | | |
|-----------------------------------|------------|----------------|-----------|
| Drug | Aboriginal | Non-Aboriginal | Total |
| Alcohol* | 71.4 (20) | 47.5 (28) | 55.2 (48) |
| Marijuana* | 45.5 (10) | 20.8 (11) | 28.0 (21) |
| PCP | 7.4 (2) | 1.8 (1) | 3.6 (3) |
| Amphetamines** | 35.7 (10) | 10.5 (6) | 18.8 (16) |
| Cocaine | 64.3 (18) | 50.0 (28) | 54.8 (46) |
| Sedatives* | 25.9 (7) | 7.0 (4) | 13.1 (11) |
| Inhalants | 3.6 (1) | 0.0 (0) | 1.2 (1) |
| Hallucinogens | 14.3 (4) | 6.9 (4) | 9.3 (8) |
| Opiates | 30.8 (8) | 24.1 (14) | 26.2 (22) |
| Other | 14.3 (4) | 8.6 (5) | 10.5 (9) |

Note. * $p < 0.05$; ** $p < 0.01$

Ns vary due to missing data. i.e., Aboriginal offenders range from 22-27; non-Aboriginal offenders range from 53-59; total ranges from 75-87.

PAI results. As a whole, the sample was comparable to the correctional norms in regards to the Alcohol Problems scale, however, when broken down by ethnic status, Aboriginal women scored significantly higher, at approximately one standard deviation above the correctional sample ($M=60.17$, $SD=12.9$), while non-Aboriginal women were on par with the correctional sample ($M=50.93$, $SD=11.7$, $t(212)=-5.14$, $p < 0.001$). In comparison to the community sample, non-Aboriginal women approached one standard deviation above the mean ($M=58.76$, $SD=17.9$) while Aboriginal women exceeded two standard deviations above the mean ($M=72.93$, $SD=19.73$).

With regard to the Drug Problems scale, the difference between the Aboriginal and non-Aboriginal women were non-significant. When compared to the community norms, non-Aboriginal and Aboriginal women were between two and a half ($M=76.76$, $SD=22.0$) and three standard deviations ($M=81.38$, $SD=19.3$) above the norm respectively (see Appendix L).

Similar patterns are observed in terms of the proportion of women falling two standard deviations above the normative sample means, with more discrepant results between Aboriginal

and non-Aboriginal women on the Alcohol Problems scale than the Drug Problems scale (see Table 11). The distribution of scores for Aboriginal and non-Aboriginal women differed significantly in comparison to the correctional norms on the Alcohol Problems scale. While 29.7% ($n=19/64$) of Aboriginal women scored over 70T, only 10.7% of non-Aboriginal women scored in this range. When comparing the groups against the community norms significant differences were found. While 22.7% ($n=34/150$) received scores over 70T for the non-Aboriginal sample, more than half of the Aboriginal sample (56.3%, $n=36/64$) received scores over 70T.

Table 11

PAI – Alcohol and Drug Problems

| Clinical Scales and Subscales | Correctional | Normative Sample |
|-------------------------------|------------------------|---|
| | ≥ 70 % (n) | Community (Non-Correctional) T-Score ≥ 70 % (n) |
| Alcohol Problems | | |
| Aboriginal ($n=64$) | 29.7 (19) | 56.3 (36) |
| Non-Aboriginal ($n=150$) | 10.7 (16) | 22.7 (34) |
| Total ($n=215$) | 16.3 (35) | 32.6 (70) |
| Drug Problems | | |
| Aboriginal ($n=64$) | 0.0 (0) | 68.8 (44) |
| Non-Aboriginal ($n=152$) | 0.7 (1) | 61.8 (94) |
| Total ($n=217$) | 0.5 (1) | 63.6 (138) |

Note. n =number of participants receiving scores above cutoff.

Both the C-DIS-IV and the PAI results indicate that substance use disorders, and associated problems linked to substance misuse, are a major area of concern for women offenders. While active disorders are necessarily lower in correctional populations, the majority of the sample had experienced dependence on at least one substance at some point in their lives. When compared to the community sample, problems associated with drug misuse emerged as the PAI scale with the most discrepant results overall. Of particular importance, these difficulties, most notably with alcohol, were frequently more pronounced for Aboriginal respondents.

Discussion

Continual improvement in the ability to address the mental health needs of offenders is important for all correctional systems, including the Correctional Service of Canada. To address this challenge, it is essential to develop a thorough understanding of the nature of the difficulties experienced by offenders. Generally and more specifically, the current project provides an overview of mental health needs by examining the lifetime rates of psychiatric disorders and patterns of psychological distress in a sample of incarcerated women offenders.

The overwhelming majority of women who participated in the diagnostic interview showed evidence of lifetime psychiatric diagnoses. Moreover, of these women, the majority had experienced more than one lifetime disorder, adding to the already complex issue of mental health assessment and treatment in women offender correctional populations. In line with previous literature, the most common lifetime diagnoses on the C-DIS-IV, experienced by more than half of the sample, were Posttraumatic Stress Disorder, Major Depressive Episodes, Antisocial Personality Disorder, and Substance Dependence disorders. The rate of active PTSD in the year prior to participation was in accordance with other research that suggests that approximately one-third of women offenders suffer from this disorder, a much higher rate than is seen in the general population (e.g., Henderson, Schaeffer, & Brown, 1998). This underscores the importance of gender-responsive programming that emphasizes the importance of providing trauma-informed services to women offenders (e.g., Bloom & Covington, 2000).

The lifetime rates of Major Depressive Episodes and Antisocial Personality Disorder highlight symptom experiences that are extremely elevated in this sample. Moreover, these diagnostic findings are supported by the related PAI scales concerning depression and antisocial features where a considerable number of participants are markedly elevated in comparison to the community sample. This is particularly the case for the Antisocial Features scale of the PAI. Not surprisingly, the Antisocial Behaviours subscale played a large part in elevations on this scale. By definition, criminal behaviours exhibited by individuals in correctional contexts lead to elevations on this subscale. Of note, while suicide prevention is a high priority for CSC, and intake data suggests a comparatively high level of past suicide attempts in the study sample, scales related to suicidality on the PAI were only slightly elevated in comparison to community norms.

Overall, few major differences were noted on PAI scales and subscales in comparison to

the correctional normative sample, with all overall scales in line with correctional means. However, this is in contrast to the community sample where the most elevated scales were Traumatic Stress, Antisocial Features, Borderline Features, and Paranoia. Where there was content overlap, these results are in accord with the C-DIS-IV diagnostic results. Notably, while all subscales related to Borderline Features were considerably elevated in comparison to the community sample, the highest elevation was related to negative interpersonal relationships, in line with previous research that highlights relational instability in women offender populations. This is a potential target for treatment with women offenders. The marked elevation on Borderline features is currently being addressed by CSC's provision of Dialectical Behaviour Therapy, a variation of cognitive behavioural therapy, initially developed for individuals diagnosed with Borderline Personality Disorder.

Although some recent research highlights the significant mental health needs of Aboriginal women offenders, the current research found few significant group differences on clinical indicators based on ethnic status, with the exception of substance abuse. Despite previous research demonstrating a relationship between PTSD and victimization, and higher victimization rates among Aboriginal populations, no significant differences emerged based on ethnic status on the PTSD diagnostic scale of the C-DIS-IV or the Traumatic Stress subscale of the PAI; Trauma history is also highly correlated with substance abuse. The federal women offender population is unique in that the striking deviation from this pattern concerned substance dependence, in particular alcohol dependence, which emerged as an area of particular concern for Aboriginal women. The extremely high rates of alcohol dependence, and problems associated with alcohol use, suggest that many Aboriginal women offenders would benefit from specialized substance abuse treatment. Such treatment would be instrumental in providing these offenders with necessary tools to facilitate successful reintegration and to reduce recidivism in this population.

Irrespective of ethnic status, substance dependence emerged as a significant area of need for the current sample, in line with previous research and CSC data. Extremely elevated rates on both diagnostic criteria and PAI scales related to problems associated with substance use highlight this need, with more than three quarters of the sample experiencing a lifetime diagnosis of dependence on at least one substance. Given CSC's zero tolerance policy for substance use, rates of active substance use disorders in the year prior to participation were very low. However,

given the possibility of relapse upon release, and the implications of relapse in terms of recidivism, these results suggest that a strong continuum of care from institution to community is essential in terms of substance abuse.

Limitations

Although the data highlight the wide range of mental health problems experienced by the current sample of women offenders, certain limitations must be acknowledged. It is possible that some self-selection bias was introduced into the sample. Ideally future efforts should involve a formal sampling procedure (e.g., stratified random sampling) in order to minimize potential bias and to ensure a representative sample of women. Not only will this ensure an adequate sample, the response rate may increase as well, as previous research with women offenders utilizing a more formal procedure where all women were asked to participate resulted in a 73% response rate (Thompson, Zakaria, & Grant, 2011). However, it must be noted that the current sample as a whole, as well as the subsample completing only the C-DIS-IV, did not differ substantially from the comparison sample when compared on secondary data. In addition, although a convenience sample was used, both samples were representative of the women offender population.

The length of time required to complete the C-DIS-IV contributed to the comparatively lower response rate for this measure in comparison to the PAI, further affecting generalizability. Although a screener version of this instrument was chosen in order to reduce participant fatigue, administration took in excess of three hours for some offenders. The use of the screener version, as opposed to the full version, also introduced some clear interpretive limitations. The level of diagnostic detail provided by the screener version is markedly lower than the full version with only lifetime prevalence rates available for some diagnoses. This, coupled with the lack of information regarding exclusionary criteria, limit the utility of the current findings from the perspective of providing accurate prevalence rates that can be generalized to the woman offender population. If the full-version had been utilized, the response rate would likely have been lower; however, there would have been greater accuracy with respect to prevalence rates. Therefore, in terms of research design, the balance between the level of diagnostic detail and ideal sample size needs to be carefully considered.

Future Directions

Given the high rates of lifetime disorders on the C-DIS-IV and the elevated symptom expression on the PAI, future research should necessarily be directed towards the issue of treatment and service provision for women offenders experiencing mental health problems. Ongoing review and refinement of CSC's Mental Health Strategy for Women Offenders, as well as research examining the quality of interventions provided by CSC and their impact on symptom management are essential. In a related vein, the relationship between mental health and recidivism is clearly an area in need of future research. Research on the impact of mental health status on outcome, and the mediating impact of treatment, is clearly warranted and is essential in the ongoing refinement of CSC's approach to dealing with offenders with mental health problems. Accordingly, CSC's Research Branch intends to conduct follow up research on these data.

Conclusions

Mental health problems are increasingly being recognized as one of the greatest challenges faced by CSC in the effective management of the correctional population. The current study suggests that these challenges may be of particular relevance in the woman offender population. The results highlight the widespread and complex mental health difficulties experienced by women offenders, for instance only 5% had no lifetime history of mental health disorders, while 80% were identified with concurrent alcohol and substance dependence. Given the clear and apparent needs of this population, the importance of comprehensive and ongoing assessment and treatment for the successful reintegration of women offenders cannot be overstated.

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Appendices

Appendix A: C-DIS-IV Definitions

| C-DIS-IV Scale | Definition |
|-------------------------------|--|
| Generalized Anxiety Disorder | Excessive anxiety or worry on most days, lasting at least six months, which is difficult to control and is experienced with three additional symptoms of anxiety (e.g., restlessness, irritability) and causes significant distress or impairment. |
| Specific Phobia | Marked and persistent fear of a specific object or situation that is recognized as excessive or unreasonable. |
| Social Phobia | Marked and persistent fear of situations involving social or performance aspects that is recognized as excessive or unreasonable. |
| Agoraphobia | The experience of anxiety in situations where escape may be difficult, with associated avoidance of these situations. |
| Panic Attack | A discrete period of time in which intense fear or discomfort is experienced with four symptoms of anxiety (e.g., increased heart rate, chest pain, shortness of breath), peaking within ten minutes. |
| Obsessive-Compulsive Disorder | The experience of recurrent intrusive thoughts or repetitive behaviours that are recognized as excessive or unreasonable and that cause marked distress. |
| Posttraumatic Stress Disorder | Following exposure to a traumatic event, reexperiencing of the event, persistent avoidance of stimuli associated with the event, and persistent symptoms of increased arousal causing clinically significant distress or impairment. |
| Major Depressive Episode | A two-week period in which depressed mood or loss of interest or pleasure are manifested with five additional symptoms present (e.g., vegetative changes, feelings of worthlessness). |
| Dysthymic Disorder | Depressed mood for most of the day for the majority of days for a period of at least two years with two additional symptoms of depression. |
| Manic Episode | A distinct period of time, in which abnormally elevated, expansive, or irritable mood is evident coupled with three additional symptoms (e.g., decreased need for sleep, psychomotor agitation) resulting in marked impairment. |
| Hypomanic Episode | A distinct period, of at least four days, of elevated, expansive, or irritable mood, coupled with three additional symptoms of mania that is not severe enough to cause marked impairment. |

| | |
|--|---|
| Schizophrenia | A disorder lasting at least six months with at least one month of two or more active symptoms (e.g., delusions, hallucinations, disorganized speech or behaviour, affective flattening) resulting in functional impairment. |
| Schizophreniform Disorder | A disorder lasting at least one month, but less than six months, meeting the characteristic symptoms of schizophrenia. |
| Oppositional Defiant Disorder | A pattern of hostile and defiant behaviour lasting at least six months with four additional negativistic symptoms (e.g., difficulty controlling temper, argumentative, resentment) and significant impairment. |
| Conduct Disorder | A persistent pattern of behaviour violating the rights of others or violation of age-appropriate social norms (e.g., aggression, destruction of property, theft) causing impairment in functioning. |
| Antisocial Personality Disorder | A pattern of disregard for others and violation of the rights of others occurring since age fifteen, with three associated symptoms (e.g., non-conformity to social norms, impulsivity, lack of remorse) and evidence of Conduct Disorder before the age of fifteen. |
| Attention Deficit/Hyperactivity Disorder | During a six month period, a pattern of six or more symptoms of inattention or hyperactivity-impulsivity causing impairment to a degree maladaptive for developmental level beginning before the age of seven. |
| Pathological Gambling Disorder | Persistent and recurring gambling behaviour that is maladaptive (e.g., preoccupation, inability to stop, attempts to conceal gambling). |
| Substance Dependence | A maladaptive pattern of substance use resulting in clinical impairment or distress during a 12 month period with three of seven symptoms manifested (e.g., tolerance, withdrawal, inability to cut down use). |
| Substance Abuse | A maladaptive pattern of substance use resulting in clinical impairment or distress during a 12 month period where substance dependence criteria have never been met. At least one symptom related to impairment must be met (e.g., inability to fulfill role obligations). |

Note. Adapted from American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

Appendix B: PAI Definitions

| PAI Scale | Definition |
|---------------------------|---|
| Anxiety | Assesses the cognitive (e.g., rumination), affective (e.g., feeling of tension), and physiological (e.g., shortness of breath) symptoms and experience of anxiety. |
| Anxiety-Related Disorders | Assesses symptoms of specific diagnosable anxiety disorders, with a focus on obsessive-compulsive symptomatology (e.g., intrusive thoughts), phobic symptomatology (e.g., fears of specific situations), and symptoms related to the experience of trauma (e.g., prolonged distress). |
| Depression | Assesses the cognitive (e.g., hopelessness), affective (e.g., sadness), and physiological (e.g., fatigue) symptoms and experience of depression. |
| Mania | Assesses the cognitive (e.g., grandiosity), affective (e.g., irritability), and behavioural (e.g., accelerated behaviour) symptoms of mania and hypomania. |
| Paranoia | Assesses symptoms seen in paranoid disorders and more pervasive paranoid personality (e.g., suspiciousness, persecution, and interpersonal cynicism). |
| Schizophrenia | Assesses symptoms seen in the range of schizophrenic disorders (e.g., Unusual perceptions, social isolation, disorganized thought patterns). |
| Borderline Features | Assesses features typically associated with a borderline level of personality functioning (e.g., self-harm, unstable interpersonal relationships, difficulties in anger management, labile emotions). |
| Antisocial Features | Assesses historical legal problems, difficulty with authority figures, egocentrism, limited or lack of empathy, and sensation seeking. |
| Alcohol Problems | Assesses negative consequences of alcohol use and dependence. |
| Drug Problems | Assesses negative consequences of drug use and dependence |
| Suicidal Ideation | Assesses features of suicidal ideation (e.g., feelings of hopelessness, thoughts and plans related to suicide) |

Note. Adapted from Morey, L.C. (1991). *The Personality Assessment Inventory: Professional Manual*. Odesa, FL: Psychological Assessment Resources.

Appendix C: Dynamic Factor Domains

| Dynamic Factor Domain Score | Sample Respondents (<i>N</i> = 213) % (<i>n</i>) | Offenders in Custody but not in Sample (<i>N</i> = 245) % (<i>n</i>) |
|-----------------------------|---|---|
| Employment | | |
| Factor Seen as an Asset | 1.4 (3) | 3.7 (9) |
| No Current Difficulty | 23.5 (5) | 24.1 (59) |
| Some Difficulty | 59.2 (126) | 56.3 (138) |
| Considerable Difficulty | 16.0 (34) | 15.9 (39) |
| Marital / Family | | |
| Factor Seen as an Asset | 1.4 (3) | 2.0 (5) |
| No Current Difficulty | 41.8 (89) | 38.4 (94) |
| Some Difficulty | 26.3 (56) | 31.4 (77) |
| Considerable Difficulty | 30.5 (65) | 28.2 (69) |
| Associates | | |
| Factor Seen as an Asset | 3.3 (7) | 2.4 (6) |
| No Current Difficulty | 33.8 (72) | 28.6 (70) |
| Some Difficulty | 31.9 (68) | 32.2 (79) |
| Considerable Difficulty | 31.0 (66) | 36.7 (90) |
| Substance Abuse | | |
| No Current Difficulty | 22.5 (48) | 26.9 (66) |
| Some Difficulty | 8.9 (19) | 8.2 (20) |
| Considerable Difficulty | 68.5 (146) | 64.9 (159) |
| Community Function | | |
| Factor Seen as an Asset | 1.9 (4) | 6.1 (15) |
| No Current Difficulty | 69.5 (148) | 63.3 (155) |
| Some Difficulty | 22.1 (47) | 25.3 (62) |
| Considerable Difficulty | 6.6 (14) | 5.3 (13) |
| Personal / Emotional | | |
| No Current Difficulty | 8.9 (19) | 9.0 (22) |
| Some Difficulty | 28.2 (60) | 27.3 (67) |
| Considerable Difficulty | 62.9 (134) | 63.7 (156) |
| Attitudes | | |
| Factor Seen as an Asset | 3.8 (8) | 3.7 (9) |
| No Current Difficulty | 53.1 (113) | 50.2 (123) |
| Some Difficulty | 23.0 (49) | 26.5 (65) |
| Considerable Difficulty | 20.2 (43) | 19.6 (48) |

Appendix D: PAI Scale and Subscale Mean Scores - Anxiety and Anxiety Related Disorders

| Clinical Scales and Subscales | Normative Sample | | | |
|--|------------------|---------------------------------|----------|-----------|
| | Correctional | Community (Non-correctional) | | |
| | Average T-Score | | | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Anxiety (<i>n</i> =217) | 56.28 | 11.81 | 59.86 | 13.33 |
| Cognitive | 54.31 | 10.83 | 58.62 | 12.25 |
| Affective | 56.44 | 11.87 | 58.10 | 12.80 |
| Physiological | 56.60 | 12.80 | 60.10 | 14.78 |
| Anxiety Related Disorders (<i>n</i> =217) | 55.91 | 10.93 | 62.78 | 13.91 |
| Obsessive-Compulsive | 52.63 | 10.84 | 54.28 | 11.38 |
| Phobias | 53.88 | 10.70 | 55.76 | 12.15 |
| Traumatic Stress | 56.08 | 11.12 | 66.80 | 16.08 |

Note. *M* = mean; *SD* = standard deviation

Appendix E: PAI – Anxiety and Anxiety Related Disorders Cutoffs

| | Normative Sample Correctional |
|--|-----------------------------------|
| Clinical Scales and Subscales | T Score ≥ 70 % (<i>n</i>) |
| Anxiety (<i>n</i> =217) | 15.2 (33) |
| Cognitive | 11.1 (24) |
| Affective | 18.4 (40) |
| Physiological | 16.6 (36) |
| Anxiety Related Disorders (<i>n</i> =217) | 12.0 (26) |
| Obsessive-Compulsive | 7.4 (16) |
| Phobias | 7.8 (17) |
| Traumatic Stress | 12.0 (26) |

Note. *n*=number of participants receiving scores above cutoff. No differences were identified between Aboriginal and non-Aboriginal offenders.

Appendix F: PAI Scale and Subscale Mean Scores - Mood Disorders

| Clinical Scales and Subscales | Normative Sample | | | |
|--------------------------------|------------------|-----------|---------------------------------|-----------|
| | Correctional | | Community (Non-correctional) | |
| | Average T-Score | | | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Depression (<i>n</i> =217) | 54.82 | 11.23 | 60.90 | 13.60 |
| Cognitive | 53.15 | 11.22 | 58.83 | 13.60 |
| Affective | 52.98 | 11.50 | 58.74 | 13.48 |
| Physiological (<i>n</i> =216) | 56.24 | 10.50 | 59.76 | 11.81 |
| Mania (<i>n</i> = 217) | 51.29 | 9.41 | 55.83 | 11.12 |
| Activity Level | 51.56 | 9.60 | 53.81 | 11.49 |
| Grandiosity | 47.24 | 9.08 | 53.82 | 11.20 |
| Irritability | 54.66 | 10.93 | 55.84 | 12.59 |

Note. *M* = mean; *SD* = standard deviation

Appendix G: Depression and Mania Cutoffs

| | Normative Sample Correctional |
|--------------------------------|-----------------------------------|
| Clinical Scales and Subscales | T Score ≥ 70 % (<i>n</i>) |
| Depression (<i>n</i> =217) | 12.4 (27) |
| Cognitive | 9.2 (20) |
| Affective | 10.6 (23) |
| Physiological (<i>n</i> =216) | 8.8 (19) |
| Mania (<i>n</i> =217) | 3.7 (8) |
| Activity Level | 3.7 (8) |
| Grandiosity | 0.0 (0) |
| Irritability | 11.5 (25) |

Note. *n* = number of participants receiving scores above cutoff. No differences were identified between Aboriginal and non-Aboriginal offenders.

Appendix H: PAI Scale and Subscale Mean Scores - Schizophrenia

| Clinical Scales and Subscales | Normative Sample | | | |
|--------------------------------|------------------|-----------|-----------|-----------|
| | Correctional | | Community | |
| | Average T-Score | | | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Schizophrenia (<i>n</i> =217) | 53.51 | 10.21 | 57.87 | 13.54 |
| Psychotic Experience | 53.17 | 10.04 | 53.77 | 11.92 |
| Social Detachment | 52.14 | 10.75 | 56.25 | 12.52 |
| Thought Disorder | 53.32 | 10.74 | 57.43 | 14.33 |

Note. *M* = mean; *SD* = standard deviation

Appendix I: Personality and Paranoia Cutoffs

| | Normative Sample Correctional |
|--------------------------------------|-----------------------------------|
| Clinical Scales and Subscales | T Score ≥ 70 % (<i>n</i>) |
| Antisocial Features (<i>n</i> =217) | 6.9 (15) |
| Antisocial Behaviours | 1.8 (4) |
| Egocentricity | 3.7 (8) |
| Stimulus Seeking | 16.1 (35) |
| Borderline Features (<i>n</i> =217) | 7.4 (16) |
| Affective Instability | 9.2 (20) |
| Identity Problems | 3.7 (8) |
| Negative Relationships | 3.2 (7) |
| Self-Harm | 10.1 (22) |
| Paranoia (<i>n</i> =217) | 9.7 (21) |
| Hypervigilance | 8.8 (19) |
| Persecution | 12.9 (28) |
| Resentment | 5.5 (12) |

Note. *n*=number of participants receiving scores above cutoff. No differences were identified between Aboriginal and non-Aboriginal offenders.

Appendix J: PAI Scale and Subscale Mean Scores – Personality Disorders and Paranoia

| Clinical Scales and Subscales | Normative Sample | | | |
|--------------------------------------|------------------|---------------------------------|----------|-----------|
| | Correctional | Community (Non-correctional) | | |
| | Average T-Score | | | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Antisocial Features (<i>n</i> =217) | 53.85 | 10.83 | 66.32 | 11.88 |
| Antisocial Behaviours | 50.82 | 10.36 | 68.33 | 10.06 |
| Egocentricity | 52.17 | 9.55 | 57.87 | 11.64 |
| Stimulus Seeking | 56.20 | 12.54 | 62.04 | 14.91 |
| Borderline Features (<i>n</i> =217) | 54.36 | 10.02 | 65.16 | 12.74 |
| Affective Instability | 54.66 | 10.42 | 57.58 | 12.24 |
| Identity Problems | 52.70 | 9.36 | 62.00 | 11.63 |
| Negative Relationships | 53.89 | 9.13 | 66.03 | 10.75 |
| Self-Harm | 53.31 | 11.78 | 63.82 | 16.22 |
| Paranoia (<i>n</i> =217) | 53.87 | 11.32 | 62.58 | 12.64 |
| Hypervigilance | 52.98 | 10.67 | 62.69 | 12.76 |
| Persecution | 53.71 | 12.23 | 61.80 | 13.96 |
| Resentment | 52.82 | 10.25 | 57.26 | 11.26 |

Note. *M* = mean; *SD* = standard deviation

Appendix K: C-DIS-IV Drug Abuse

| All Diagnostic Criteria Met % (n) | | |
|-----------------------------------|----------------|---------------------------------------|
| Drug of Abuse (n=86) | Lifetime % (n) | Active Disorder in Past Year % (n) |
| Marijuana | 9.3 (8) | 2.3 (2) |
| PCP | 3.5 (3) | 0.0 (0) |
| Amphetamines | 3.5 (3) | 0.0 (0) |
| Cocaine | 7.0 (6) | 1.1 (1) |
| Sedatives | 2.3 (2) | 0.0 (0) |
| Inhalants | 1.2 (1) | 0.0 (0) |
| Hallucinogens | 7.0 (6) | 0.0 (0) |
| Opiates | 3.5 (3) | 0.0 (0) |
| Other | 3.5 (3) | 1.1 (1) |

Appendix L: PAI Scale and Subscale Mean Scores – Alcohol and Drug Problems

| Clinical Scales and Subscales | Correctional | | Normative Sample | | Community (Non-correctional) |
|-----------------------------------|--------------|-----------|------------------|--|---------------------------------|
| | <i>M</i> | <i>SD</i> | Average T-Score | | <i>SD</i> |
| | | | <i>M</i> | | |
| Alcohol Problems (<i>n</i> =214) | | | | | |
| Aboriginal | 60.17 | 12.87 | 72.93 | | 19.73 |
| Non-Aboriginal | 51.00 | 11.68 | 58.76 | | 17.92 |
| Total | 53.73 | 12.72 | 63.05 | | 19.52 |
| Drug Problems (<i>n</i> =216) | | | | | |
| Aboriginal | 53.38 | 10.04 | 81.38 | | 19.30 |
| Non-Aboriginal | 50.97 | 11.44 | 76.76 | | 22.00 |
| Total | 51.62 | 11.09 | 78.00 | | 21.31 |

Note. *M* = mean; *SD* = standard deviation