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Profile and Institutional Experience of Offenders Involved in Use of Force Incidents

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Executive Summary

Key words: *use of force, institutional incidents, security, intervention.*

The purpose of this study was to examine the profile and institutional experience of offenders involved in use of force incidents relative to similar offenders with an incident that did not result in a use of force. The sample consisted of all in-custody federal offenders with a use of force incident between April 1, 2018 and March 31, 2022 (N = 4,533) and a matched comparison group of offenders with an incident that did not result in use of force during the same period (N = 4,533). The groups were matched based on relevant variables including race, incident type, incident role, Offender Security Level (OSL), and region at the time of the incident.

Overall, at both men's and women's institutions, offenders with a use of force incident presented with unique and more complex needs and demonstrated more problematic institutional behaviour compared to similar offenders with an incident that did not result in a use of force. Offenders with a use of force incident were more likely to have committed a violent offence and were serving longer sentences than the matched comparison group. Offenders with a use of force incident were younger than the comparison group, and were more likely to be rated low in motivation, low in accountability, and less likely to be engaged in their correctional plan. Those with a use of force incident were also more likely to be rated as high in static risk and dynamic need, and low in reintegration potential. At men's institutions only, offenders with a use of force incident were more likely to have an STG affiliation.

Offenders with a use of force were more likely to have had previous incidents, uses of force, minor disciplinary charges, and serious disciplinary charges. At men's institutions, once controlling for other relevant factors (e.g., OSL, region, offender role, and mental health need), offenders with a use of force were 1.77 times more likely to have a prior guilty disciplinary charge and 2.18 times more likely to have a prior incident in which they were identified as instigator. At women's institutions, once controlling for those same relevant factors, offenders with a use of force were 2.07 times more likely to have a prior guilty disciplinary charge and 3.07 times more likely to have a prior incident in which they were identified as an instigator.

For offenders involved in use of force incidents, it was also of interest to examine whether there were differences in the profile or institutional behaviour of the offenders where the use of force was deemed to be necessary and proportionate compared to those where it was not. There were very few meaningful differences between groups in profile or institutional experience. However, differences emerged between groups based on the characteristics of the incident and the use of force. In particular, uses of force that were deemed either not necessary and/or not proportionate were more likely to involve behaviour related incidents, a planned use of force, and used force types of physical handling, restraint equipment, and/or batons.

An examination of the review process that occurs following any incident with a use of force showed that the majority of assessments (91%) concluded that the use of force was both necessary and that the amount of force used was proportionate to the situation. Despite the differences observed in use of force characteristics by ethnocultural group, no significant

differences emerged in ethnocultural group between offenders involved in a use of force incident that was determined to be necessary and proportionate and those where it was not.

The findings of this study may inform the continued development on an evidence-based approach to use of force incidents, ensuring that force is utilized only when necessary and in a proportionate manner to the circumstances.

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Introduction

The Correctional Service of Canada (CSC) has a responsibility to ensure that offenders and staff are safe from harm. Security measures and operational policies and procedures, including the use of force, are in place to maintain the safety and security of offenders and staff. A use of force may be an appropriate intervention strategy to mitigate the risk to the individual, bystanders, and/or staff if verbal interventions, conflict management, and/or negotiations are ineffective or assessed as inappropriate due to individual and situational factors, and the accompanying assessment of risk (CSC, 2018a). The 2020-21 Office of the Correctional Investigator (OCI) Annual Report included an investigation into uses of force involving federally incarcerated Black, Indigenous, Peoples of Colour (BIPOC) and other vulnerable populations. The investigation found an over-representation of Indigenous and Black individuals in use of force incidents compared to their representation in the general population, prison population, and to other racial groups (OCI, 2021). This study will provide additional context to these findings to assist with future development of CSC policy and practices.

Use of Force in CSC

Prior to 2018, all uses of force had to follow the Situation Management Model (SMM), which was designed to guide interventions and management of situations that threaten the security of the institution and safety of staff and other offenders (Varrette & Archambault, 2011). The SMM aimed to provide the safest and most reasonable measures to prevent, respond, and/or resolve incidents (Varrette & Archambault, 2011). The SMM was separated into levels in which the use of force progressively increased; staff were only to use higher levels of force when lower levels, such as verbal intervention and conflict resolution, were ineffective or when the offender's behaviour elevated to a point where less restrictive force measures would be predicted as ineffective (Varrette & Archambault, 2011).

CSC introduced the Engagement and Intervention Model (EIM) in 2018 to improve assessments and interventions by CSC staff during an institutional incident (CSC, 2021). It is a person-centered, integrated approach to guide staff in using the most reasonable interventions when preventing, responding, and/or resolving incidents related to security and health. EIM has five guiding principles: preservation of life, interdisciplinary teamwork, CSC mission and values, necessary and proportionate, and leadership. This model promotes peaceful resolution and

follows the incident as it evolves through the use of continuous assessment and reassessment (CSC, 2018a; CSC, 2018b). In formulating an intervention, staff are required to consider situational factors, including offender behaviour, presence of weapons, offender's mental state and health status, history of suicidal behaviour, number of offenders in the area, and offender's level of compliance, among other factors (CSC, 2018a). Use of force is a component of EIM and may be an appropriate strategy if verbal interventions, conflict management strategies, and/or negotiations are ineffective or assessed as inappropriate.

Use of force is defined as any action taken by staff, on or off institutional property, with the intention to obtain co-operation and gain control through the use of one or more measures, including non-routine use of restraint equipment, physical handling, chemical or inflammatory agents, use of batons, impact munitions or other intermediary weapons, and the display or use of firearms (CSC, 2018b). Importantly, the amount of force used must be the minimal amount necessary (proportionate) to manage the threat safely (CSC, 2018a; CSC, 2018b). Force is considered unnecessary or disproportionate when the threat may be safely managed without a use of force or with a lesser measure of force.

A use of force may be planned or spontaneous based on the level of the offender's non-compliance and/or threatening behaviour (CSC, 2018b; Varrette & Archambault, 2011). Planned uses of force include situations where time and situational factors allow for the creation of an intervention plan and authorization by a correctional manager (CSC, 2018b). Conversely, spontaneous uses of force include incidents that, according to an assessment of risk, require immediate staff intervention and a use of force is required to prevent imminent harm to the individual or others (CSC, 2018b). Following any incident where force was used, the incident undergoes a review process to determine if the force used followed CSC policy and the law (CSC, 2018b).

Methodological Issues in Examining Uses of Force

Prior to a brief overview of the literature, it is important to recognize some limitations in the research. Overall, research regarding use of force incidents in correctional settings remains under-explored; literature on use of force incidents in police settings is more common (Varrette & Archambault, 2011). The empirical literature highlights a number of obstacles in researching use of force incidents including lack of data access, inconsistency in how data is recorded (e.g., observations, citizen complaints, self-reports, agency reports), conceptual issues in measuring

force (e.g., dichotomy versus continuum), and discrepancies in the definitions of force, "excessive" force, and what is considered proportionate and necessary to the incident (Hickman et al., 2015; Tillyer, 2022; Varrette & Archambault, 2011). Additionally, in jurisdictions that review some or all use of force incidents, reviewer bias has the potential to impact the results in determining if the force used followed policy and the law or was excessive. Notably, most of the literature focuses on the use of force in the specific cities, regions, or states within the United States. Overall, these limitations create challenges when conducting research on use of force incidents and restrict the generalizability of the findings to other jurisdictions.

Overrepresentation of Ethnocultural Groups in Use of Force Incidents

Recently, the OCI Annual Report 2020/21 was released and included an examination of use of force incidents. The investigation found that being younger, serving a longer sentence, being male, higher security classification, higher assessed risk, and identifying as Indigenous[1] or Black were significantly associated with being involved in a use of force incident (OCI, 2021). Furthermore, "after controlling for the influence of age, risk, security level, gender, and sentence length on involvement in use of force, being Indigenous or Black was uniquely associated with increased odds of being involved in a use of force incident" (OCI, 2021, p.20). These findings suggest that Black and Indigenous offenders were disproportionately more likely to be involved in use of force incidents, regardless of other potential predictors of use of force such as security level or risk. The study also included sub-analyses regarding the number of events, occurrences, average number of incidents per person, and reason for use of force (OCI, 2021). For instance, Indigenous offenders experienced the highest average number of incidents and occurrences of force compared to all other groups. The report also demonstrated evidence of an increase in the number of use of force incidents per fiscal year despite a decrease in the prison population and in admissions to federal custody. The OCI concluded that this general over-use of force is not consistent with the principles of EIM which aim to reduce uses of force.

Similar results were found in a recent CSC evaluation of EIM in that there has not been a decrease in use of force during institutional incidents since the implementation of EIM. There

[1] The terminology in this literature review reflects the terminology used in the cited sources and may differ from those used in other studies as well as the terminology used in this report. Furthermore, there are inconsistencies in how many ethnocultural groups are included in the study (i.e., a couple of studies only included two groups, whereas others included three or more) and/or how ethnocultural groups are classified (i.e., some studies grouped individuals by race, whereas others used categories based on ethnicity). As a result, this adds to the limitations of the literature and the comparison of their findings.

were some positive changes observed in the evaluation, such as a decrease in force used in behavioural incidents, as well as a decrease in chemical or inflammatory agents deployed during an incident (CSC, 2021). Compared to use of force incidents under the SMM, there was an increase in planned uses of force and a decrease in spontaneous uses of force under EIM (CSC, 2021). However, the results demonstrated that use of force was more likely to occur during institutional incidents with younger, Indigenous, and ethnocultural offenders (CSC, 2021). The rate of use of force was almost three times that of the total population among younger inmates and almost double among ethnocultural and Indigenous offenders.

More broadly in the policing setting, the literature clearly demonstrates an overrepresentation of ethnocultural groups, specifically Black and Indigenous individuals, in use of force incidents. In a Canadian context, a study by the Ontario Human Rights Commission (OHRC) in 2020 demonstrated that Black individuals were significantly over-represented in use of force incidents by the Toronto Police Service (Wortley et al., 2020). It also found that Black individuals were disproportionately involved in Special Investigation Unit (SIU) investigations (Wortley et al., 2020). For instance, despite only representing 3.6% of the Ontario population, Black individuals represented 16% of SIU investigations into police uses of force and 27% of all investigations into police shootings (Wortley et al., 2020). In June 2022, the Toronto Police Service released the findings of their own report regarding use of force incidents, which confirmed the OHRC's 2020 findings of disproportionate use of force against Black individuals by police in Toronto (Toronto Police Service, 2022). Additionally, the report revealed that police were more likely to use greater measures of force against racialized groups than against White individuals (Toronto Police Service, 2022). The report also found that Black, Indigenous, and Middle Eastern individuals were overrepresented in enforcement actions[2] (Toronto Police Service, 2022). Similarly, an external review of use of force incidents by the Ottawa Police Service in 2020 demonstrated that Black, Middle Eastern, and Indigenous individuals were overrepresented in use of force incidents, whereas White individuals were underrepresented (Foster & Jacobs, 2022).

In a US study, Black individuals were found to be over three times more likely to be involved in use of force incidents by police than their White counterparts (Goff et al., 2016). In

[2] Enforcement actions include incident reports of arrests that resulted in charges and released without charges, as well as summons, diversions, apprehensions, cautions, and incidents involving the roles of 'suspect' or 'subject' (Toronto Police Service, 2022).

2018 (Motley & Joe), a study demonstrated that for Black individuals, being male and poor increased the likelihood of contact with police. Similarly, Terrill and Mastrofski (2002) reported that male, non-White, poor, and younger individuals were more likely to face greater uses of force. Another study found that Black individuals were more likely than White and Hispanic individuals to experience non-fatal force in their last interaction with police (Hyland et al., 2015). Goff and colleagues (2016) found that average use of force rates were higher among Black and White individuals than Hispanic individuals, Asian individuals, and individuals of other races. Edwards et al. (2019) state that police use of force is among the leading causes of death for young men of colour in the United States. Specifically, Edwards and colleagues (2019) reported that, in the US, various ethnocultural groups were at a greater risk of being killed by police than their White counterparts.[3]

Many studies focus on specific aspects of use of force incidents, however, Kahn and colleagues (2017) examined incidents as a process. In doing so, they showed that Black and Latino individuals experienced higher levels of force earlier in the interaction than White individuals. White individuals experienced greater and quicker escalations of force; however, this may be partly explained by the fact that initial rates of force experienced by Black and Latino individuals were greater, therefore, the same level of escalation was not possible (Kahn et al., 2017). Similarly, Tillyer (2022) found that the higher number of total actions exchanged in an interaction increased the likelihood that a greater force of measure is used.

Other Predictors of Use of Force

Aside from ethnocultural background, the literature has identified other predictive factors of use of force in policing settings at the individual, officer, and situation levels. Factors at the individual (i.e., suspect, citizen, or offender) level centre on their behaviour during the incident, such as mental health, substance use, nature of the offence (serious or violent), resistance to arrest, attempt to flee, and possession of a weapon (Crawford & Bums, 1998; Garner et al., 2002; Hickman et al., 2008; Hyland et al., 2015; Lawton, 2007; Terrill & Mastrofski, 2002; Terrill & Resig, 2003). Lawton (2007) concludes that force is more likely to be used when these factors are present due to the perception that the individual's behaviour increases their unpredictability and makes gaining control of the situation more challenging. Other studies indicate that being

[3] This includes African American men and women, American Indian/Native Alaskan men and women, and Latino men, as reported in the original study.

younger, male, and poor increased the likelihood of force being used (Phillips & Smith, 2000; Terrill & Mastrofski, 2002). Similarly, the Toronto Police Service's (2022) report showed that men were significantly more likely to be involved in use of force incidents than women. Additionally, individuals with two or more contacts with police were found to be more likely to experience use of force (Hyland et al., 2015). Research regarding the relationship between mental illness and use of force has resulted in contradictory findings, in part due to variability in methodology. However, some studies have found that police are more likely to use force on those who "appeared mentally disordered"[4] while controlling for other relevant factors (e.g., Kesic et al., 2013) and that officers use higher levels of force on persons with mental illness (Rossler & Terrill, 2017).

The research also emphasizes the impact of officer level factors on the outcome of use of force incidents. The officer's experience and education are primary factors, such as years of experience, post-secondary education, prior poor performance records, history of citizen complaints, and level of training received, particularly de-escalation training (Helsby et al., 2018; Paoline & Terrill, 2007; Terrill & Mastrofski, 2002). Lawton (2007) found that previous use of force by the officer within the preceding year was a predictive factor for using force as well as deploying a greater measure of force. Other research explores officer demographics such as gender, ethnocultural group, and age, however, there are mixed results. Most studies indicate that officer gender is not a predictive factor (Griffin, 2002; Pauline & Terrill, 2004; Terrill & Mastrofski, 2002; Wortley et al., 2020); however, a couple of studies suggest that women officers are less likely to use force (Bazley et al., 2007; Garner et al., 1995). Similarly, while the literature demonstrates that older officers are less likely to use force, it is also suggested that their job description may partly explain this finding; younger officers are more likely to hold front-line jobs, whereas older officers are more likely to work in special units and/or hold supervisory positions where use of force would be less likely to occur (Griffin, 2002; Wortley et al., 2020). Lastly, the available research has suggested that officer ethnocultural background is not a significant predictor of use of force (Griffin, 2002; Terrill & Mastrofski, 2002; Wortley et al., 2020).

[4] This definition captured police reports of whether the citizen appeared to have a mental illness ("apparent mental disorder") based on their impressions and perceptions at the time of the incident.

There is less information regarding the situational factors as the literature tends to focus on factors related to the individual and the officer who used force. Nevertheless, one of the main factors discussed is the number of officers at the scene or available reinforcements (Lawton, 2007; Paoline & Terrill, 2007; Terrill & Mastrofski, 2002). For instance, Phillips and Smith (2000) found that roughly two-thirds of use of force incidents only had one officer involved and less than a third had two officers involved. They also demonstrated that use of force incidents were more likely to occur between 8pm and 4am, in public or police spaces, and bystanders witnessed roughly two-thirds of "nonlethal police violence" incidents (Phillips & Smith, 2000). Similarly, the Toronto Police Service found that use of force incidents were more likely to occur between 9pm and 5am, and nearly half of reported use of force incidents were violent calls for service[5] (Toronto Police Service, 2022). The level of responsibility and accountability of the officers in their uses of force by the police department and government is also a factor (Alpert & MacDonald, 2001). The OHRC (2020) report highlights police subculture as an important factor that may influence use of force incidents, although it noted that the effects of police subculture is very challenging to measure. Additionally, the CSC (2021) evaluation found that while the culture of some institutions facilitated the successful implementation of EIM, the model did not have a positive impact on the culture of other institutions. It was suggested that the perceived focus on security over interventions at an organizational level may have presented challenges to implementing EIM (CSC, 2021).

Current Study

Based on the results of their investigation, the OCI recommended that CSC develop an action plan "to address the relationship between the use of force and systemic racism against Indigenous and Black individuals" (OCI, 2021, p.20). The purpose of this study is to provide additional context to the findings presented in the OCI Annual Report 2020/21 by examining the profile and institutional experience of offenders involved in use of force incidents relative to similar offenders with an incident that did not result in a use of force. This will support the OCI's recommendation to develop an evidence-based approach to develop "actionable changes to policy and practice that will effectively reduce the over-representation of these groups among

[5] Violent calls for service include assault in progress, recently occurred assaults, homicide, individual with a weapon (i.e., gun or knife), robbery, sexual assault, child sexual assault, shooting, sound of gunshots, and stabbing, among others (Toronto Police Service, 2022).

those exposed to uses of force" (OCI, 2021, p.20). This study will examine the following research questions:

1. What is the profile of offenders involved in use of force incidents? Does the profile of offenders involved in use of force incidents differ from similar offenders with an incident that did not result in a use of force?
2. What is the institutional experience of offenders involved in use of force incidents? Does the experience differ from similar offenders with an incident that did not result in a use of force?
3. For offenders involved in use of force incidents, are there differences in the profile or institutional behaviour of the offenders where the use of force was deemed to be necessary and proportionate compared to those where it was not?

Method

Participants

The sample for this study consisted of all in-custody federal offenders with an incident that resulted in a use of force between April 1, 2018 and March 31, 2022 (N = 4,533). In addition, a matched comparison group was created consisting of in-custody offenders with an incident that did not result in use of force during the same study period (N = 4,533). Matching was done separately for men and women on the following variables: (a) race code, (b) incident type, (c) incident role, (d) Offender Security Level (OSL) at time of the incident, and (e) region at the time of the incident.[6] The sample was restricted to those identified with the role of instigator or victim in the incident.[7] For individuals with multiple incidents, the last incident during the study period was selected. In the case of the use of force group, the last incident with a use of force response was examined. This approach was taken to ensure that any observed differences would not be attributed to the matching variables.

Table 1

Ethnocultural Groups of Study Groups by Institution Gender Type

	Men's Institutions (N = 8,598)		Women's Institutions (N = 468)	
	Percentage (n) of offenders		Percentage (n) of offenders	
	Use of Force	Non-Use of Force	Use of Force	Non-Use of Force
Ethnocultural Group	(n = 4,299)	(n = 4,299)	(n = 234)	(n = 234)
White	39.0 (1,676)	39.0 (1,678)	32.9 (77)	34.6 (81)
Indigenous	37.8 (1,623)	37.0 (1,591)	59.0 (138)	59.0 (138)
Black	14.2 (611)	13.8 (593)	4.7 (11)	3.0 (7)
Asian	4.5 (193)	4.8 (207)	† (†)	† (†)
Multiracial/Bi-racial	1.3 (58)	1.2 (52)	† (†)	† (†)
Hispanic	0.9 (39)	1.1 (46)	† (†)	† (†)
Other/Unknown	2.3 (99)	3.1 (132)	† (†)	† (†)

Note. Variations in the ethnocultural groups between groups are found due to the matching process.
†Information suppressed due to frequencies fewer than 5 in one category.

[6] Slight variations in the proportions of matching variables are found due to the matching process. Matching information is presented later in the Method section.

[7] Incidents with other identified incident roles (e.g., witness) were excluded from the sample as their involvement is potentially less direct. For individuals with multiple incidents, the last incident with a role of instigator or victim was selected for analysis.

Table 1 presents the distribution of race categories in each group, while Appendix A outlines the offender self-identification options that comprise each of the ethnocultural groups used within the current research report. For men, White and Indigenous offenders made up the majority of the sample, followed by Black, Asian, and Multiracial/Bi-racial offenders. Similar distributions were found in the women's samples, though Indigenous women represented a larger proportion of the groups. The majority of the sample was incarcerated in men's institutions (n = 4,299 in each group), while the remaining 234 in each group were in women's institutions. Throughout the report, results are presented based on the institution gender type due to potential matching constraints for gender diverse individuals.

Table 2

Incident Type of Study Groups

	Men's Institutions (N = 8,598)		Women's Institutions (N = 468)	
	Percentage (n) of offenders		Percentage (n) of offenders	
Type	Use of Force (n = 4,299)	Non-Use of Force (n = 4,299)	Use of Force (n = 234)	Non-Use of Force (n = 234)
Assault-related	49.6 (2,131)	31.2 (1,343)	59.0 (138)	44.4 (104)
Behaviour-related	36.6 (1,572)	32.7 (1,405)	29.9 (70)	18.4 (43)
Contraband/unauthorized	6.9 (298)	24.1 (1,038)	3.0 (7)	17.1 (40)
Self-injurious behaviour	4.1 (176)	3.8 (163)	5.6 (13)	12.4 (29)
Miscellaneous	1.5 (63)	4.2 (181)	† (†)	5.1 (12)
Search-related	0.5 (20)	0.3 (11)	0 (0)	0 (0)
Property-related	0.4 (17)	1.3 (54)	† (†)	2.1 (5)
Medical and health	0.3 (12)	0.6 (27)	0 (0)	† (†)
Death	0.2 (8)	1.7 (75)	0 (0)	† (†)
Escape-related/UAL	† (†)	† (†)	† (†)	0 (0)

Note. UAL = Unlawfully at large. Variations in the incident types between groups are found due to the matching process.

† Information suppressed due to frequencies fewer than 5 in one category.

As demonstrated in Table 2, the incident types were primarily in the assault-related and behaviour-related categories for men and women. Incidents involving contraband/unauthorized items were also pronounced in the comparison groups. In each study group, the majority were identified as instigators in the incident of study, while the remainder were identified as victims. For men, 87.2% in the use of force group (n = 3,747) and 88.3% in the comparison group (n =

3,798) had participant roles of instigator in the incident. For women, 78.6% in the use of force group (n = 184) and 78.6% in the comparison group (n = 184) were identified as instigators.

Table 3

Region and Offender Security Level at the Time of Incident

	Men's Institutions (N = 8,598)		Women's Institutions (N = 468)	
	Percentage (n) of offenders		Percentage (n) of offenders	
Location	Use of Force (n = 4,299)	Non-Use of Force (n = 4,299)	Use of Force (n = 234)	Non-Use of Force (n = 234)
Region				
Prairie	32.9 (1,415)	31.1 (1,338)	27.8 (65)	38.9 (91)
Ontario	26.5 (1,140)	31.3 (1,347)	23.9 (56)	26.5 (62)
Quebec	20.6 (884)	15.9 (685)	14.1 (33)	5.1 (12)
Pacific	12.5 (537)	13.9 (597)	17.1 (40)	15.4 (36)
Atlantic	7.5 (323)	7.7 (332)	17.1 (40)	14.1 (33)
Offender Security Level				
Maximum	50.0 (2,150)	17.3 (744)	45.3 (106)	11.5 (27)
Medium	45.9 (1,972)	68.7 (2,955)	42.7 (100)	65.4 (153)
Minimum	0.8 (36)	7.7 (329)	4.7 (11)	11.1 (26)
Pre-OSL	3.3 (141)	6.3 (271)	7.3 (17)	12.0 (28)
Institutional Designation				
RTC	7.2 (308)	4.4 (191)	† (†)	3.4 (8)
Non-RTC	92.8 (3,991)	95.6 (4,108)	99.1 (232)	96.6 (226)

Note. RTC = Regional Treatment Centre. Variations in the location information between groups are found due to the matching process.

† Information suppressed due to frequencies fewer than 5 in one category.

The region and OSL of the offenders at the time of the selected incident are presented in Table 3. In each of the study groups, the regions at the time of the incident were more commonly in the Prairie and Ontario regions, with fewer incidents occurring in Atlantic, Quebec, and Pacific regions. For men, half of the incidents occurred while the offender was rated maximum security level for offenders in the use of force group. Due to a lack of appropriate matches at the same security level in the comparison group, there were fewer men in the comparison group at maximum security (17.3%), while the majority were medium security level at the time of the incident (68.5%). Similarly, for women, the use of force group comprised a larger proportion of

women at maximum security (44.9%) compared to the control group (11.4%). The proportion of incidents occurring at Regional Treatment Centres (RTCs) was fairly low overall relative to non-RTC sites for both men's and women's institutions.

Measures

Data were collected from the Offender Management System (OMS). OMS is the automated system used by CSC to store decision-making and offender management data from the beginning of an offender's sentence until the sentence is complete.

Incidents and Use of Force. The last incident (or the last incident with a use of force) during the study period was examined for both study groups. Incident type was grouped into the various sub-types of reportable incidents of assault, behaviour, contraband, death, miscellaneous, escape, property, and self-injurious behaviour related categories (CSC, 2016a). For use of force incidents, the force option employed (e.g., inflammatory agent, restraint equipment) as well as the number of force options employed was captured. Use of force was also examined dichotomously in terms of whether it was spontaneous or planned and whether the Emergency Response Team (ERT) was deployed. A use of force review is an assessment of all incident-related information against law and policy. There are three types of review processes with varying requirements for a review and sample size depending on the type of intervention: level 1, 2 or 3 (see CD 567-1; CSC, 2018). The final level of review (Institution, Regional Headquarters, National Headquarters, Women Offender Sector), whether the force option(s) were considered necessary and proportionate, and the concordance between levels of review were included.

Risk/need variables. A range of variables regarding static risk and criminogenic needs were included in this study. Static risk was measured using the Static Factor Assessment (SFA), which includes the Criminal Risk Index (CRI). The SFA is based on static risk factors to help determine level of intervention and provides a risk rating of low, moderate, or high. The CRI is generated based on the Criminal History Record of the SFA and provides an auto-populated assessment to assign program intensity levels based on likelihood of recidivism (Motiuk & Vuong, 2018). This study utilizes both CRI total score (0-34, with higher scores indicating higher risk) and CRI levels (based on the score cut-offs used for correctional programming referral as outlined in Commissioner's Directives guidelines 726-2; CSC, 2018b). Dynamic needs were measured by the Dynamic Factors Identification and Analysis-Revised (DFIA-R) tool on seven domains: employment/education, marital/family, associates, substance abuse,

community functioning, personal/emotional orientation, and attitudes. The tool includes a rating on each of the domains (low, moderate, high, or asset/no need), as well as an overall criminogenic need rating of low, moderate, or high. In addition, selected DFIA-R indicators were examined based on their theoretical relationship to problematic institutional behaviour (i.e., in the areas of problem solving skills, self-regulation, interpersonal skills, general aggression, general criminal attitudes, and violence-specific attitudes).

Assessments of offender accountability, motivation, responsivity, engagement, and reintegration potential were also considered. Each assessment is rated on a scale of low, moderate, or high, with the exception of responsivity and engagement, which are dichotomous (yes/no) variables. These measures are based on initial assessments completed at intake to assist in the development of an offender's correctional plan.[8] The Computerized Assessment of Substance Abuse (CASA) or Women's Computerized Assessment of Substance Abuse (WCASA) provided additional context on the treatment needs for those offenders that had this supplementary assessment available. This study focused on the treatment required based on the results of the assessment of the nature and seriousness of specific substance abuse problem areas (i.e., high, moderate, or low intensity, or no treatment). Lastly, the Mental Health Need Scale (MHNS) is used to structure the assessment of an individual's level of need and priority domains for treatment when applicable. Unlike other measures that are completed as part of the intake assessment, the MHNS is administered only for individuals who have contact with mental health services. The last assessment prior to the incident of study was selected, and categorized into overall need ratings of no or low need, some need, or considerable or higher need. Individuals without a completed MHNS are included in the no or low need group, as they have not had a need identified.

Institutional behaviour. Institutional incidents and disciplinary charges prior to the selected incident were considered. For the purpose of this study, the measure of institutional incidents only includes those incidents whereby the offender was identified as the instigator. A dichotomous indicator of institutional incidents and incident sub-types as well as the number of incidents was examined. In addition, any use of force prior to the selected incident was measured

[8] Criminogenic risk/need variables were not restricted prior to the incident date in order to include those individuals whose incident occurred during the Offender Intake Assessment process. Instead, the first assessment on their sentence was included.

in terms of a dichotomous indicator and the number of use of force incidents. Disciplinary charges are incidents that result in a charge, and are defined as minor (i.e., negative or non-productive inmate behaviour that is contrary to the institutional rules) or serious (i.e., commits, attempts, or incites acts that are serious breaches of security, violent, harmful to others, or in repetitive violation of the rules) depending on the nature of the act (CSC, 2015). Dichotomous indicators and the number of minor and serious disciplinary charges were included. The overall number of grievances and grievance types prior to the selected incident were also considered.

Prosocial interventions. Prosocial interventions included a range of programs (e.g., correctional, educational, employment), Indigenous-specific interventions, and visits. Program completion was examined by program type. Nationally Recognized Correctional Programs (NRCPs) specifically address risk factors related to offending at intensity levels appropriate to offender's risk and needs. Program completion was also considered in terms of any educational programs and employment programs. While program eligibility, enrollment, and completion can be a complex issue influenced by external factors, for the purpose of this study, program completion was simplified to dichotomous variables to indicate whether the offender had completed a certain program type. In terms of visits, any visits and private family visits were considered. Participation in culturally-specific interventions was measured for Indigenous offenders only based on the available data in OMS. This included assignment to and completion of Indigenous NRCPs, which were developed to respond to the spiritual and cultural needs of Indigenous offenders, and are delivered in conjunction with Elders[9] to support and foster traditional healing. Over the course of an offender's sentence, opportunities are offered to Indigenous offenders to work with Elders (documented in OMS through Initial and Progress Elder Reviews), and participate in the Pathways Initiative.[10]

Analytic Approach

Matching. A matched control group of offenders was created to provide a comparison to similar offenders with a similar incident that did not result in a use of force. The control group

[9] An Elder/Spiritual Advisor is any person recognized by an appropriate Indigenous authority as having knowledge and understanding of the traditional culture of the community, including the physical manifestations of the culture of the people and their spiritual and social traditions and ceremonies.
[10] Pathways Initiatives are designed to provide a healing environment for those Indigenous offenders already engaged in and committed to their personal traditional healing path with more intensive healing interventions. Pre-Pathways participation was also included for offenders incarcerated in maximum security.

was established through Coarsened Exact Matching (CEM)[11] using Stata software. To begin the CEM process, offenders with institutional incidents were categorized into separate datasets for incidents at women's sites and men's sites.[12] Due to the size of the men's dataset, the sample was further categorized into separate datasets for Indigenous men, Black men, White men, and all other OMS race categories. Within each category, offenders with a use of force and offenders without a use of force were then matched based on the following variables: (a) race code,[13] (b) incident type, (c) offender role in incident (i.e., instigator or victim), (d) Offender Security Level (OSL) at the time of the incident, and (e) region at the time of the incident. Matching on all indicators resulted in 61% matching for women's facilities and 64% for men's facilities (ranging from 57% to 73% for the subset of men's datasets) on the first round. To ensure a 100% matching rate, subsequent rounds of matching were required dropping a variable in each round in the following order: (a) region (resulting in 64% women's and 67% men's matched), (b) OSL (resulting in 98% women's and 90% men's), and (c) offender role (resulting in 100% women's and 90% men's). For the final round of matching for men, to account for over-representation of assault-related and search-related incidents among those with a use of force, non-use of force incident types were restricted to assault/murder/behavioural incidents and contraband/search-related. This resulted in a 100% match for men's facilities.

Profile and Institutional Experience. Comparative analyses were used to examine the criminogenic risk/need profile, institutional behaviour, and participation in prosocial interventions prior to the selected incident of the use of force group and control group. Separate logistic regressions were performed to determine the odds of having a prior institutional incident or disciplinary charge. Logistic regression produces an estimate of the odds of an event occurring, while controlling for relevant risk and need characteristics. In this study, the event was whether the offender had a prior incident in which they were identified as instigator or a guilty disciplinary charge. An odds ratio greater than 1.0 indicates an increased likelihood of

[11] CEM is described as a "Monotonoic imbalance reducing matching method...[that] strictly bounds through ex ante user choice both the degree of model dependence and the average treatment effect estimation error, eliminates the need for a separate procedure to restrict data to a common empirical support, meets the congruence principle, is robust to measurement error, works well with multiple imputation methods for missing data, can be completely automated, and is extremely fast computationally even with very large data sets" (Blackwell et al., 2010, p.1).
[12] Incidents at non-institutional sites (e.g., parole offices, community based residential facilities, Section 81s) were excluded as none of the recorded incidents involved a use of force.
[13] 42 possible race code options in OMS were condensed into ethnocultural groups: Indigenous, Black, White, Asian, Hispanic, Other, and Unknown.

incident or charge, while an odds ratio less than 1.0 suggests decreased odds.

The results are presented separately for offenders in men's institutions and women's institutions. This approach is intended to capture the institutional factors specific to the facility type, and better reflect the experience of gender diverse offenders. Descriptive analyses were also completed separately by ethnocultural group and are presented in Appendix B for offenders incarcerated in men's institution.[14]

Necessary and Proportionate Uses of Force. Comparative analyses were used to examine the criminogenic risk/need profile and problematic institutional behaviour prior to the selected incident for offenders where the use of force was deemed to be necessary and proportionate compared to those where it was not.[15] Offenders were categorized into the "necessary and proportionate" use of force group if all levels of review concurred with the appropriateness of the use of force. If any level of review (Institution, Regional Headquarters, National Headquarters, or the Women Offender Sector) found that either the use of force was not necessary or that the amount of force was not proportionate, offenders were categorized into the "not necessary/proportionate" group. Indicators were available at the institutional and regional review levels to identify whether the force option(s) used were considered limited to what was necessary and proportionate in order to bring the situation under control. These indicators were implemented part way through the study period for the National Headquarters Security Branch review on March 27, 2021 and Women Offender Sector review on May 29, 2021. These variables were extracted and used to assist with the categorization of the appropriateness of the use of force when available, but not reported in the Results section as they were not available for the full study timeframe. In addition, a series of quality assurance tasks were undertaken to ensure that offenders were accurately categorized (e.g., reviewing the comments available specific to these indicators, file reviews of cases where the comments were ambiguous).

[14] Sub-analyses by ethnocultural group for offenders incarcerated in women's institutions were not possible due to sample size concerns.

[15] Necessary and proportionate use of force: taking into account the reasonable need for maintaining certain operational routines, if the threat may be safely managed without a use of force, then force is unnecessary. The amount of force used must also be the minimally necessary force (proportionate) to safely manage the threat (CSC, 2018a).

Results

The results are presented in three parts. The first section explores the profile of offenders involved in use of force incidents in comparison to similar offenders with an incident that did not result in a use of force. The second section examines the institutional experience of offenders with a use of force incident relative to the comparison group prior to the incident of study. Lastly, the third section focuses solely on those with a use of force incident and compares the profile and institutional behaviour of those with a use of force that was deemed to be necessary and proportionate to those where it was not.

Profile of Offenders Involved in Use of Force

The profile of offenders involved in use of force incidents was examined in terms of their use of force characteristics, as well as their demographic characteristics, sentence and offence information, and risk, need, and engagement indicators relative to the matched comparison groups for both men and women's sites. Overall, at both men's and women's institutions, offenders with a use of force incident presented with unique and more complex needs compared to offenders with an incident that did not result in a use of force.

Table 4 displays the use of force characteristics for offenders involved in use of force incidents. Inflammatory agents, physical handling, and restraint equipment were the most commonly used force types. Inflammatory agents were the most used force type at men's institutions, while physical handling was used to a greater degree at women's institutions. While the majority of use of force incidents deployed one force type, about one quarter of incidents involved two force types. Three or more force types were deployed in 15% of cases at men's institutions and 7% of cases at women's institutions. The Emergency Response Team was utilized in about 10% of incidents at men's institutions and very few incidents at women's sites. In the vast majority of cases at both men's and women's institutions, the use of force was spontaneous as opposed to planned. The majority of incidents were assigned a Level 2 review at men's sites and a Level 1 review at women's sites.

Table 4

Use of Force Characteristics by Institution Type

Measure	Percentage (*n*) of offenders	
	Men's Institutions (*N* = 4,299)	Women's Institutions (*N* = 234)
Level of force type[a]		
Inflammatory agents	56.0 (2,409)	44.4 (104)
Physical handling	44.6 (1,916)	68.8 (161)
Restraint equipment	31.2 (1,339)	23.9 (56)
Other intermediary weapons	13.0 (560)	0 (0)
Chemical agents	4.9 (211)	† (†)
Distraction devices	4.2 (182)	0 (0)
Shield	1.7 (71)	† (†)
Baton	0.4 (18)	† (†)
Firearms	3.4 (147)	0 (0)
Number of force types deployed		
One	57.2 (2,458)	67.9 (159)
Two	26.7 (1,146)	25.2 (59)
Three or more	14.5 (622)	6.8 (16)
Use of Emergency Response Team	9.8 (419)	2.6 (6)
Preparation type[b]		
Planned	13.6 (572)	5.1 (12)
Spontaneous	86.4 (3,647)	94.9 (222)
Incident review level		
Level 1	38.7 (1,645)	64.1 (150)
Level 2	60.5 (2,572)	35.9 (84)
Level 3	0.8 (35)	0 (0)

[a]Force type was missing for 73 offenders in men's institutions.
[b]Preparation type was missing for 80 offenders in men's institutions.
†Information suppressed due to frequencies fewer than 5 in one category.

Table 5 demonstrates the demographics of offenders involved in use of force incidents in comparison to the control group. On average, offenders incarcerated in women's institutions in the use of force group were younger (M = 31.7 years, SD = 8.6) than those in the comparison group (M = 35.3 years, SD = 9.6; $F(1, 466) = 17.4$, $p < .001$). Similarly, offenders incarcerated in

men's institutions in the use of force group were younger (M = 33.5 years, SD = 9.5) than the comparison group (M = 37.4 years, SD = 11.7; F (1, 8,596) = 282.5, p < .001). The highest proportion of offenders at both men's and women's sites were single at the time of the incident.

Table 5

Demographic Characteristics of Study Groups

Indicator	Men's Institutions (N = 8,598)			Women's Institutions (N = 468)		
	Percentage (n) of offenders			Percentage (n) of offenders		
	Use of Force (n = 4,299)	Non-UoF (n = 4,299)	*V*	Use of Force (n = 234)	Non-UoF (n = 234)	*V*
Age			.17***			.21***
18-29 years old	41.2 (1,773)	29.5 (1,267)		48.7 (114)	31.2 (70)	
30-39 years old	37.2 (1,601)	35.7 (1,533)		36.3 (85)	40.6 (95)	
40-49 years old	13.8 (594)	18.7 (803)		10.3 (24)	18.8 (44)	
50-59 years old	5.9 (255)	10.8 (464)		3.0 (7)	7.3 (17)	
60+ years old	1.8 (76)	5.4 (232)		† (†)	2.1 (5)	
Marital status			.06 ***			n.s.
Single	52.6 (2,259)	50.0 (2,151)		72.7 (170)	63.7 (149)	
Common Law/ Married	29.1 (1,251)	28.1 (1,209)		18.4 (43)	18.8 (44)	
Divorced/ Widowed/ Separated	2.7 (115)	4.5 (192)		4.3 (10)	8.1 (19)	
Not Specified	15.7 (674)	17.4 (747)		4.7 (11)	9.4 (22)	

Note. UoF = use of force; V = Cramer's V; n.s. = not significant.
†Information suppressed due to frequencies fewer than 5 in one category.

Comparisons on sentence and offence characteristics suggest differences between offenders involved in use of force incidents and those involved in similar incidents that did not result in a use of force (see Table 6). Offenders at men and women's sites in the use of force groups were significantly more likely than the comparison groups to have committed a violent offence. There was also a significant association between use of force and offence type. More specifically, at men's institutions, a significantly greater proportion of offenders with a use of force incident had homicide, assault, or robbery offence types compared to offenders with an incident that did not result in a use of force. In contrast, a significantly greater proportion of

offenders in the comparison group had drug-related, sexual, or property offences compared to the use of force group. At women's institutions, a significantly greater proportion of offenders with a use of force incident were serving sentences for assault-related offences compared to offenders with an incident that did not result in a use of force.

Table 6

Sentence and Offence Characteristics of Study Groups

Indicator	Men's Institutions (*N* = 8,598)			Women's Institutions (*N* = 468)		
	Percentage (*n*) of offenders			Percentage (*n*) of offenders		
	Use of Force (*n* = 4,299)	Non-UoF (*n* = 4,299)	*V*	Use of Force (*n* = 234)	Non-UoF (*n* = 234)	*V*
Violent offence[a]	78.6 (3,365)	70.0 (2,995)	.10***	72.0 (167)	58.1 (136)	.15**
Offence type[a]			.19***			.19*
Homicide	24.8 (1,065)	20.7 (888)		18.4 (43)	16.2 (38)	
Assault	20.9 (897)	14.3 (610)		20.9 (49)	11.1 (26)	
Robbery	19.0 (822)	13.4 (575)		22.6 (53)	19.2 (45)	
Drug-related	9.7 (416)	15.4 (658)		14.5 (34)	22.6 (53)	
Other violent	7.7 (331)	7.9 (341)		8.1 (19)	7.7 (18)	
Sexual	6.7 (289)	14.1 (608)		2.1 (5)	3.9 (9)	
Other non-violent	5.7 (245)	6.9 (296)		3.0 (7)	3.8 (9)	
Property	5.1 (218)	7.0 (300)		9.4 (22)	15.4 (36)	
Sentence type			n.s.			n.s.
Determinate	80.7 (3,470)	82.3 (3,537)		88.0 (206)	91.9 (215)	
Indeterminate	19.3 (829)	17.7 (762)		12.0 (28)	8.1 (19)	
Sentence number			.04***			n.s.
One	62.2 (2,672)	65.8 (2,830)		73.9 (173)	80.3 (188)	
Two	23.7 (1,019)	20.6 (884)		19.2 (45)	13.7 (32)	
Three or more	14.1 (608)	13.6 (585)		6.8 (16)	6.0 (14)	

Note. UoF = Use of Force; V = Cramer's V; n.s. = not significant.
[a] Violent offence refers to Schedule 1 or homicide offences. Violent offence and offence type was missing for 39 offenders at men's sites and 2 offenders at women's sites.
**$p < .01$. ***$p < .001$.

There were no significant differences between groups in terms of sentence type (i.e., determinate versus indeterminate sentences). However, at men's institutions, offenders with a use of force incident were serving significantly longer sentence lengths (*M* = 5.4 years, *SD* = 4.2)

compared to the control group (M = 4.6 years, SD = 3.6; $F(1, 7{,}007) = 70.3$, $p < .001$). This pattern also emerged at women's institutions, with offenders in the use of force group serving an average sentence length of 3.8 years (SD = 2.3) compared to 3.4 years (SD = 2.0) in the control group ($F(1, 421) = 4.7$, $p = .03$). While the majority of offenders in all study groups were serving their first sentence, a slightly higher proportion of offenders in the comparison group at men's institutions were on their first sentence relative to the use of force group.

Overall, offenders involved with a use of force incident were higher in risk and criminogenic needs in comparison to similar offenders with an incident that did not result in a use of force (see Table 7). Significant associations were found between use of force and all indicators of risk and need examined including static risk, dynamic need, reintegration potential, and the CRI. For instance, at both men's and women's institutions, a greater proportion of offenders with a use of force incident were rated as high static risk, high dynamic need, and low reintegration potential in comparison to the control groups. In contrast, larger proportions of offenders in the comparison group tended to be rated in the low and moderate categories of risk and need. Among offenders at men's sites, the use of force group had significantly higher CRI scores (M = 18.7, SD = 8.0) than the comparison group (M = 15.8, SD = 8.2; $F(1, 8{,}468) = 287.4$, $p < .001$). Similarly, offenders with a use of force incident at women's institutions had higher CRI scores (M = 16.2, SD = 8.9) than the comparison group (M = 12.8, SD = 7.3; $F(1, 450) = 18.9$, $p < .001$). Lastly, offenders with a use of force incident were significantly more likely to have an STG affiliation only at men's institutions.

Table 7

Risk and Need Characteristics of Study Groups at Intake

Indicator	Men's Institutions (*N* = 8,598)			Women's Institutions (*N* = 468)		
	Percentage (*n*) of offenders			Percentage (*n*) of offenders		
	Use of Force (*n* = 4,299)	Non-UoF (*n* = 4,299)	*V*	Use of Force (*n* = 234)	Non-UoF (*n* = 234)	*V*
Static risk[a]			.14***			.22***
High	77.2 (3,312)	65.5 (2,806)		55.4 (129)	35.5 (83)	
Moderate	21.3 (912)	30.2 (1,295)		39.1 (91)	50.4 (118)	
Low	1.5 (65)	4.3 (185)		5.6 (13)	14.1 (33)	
Dynamic need[a]			.16***			.20***
High	90.0 (3,860)	79.1 (3,389)		91.4 (213)	78.2 (183)	
Moderate	9.8 (421)	19.1 (819)		8.6 (20)	18.0 (42)	
Low	0.2 (8)	1.8 (78)		0 (0)	3.9 (9)	
RP[b]			.21***			.28***
Low	73.0 (3,129)	54.4 (2,331)		58.8 (137)	30.2 (73)	
Moderate	23.6 (1,012)	35.1 (1,503)		37.8 (88)	59.8 (140)	
High	3.5 (148)	10.5 (451)		3.4 (8)	9.0 (21)	
CRI			.17***			.26***
High	42.2 (1,769)	27.9 (1,149)		41.8 (94)	18.7 (42)	
Moderate	34.3 (1,437)	35.9 (1,478)		37.8 (85)	48.4 (109)	
Low	23.5 (987)	36.1 (1,485)		20.4 (46)	32.9 (74)	
STG affiliation	9.1 (389)	4.4 (189)	.09***	6.0 (14)	3.0 (7)	n.s.

Note. UoF = Use of Force; V = Cramer's V; RP = reintegration potential; CRI = Criminal Risk Index; STG = Security Threat Group; n.s. = not significant.

[a]Static risk and dynamic need was missing for 23 offenders at men's sites and 1 offender at a women's site.

[b]Reintegration potential information was missing for 24 offenders at men's sites and 1 offender at a women's site.

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

As demonstrated in Table 8, significant associations were also found between use of force and indicators of motivation, accountability, responsivity, and engagement. At both men's and women's institutions, a greater proportion of offenders with a use of force had low motivation, while a greater proportion of the comparison group had high motivation. Similarly, larger proportions of offenders with use of force incidents had low accountability in contrast to the larger proportions of offenders in the comparison groups that were rated high in accountability. The comparison groups at men and women's sites were also more likely than the

use of force groups to be engaged in their correctional plan. At men's institutions, a higher proportion of offenders in the use of force group had a responsivity flag relative to the comparison group; however, the study groups were comparable in responsivity factors at women's institutions.

Table 8

Engagement Characteristics of Study Groups at Intake

	Men's Institutions (*N* = 8,598)			Women's Institutions (*N* = 468)		
	Percentage (*n*) of offenders			Percentage (*n*) of offenders		
Indicator	Use of Force (*n* = 4,299)	Non-UoF (*n* = 4,299)	*V*	Use of Force (*n* = 234)	Non-UoF (*n* = 234)	*V*
Motivation[a]			.14***			.21***
Low	24.1 (1,033)	16.6 (710)		10.3 (24)	2.1 (5)	
Medium	72.7 (3,116)	74.8 (3,203)		75.1 (175)	70.9 (166)	
High	3.3 (140)	8.6 (370)		14.6 (34)	26.9 (63)	
Accountability[b]			.11***			.18***
Low	33.0 (1,412)	26.2 (1,115)		14.2 (33)	5.2 (12)	
Medium	63.9 (2,734)	66.9 (2,851)		72.5 (169)	71.9 (166)	
High	3.1 (131)	7.0 (298)		13.3 (31)	23.0 (53)	
Responsivity[b]	27.8 (1,189)	23.2 (991)	.05***	47.2 (111)	44.2 (102)	n.s.
Engagement[b]	61.8 (2,645)	71.5 (3,050)	.10***	80.7 (188)	93.9 (217)	.20***

Note. UoF = Use of Force; V = Cramer's V; n.s. = not significant.
[a]Motivation level information was missing for 24 offenders at men's sites and 1 offender at a women's site.
[b]Accountability level, responsivity flag, and engagement flag information was missing for 57 offenders at men's sites and 4 offenders from women's sites.
*p < .05. **p < .01. ***p < .001.

As demonstrated in Table 9, there were a number of significant differences that emerged in the dynamic need domains. At men's institutions, offenders with a use of force incident were more likely to demonstrate moderate or high need in all domains, with the exception of the marital/family need domain, compared to the control group. At women's institutions, a greater proportion of offenders with a use of force incident demonstrated moderate or high need in the associates, attitudes, and community functioning domains relative to the comparison group.

Table 9

Dynamic Need Domains of Study Groups at Intake

	Men's Institutions (N = 8,598)[a]			Women's Institutions (N = 468)[b]		
	Percentage (n) of offenders			Percentage (n) of offenders		
Domain	Use of Force (n = 4,299)	Non-UoF (n = 4,299)	V	Use of Force (n = 234)	Non-UoF (n = 234)	V
Associates	84.5 (3,400)	73.9 (2,904)	.13***	91.2 (208)	83.0 (191)	.12**
Attitudes	90.3 (3,635)	82.9 (3,260)	.11***	78.5 (179)	61.3 (141)	.19***
Community	44.1 (1,776)	34.7 (1,366)	.10***	75.9 (173)	65.1 (149)	.12*
Employment	77.7 (3,129)	64.9 (2,552)	.14***	78.1 (178)	72.6 (167)	n.s.
Marital/family	42.4 (1,706)	42.6 (1,673)	n.s.	78.5 (179)	75.2 (173)	n.s.
Personal/ emotional	90.4 (3,639)	86.7 (3,411)	.06***	96.5 (220)	93.0 (214)	n.s.
Substance abuse	77.9 (3,136)	72.2 (2,839)	.07***	92.5 (211)	88.2 (202)	n.s.

Note. UoF = Use of Force; V = Cramer's V; n.s. = not significant. Information presented in this table is based on the first available DFIA-R assessment, usually done at intake. Need was determined as having a rating of "High Need for Improvement" or "Moderate Need for Improvement."

[a]Due to missing data at intake, dynamic need domain ratings were missing for 639-641 offenders at men's sites.

[b]Due to missing data at intake, dynamic need domain ratings were missing for 10-11 offenders at women's sites.

**p < .01. ***p < .001.

Selected dynamic need indicator items were selected for further analysis based on their theoretical relationship to problematic institutional behaviours. The most prominent findings are presented in Table 10, while the remainder of the indicators examined are in Appendix C. The use of force groups at men and women's sites had greater proportions than the comparison groups for all indicators. For both men's and women's sites, particularly large differences were observed between groups in the areas of general aggression, general criminal attitudes, and violence-specific attitudes.

Table 10

Selected Dynamic Need Indicators of Study Groups at Intake

Measure	Men's Institutions (N = 8,598)[a]			Women's Institutions (N = 468)[b]		
	Percentage (n) of offenders			Percentage (n) of offenders		
	Use of Force (n = 4,299)	Non-UoF (n = 4,299)	Cramer's V	Use of Force (n = 234)	Non-UoF (n = 234)	Cramer's V
Self-Regulation						
Impulsive	88.2 (3,423)	80.2 (2,943)	.11***	92.3 (192)	85.8 (169)	.10*
Interpersonal skills						
Listening skills are limited	39.3 (1,500)	28.5 (1,031)	.11***	29.9 (61)	18.7 (37)	.13**
Empathy skills are limited	69.2 (2,636)	58.6 (2,118)	.11***	49.0 (98)	32.3 (64)	.17***
General aggression						
Frequently feels intense anger	44.8 (1,675)	30.6 (1,083)	.15***	55.1 (113)	36.2 (71)	.19***
Frequently acts in an aggressive manner	64.9 (2,493)	44.4 (1,614)	.21***	55.8 (115)	30.4 (59)	.26***
Has low frustration tolerance	64.4 (2,436)	48.3 (1,729)	.16***	70.9 (144)	47.7 (93)	.24***
Frequently interprets neutral situations as hostile	41.2 (1,522)	26.8 (942)	.15***	45.8 (87)	28.2 (53)	.18***
General criminal attitudes						
Negative towards criminal justice/ correctional system	60.6 (2,343)	39.4 (1,442)	.21***	38.2 (79)	20.7 (41)	.19***
Takes pride in criminal exploits	27.2 (1,012)	17.1 (613)	.12***	12.1 (24)	7.7 (15)	n.s.
Displays non-conforming attitudes toward society	84.4 (3,284)	75.2 (2,770)	.11***	66.8 (135)	53.6 (105)	.14**
Violence-specific attitudes						
Attitudes support instrumental/goal-oriented violence	74.3 (2,874)	57.6 (2,108)	.18***	55.0 (110)	38.9 (75)	.16***
Attitudes support expressive/emotional violence	66.3 (2,544)	51.5 (1,874)	.15***	60.5 (124)	38.1 (74)	.22***

[a]Due to missing data at intake, dynamic need indicator ratings were missing for 1024-1479 offenders at men's sites.
[b]Due to missing data at intake, dynamic need indicator ratings were missing for 61-97 offenders at women's sites.
*p < .05 **p < .01. ***p < .001.

CASA/WCASA assessments were available for 5,319 offenders (61.9%) in men's institutions and 421 offenders (90.0%) in women's institutions. There significant differences between groups in treatment needs based on CASA/WCASA assessments of substance use severity (see Table 11). In particular, a significantly greater proportion of offenders at men's institutions with a use of force incident had high treatment needs, while a greater proportion in the comparison group were assessed as requiring no treatment. While differences between groups in the dynamic need domain of substance abuse did not reach statistical significance at women's institutions (see Table 9), similar patterns with more offenders in the comparison group with moderate or no treatment needs relative to the use of force group.

Table 11

Substance Use Severity of Study Groups

	Men's Institutions (N = 5,319)			Women's Institutions (N = 421)		
	Percentage (n) of offenders			Percentage (n) of offenders		
	Use of Force (n = 2,618)	Non-UoF (n = 2,701)	Cramer's V	Use of Force (n = 205)	Non-UoF (n = 216)	Cramer's V
Treatment Needs			.07***			.15*
High intensity	41.6 (1,089)	35.4 (955)		73.7 (151)	61.6 (133)	
Moderate intensity	17.4 (456)	16.7 (450)		10.2 (21)	17.6 (38)	
Low intensity	27.5 (721)	31.5 (852)		12.7 (26)	13.0 (28)	
No treatment	13.5 (352)	16.4 (444)		3.4 (7)	7.9 (17)	

Note. UoF = Use of Force.
*p < .05. ***p < .001.

At men's institutions, overall, there was a significant association between use of force and mental health need, as assessed by the Mental Health Need Scale (see Table 12). More specifically, a significantly greater proportion of offenders with a use of force incident had some need or considerable or higher need, compared to offenders with an incident that did not result in a use of force. In contrast, a significantly greater proportion of offenders in the comparison group had no or low need compared to the use of force group. There was also a significant association between use of force and mental health need in women's institutions. A significantly greater proportion of offenders with a use of force incident had considerable or higher need, compared to offenders with an incident that did not result in a use of force. In contrast, a significantly greater

proportion of offenders in the comparison group had no or low need compared to the use of force group. The mental health profile of women involved in use of force incidents was overall more varied, with 32% assessed as some need and 36% with considerable or higher need.

Table 12

Mental Health Need Scale Ratings of Study Groups

Measure	Men's Institutions (*N* = 8,598)			Women's Institutions (*N* = 468)		
	Percentage (*n*) of offenders			Percentage (*n*) of offenders		
	Use of Force (*n* = 4,299)	Non-UoF (*n* = 4,299)	*V*	Use of Force (*n* = 234)	Non-UoF (*n* = 234)	*V*
MHNS			.10***			.20***
No or low need	72.2 (3,103)	80.0 (3,440)		32.5 (76)	50.4 (118)	
Some need	16.0 (686)	12.8 (551)		32.1 (75)	29.1 (68)	
Considerable or higher need	11.9 (510)	7.2 (308)		35.5 (83)	20.5 (48)	

Note. UoF = Use of Force; V = Cramer's V; MHNS = Mental Health Need Scale.
***$p < .001$.

Profile of offenders by ethnocultural group. Examination of profile characteristics for Black, White, Indigenous, and Other Combined groups at men's institutions were completed.[16,17] As demonstrated in Table 13, there were some differences in use of force characteristics by ethnocultural group. For instance, inflammatory agents were used as a force measure in 61% of the incidents involving Black offenders and 58% involving Indigenous offenders, in comparison to 53% of White offenders and 54% of Other Combined offenders. Where three or more force types were used, 21% of the incidents involved Black offenders and 22% involved Other Combined offenders, in comparison to 12% of White and Indigenous offenders. Planned uses of force and the use of the ERT were slightly more pronounced in incidents involving Black offenders. Lastly, the incident required a Level 2 or Level 3 review in 65% of incidents involving Black offenders and 63% of Indigenous offenders, compared to 58% of White offenders.

[16] Asian, Hispanic, and Multiracial/Bi-racial groups were collapsed into the Other Combined group due to small sample sizes. Results for all subgroups are presented in the appendices.
[17] Note that the results are presented descriptively for comparison purposes but were not tested for statistical significance due to sample size constraints. Sub-analyses by ethnocultural groups for women's institutions were not conducted due to sample size concerns.

Table 13

Use of Force Characteristics at Men's Institutions by Ethnocultural Group

Measure	Percentage (*n*) of offenders			
	Black (*N* = 611)	White (*N* = 1,676)	Indigenous (*N* = 1,623)	Other Combined (*N* = 290)
Level of force type[a]				
Inflammatory agents	60.7 (371)	53.1 (890)	57.5 (934)	54.1 (157)
Physical handling	45.7 (279)	47.1 (789)	40.7 (661)	47.6 (138)
Restraint equipment	35.5 (217)	28.6 (480)	30.9 (502)	35.9 (104)
Other intermediary weapons	12.9 (79)	11.1 (186)	14.4 (233)	17.2 (50)
Chemical agents	8.2 (50)	5.5 (92)	2.5 (40)	9.7 (28)
Distraction devices	8.0 (49)	4.6 (77)	1.7 (28)	9.3 (27)
Shield	2.0 (12)	1.5 (25)	1.5 (24)	2.4 (7)
Baton	1.0 (6)	† (†)	0.6 (9)	0 (0)
Firearms	3.1 (19)	2.2 (37)	4.9 (80)	2.1 (6)
Number of force types deployed				
One	50.1 (306)	60.6 (1,016)	57.7 (936)	50.7 (147)
Two	27.5 (168)	25.2 (422)	28.0 (455)	26.6 (77)
Three or more	20.6 (126)	12.0 (208)	12.4 (205)	21.7 (63)
Use of ERT	16.0 (98)	10.9 (183)	5.4 (87)	15.5 (45)
Preparation type[a]				
Planned	21.1 (129)	13.7 (230)	9.2 (149)	19.3 (56)
Spontaneous	76.8 (469)	84.7 (1,420)	88.7 (1,440)	79.0 (229)
Incident review level				
Level 1	35.5 (210)	42.3 (704)	37.1 (598)	33.4 (97)
Level 2	63.7 (377)	57.2 (952)	62.0 (1,001)	62.4 (181)
Level 3	0.8 (5)	0.5 (9)	0.9 (15)	1.7 (5)

Note. ERT = Emergency Response Team.
[a]Force type information was missing for 73 offenders
[b]Preparation type information was missing for 80 offenders.
†Information suppressed due to frequencies fewer than 5 in one category.

Similar to the broader sample, incident types were primarily in the assault-related and behaviour-related categories for offenders with a use of force, with some slight differences by ethnocultural group (see Appendix B, Table B1). For instance, a larger proportion of Indigenous offenders with a use of force were involved in an assault-related incident (59%, *n* = 1033) compared to Black offenders (43%, *n* = 268) and White offenders (44%, *n* = 770). Relative to the full sample, larger proportions of Black offenders (14%, *n* = 85) and Hispanic offenders (13, *n* = 5) were involved in contraband/unauthorized item-related incidents that resulted in a use of force.[18]

The remaining profile variables mirrored the results for the broader sample, with slight variations by ethnocultural group (see Appendix B, Table B1). Generally, offenders involved in a use of force incident had unique and more criminogenic risk and need profiles than offenders in the comparison groups. Across ethnocultural groups, offenders in the use of force group had higher static risk and dynamic need, lower reintegration potential, and higher CRI scores relative to the comparison groups. Furthermore, they were lower in motivation and accountability levels, and were less likely to be engaged in their correctional plan relative to the comparison groups.

However, there were slight differences in the most common offence types committed by offenders involved in use of force incidents across ethnocultural groups. Asian, Black, and Hispanic offenders were most likely to have committed a homicide-related offence, whereas White offenders were most likely to have committed robbery, and Indigenous offenders and Multi/Bi-racial offenders were most likely to have committed an assault-related offence. White offenders in the use of force group were less likely than the comparison group to be serving indeterminate sentences, while all other ethnocultural use of force groups were more likely. Unlike the results in the broader sample, Hispanic offenders in the use of force group were less likely than the comparison group to have responsivity factors identified, and Asian offenders were similar in responsivity between groups. Lastly, there were minor variations in the identified DFIA-R need domains and substance use severity across ethnocultural groups.

[18] It is important to note that incident type was used as a matching variable to create the comparison group. Incident type data is presented for descriptive purposes only and should not be used to generalize to the broader offender population.

Institutional Experience of Offenders Involved in Use of Force

Institutional experience prior to the incident of study was examined in term of incidents and disciplinary charges, grievances filed, and participation in correctional programming. Results are presented for the sample of offenders with a use of force incident and the comparison group of similar offenders with an incident that did not result in use of force.

Incidents and disciplinary charges. Table 14 shows information regarding institutional incidents, use of force, and guilty disciplinary charges prior to the selected use of force incident at men's and women's institutions. Overall, at both men's and women's institutions, offenders with a use of force incident demonstrated more problematic institutional behaviour compared to offenders with an incident that did not result in a use of force. For instance, at both men's and women's institutions, a significantly greater proportion of offenders with a use of force incident had any previous minor and serious guilty disciplinary charges compared to offenders with an incident that did not result in a use of force. At men's institutions, offenders with a use of force were more likely to have a previous incident where they were identified as the instigator. They also had a higher number of previous institutional incidents (M = 16.5, SD = 30.0) relative to the comparison group (M = 6.5, SD = 11.9; $F(1, 8{,}596) = 419.0$, $p < .001$). At women's institutions, offenders with a use of force were also more likely to have a previous incident and a higher number of previous institutional incidents (M = 26.1, SD = 60.6) compared to offenders with an incident that did not result in a use of force (M = 4.7, SD = 8.5; $F(1, 468) = 28.6$, $p < .001$).

At men's institutions, a greater proportion of offenders with a use of force incident had a previous use of force incident and a higher number of previous use of force incidents (M = 2.8, SD = 6.5) compared to the control group (M = 0.4, SD = 1.8; $F(1, 8{,}596) = 544.8$, $p < .001$). Similarly, at women's institutions, offenders with a use of force incident were more likely to have a previous use of force incident. They also had a higher number of previous use of force incidents (M = 4.0, SD = 10.6) relative to the comparison group (M = 0.1, SD = 0.5; $F(1, 468) = 32.3$, $p < .001$).

Table 14

Involvement in Incidents and Disciplinary Charges Prior to Selected Incident

Measure	Men's Institutions (*N* = 8,598)			Women's Institutions (*N* = 468)		
	Percentage (*n*) of offenders			Percentage (*n*) of offenders		
	Use of Force (*n* = 4,299)	Non-UoF (*n* = 4,299)	*V*	Use of Force (*n* = 234)	Non-UoF (*n* = 234)	*V*
Any incidents	90.2 (3,877)	74.7 (3,213)	.20***	88.0 (206)	69.7 (163)	.23***
Any use of force	56.0 (2,408)	13.2 (569)	.45***	51.7 (121)	6.4 (15)	.50***
Incident sub-types						.
Assault	62.4 (2,684)	32.6 (1,403)	.30***	65.4 (153)	31.2 (73)	.34***
Contraband	71.1 (3,057)	53.0 (2,277)	.19***	67.1 (157)	44.0 (103)	.23***
Behaviour	72.9 (3,136)	48.3 (2,076)	.25***	72.6 (170)	46.2 (108)	.27***
Property	18.3 (785)	7.1 (306)	.17***	17.9 (42)	7.3 (17)	.16***
Self-injurious	20.2 (869)	8.6 (368)	.17***	37.6 (88)	9.4 (22)	.33***
Death/escape	10.9 (468)	7.0 (299)	.07***	16.7 (39)	11.5 (27)	n.s.
Miscellaneous	41.5 (1,785)	29.3 (1,261)	.13***	48.3 (113)	29.5 69)	.19***
Disciplinary Charges	81.7 (3,512)	67.0 (2,882)	.17***	85.9 (201)	68.4 (160)	.21***
Any minor	71.3 (3,065)	56.0 (2,409)	.16***	81.6 (191)	59.4 (139)	.24***
Any serious	67.0 (2,880)	46.3 (1,990)	.21***	67.9 (159)	36.3 (85)	.32***

Note. UoF = Use of Force; V = Cramer's V; n.s. = not significant. Incidents are restricted to those whereby the offender was identified as the instigator.
*$p < .05$. **$p < .01$. ***$p < .001$.

A series of binary logistic regression analyses were conducted to determine if use of force predicted any prior guilty disciplinary charges or any prior incident in which they were identified as an instigator while controlling for other relevant variables including OSL at the time of the incident, region at the time of the incident, offender role in the incident (i.e., instigator or victim), [19] and mental health need (assessed by the Mental Health Need Scale). While the results specific to use of force are presented below, the remaining findings of the logistic regression analyses are in Appendix D.

Men's Institutions. Results demonstrated there was a significant relationship between

[19] OSL at the time of the incident, region at the time of the incident, and offender role in the incident were selected as covariates as these variables were originally included as matching variables.

use of force and any prior guilty disciplinary charges (see Table 15). More specifically, controlling for OSL, region, offender role, and mental health need, the odds of any prior guilty disciplinary charges increased 1.77 times for offenders with a use of force incident compared to offenders with an incident that did not result in a use of force.

A similar pattern of results emerged when examining the relationship between the covariates and any prior incident in which they were identified as an instigator (see Table 16). Controlling for OSL, region, offender role, and mental health need, the odds of any prior incident in which they were identified as an instigator increased 2.18 times for offenders with a use of force incident compared to offenders with an incident that did not result in a use of force.

Table 15
Logistic Regression Examining Guilty Disciplinary Charges at Men's Institutions

Predictor	*B*	*SE*	Wald	*OR*	95% CI	*p*
Study group						
Non-use of force	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Use of force	.57	.06	92.94	1.77	[1.57,1.98]	< .001
OSL at incident						
Minimum	(ref)	(ref)	89.71	(ref)	(ref)	< .001
Medium	.60	.11	27.68	1.82	[1.45, 2.27]	< .001
Maximum	1.09	.13	74.26	2.96	[2.31, 3.79]	< .001
Region at incident						
Prairie	(ref)	(ref)	140.12	(ref)	(ref)	< .001
Ontario	-.12	.07	3.15	.89	[.78, 1.01]	n.s.
Quebec	.48	.09	29.63	1.61	[1.36, 1.91]	< .001
Pacific	.68	.10	47.07	1.97	[1.62, 2.38]	< .001
Atlantic	-.51	.10	26.76	.60	[.49, .73]	< .001
Offender role						
Victim	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Instigator	.51	.08	40.76	1.66	[1.42, 1.94]	< .001
MHNS						
No or low need	(ref)	(ref)	.55	(ref)	(ref)	n.s.
Some need	.06	.08	.54	1.06	[.91, 1.24]	n.s.
Considerable or higher need	.02	.10	.04	1.02	[.85, 1.23]	n.s.

Note. OSL = Offender Security Level; MHNS = Mental Health Need Scale; SE = Standard error; OR = Odds ratio; CI = Confidence interval; ref = reference group; n.s. = not significant.

Table 16

Logistic Regression Examining Incidents at Men's Institutions

Predictor	*B*	*SE*	Wald	*OR*	95% CI	*p*
Study group						
Non-use of force	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Use of force	.78	.07	112.20	2.18	[1.89,2.52]	< .001
OSL at incident						
Minimum	(ref)	(ref)	207.78	(ref)	(ref)	< .001
Medium	.83	.12	48.49	2.28	[1.81, 2.88]	< .001
Maximum	1.97	.15	181.71	7.17	[5.38, 9.55]	< .001
Region at incident						
Prairie	(ref)	(ref)	82.33	(ref)	(ref)	< .001
Ontario	.26	.08	9.60	1.29	[1.10, 1.52]	.002
Quebec	-.24	.09	6.94	.78	[.65, .94]	.008
Pacific	.91	.13	51.79	2.48	[1.94, 3.18]	< .001
Atlantic	.27	.14	3.76	1.31	[.99, 1.72]	n.s.
Offender role						
Victim	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Instigator	.60	.09	42.36	1.82	[1.52, 2.18]	< .001
MHNS						
No or low need	(ref)	(ref)	24.90	(ref)	(ref)	< .001
Some need	.26	.10	6.81	1.30	[1.07, 1.59]	.009
Considerable or higher need	.64	.14	20.23	1.90	[1.44, 2.51]	< .001

Note. OSL = Offender Security Level; MHNS = Mental Health Need Scale; SE = Standard error; OR = Odds ratio; CI = Confidence interval; ref = reference group; n.s. = not significant.

Women's institutions. Table 17 presents the results for any guilty disciplinary charges at women's institutions. Results demonstrated there was a significant relationship between use of force and any prior guilty disciplinary charges. More specifically, controlling for OSL, region, offender role, and mental health need, the odds of any prior guilty disciplinary charges increased 2.07 times for offenders with a use of force incident compared to offenders with an incident that did not result in a use of force.

Table 17

Logistic Regression Examining Guilty Disciplinary Charges at Women's Institutions

Predictor	*B*	*SE*	Wald	*OR*	95% CI	*p*
Study group						
Non-use of force	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Use of force	.73	.31	5.43	2.07	[1.12,3.81]	.02
OSL at incident						
Minimum	(ref)	(ref)	10.20	(ref)	(ref)	.006
Medium	.98	.40	6.17	2.67	[1.23, 5.81]	.013
Maximum	1.61	.51	9.84	5.01	[1.83, 13.71]	.002
Region at incident						
Prairie	(ref)	(ref)	7.48	(ref)	(ref)	n.s.
Ontario	.60	.36	2.80	1.83	[.90, 3.71]	n.s.
Quebec	1.69	.78	4.75	5.44	[1.19, 24.95]	.03
Pacific	.52	.40	1.66	1.68	[.76, 3.69]	n.s.
Atlantic	.63	.43	2.21	1.88	[.82, 4.33]	n.s.
Offender role						
Victim	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Instigator	.49	.32	2.31	1.63	[.87, 3.04]	n.s.
MHNS						
No or low need	(ref)	(ref)	8.51	(ref)	(ref)	.014
Some need	.76	.34	5.12	2.14	[1.11, 4.14]	.024
Considerable or higher need	.90	.37	6.02	2.45	[1.20, 5.01]	.014

Note. OSL = Offender Security Level; SE = Standard error; OR = Odds ratio; CI = Confidence interval; MHNS = Mental Health Need Scale; ref = reference group; n.s. = not significant.

A similar pattern of results was shown when examining the relationship between the covariates and any prior incident in which they were identified as an instigator among offenders at women's institutions (see Table 18). Controlling for OSL, region, offender role, and mental health need, the odds of any prior incident in which they were identified as an instigator increased 3.07 times for offenders with a use of force incident compared to offenders with an incident that did not result in a use of force.

Table 18

Logistic Regression Examining Incidents at Women's Institutions

Predictor	*B*	*SE*	Wald	*OR*	95% CI	*p*
Study group						
Non-use of force	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Use of force	1.12	.37	9.06	3.07	[1.48,6.36]	.003
OSL at incident						
Minimum	(ref)	(ref)	13.60	(ref)	(ref)	.001
Medium	1.23	.43	8.34	3.43	[1.49, 7.90]	.004
Maximum	2.10	.59	12.69	8.17	[2.57, 25.95]	<.001
Region at incident						
Prairie	(ref)	(ref)	16.42	(ref)	(ref)	.003
Ontario	.27	.40	.45	1.31	[.59, 2.90]	n.s.
Quebec	-1.18	.50	5.58	.31	[.12, .82]	.02
Pacific	1.80	.67	7.16	6.02	[1.62, 22.41]	.007
Atlantic	.30	.47	.40	1.35	[.54, 3.36]	n.s.
Offender role						
Victim	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
Instigator	.58	.35	2.70	1.78	[.90, 3.52]	n.s.
MHNS						
No or low need	(ref)	(ref)	12.84	(ref)	(ref)	.002
Some need	.92	.37	6.10	2.52	[1.21, 5.25]	.014
Considerable or higher need	1.42	.46	9.61	4.14	[1.69, 10.17]	.002

Note. OSL = Offender Security Level; SE = Standard error; OR = Odds ratio; CI = Confidence interval. MHNS = Mental Health Need Scale; ref = reference group; n.s. = not significant.

Grievances. Overall, at both men's and women's institutions, there was a significant association between use of force and filed grievances (see Table 19). More specifically, at both men's and women's institutions, a significantly greater proportion of offenders with a use of force incident had filed grievances compared to offenders with an incident that did not result in a

use of force, with notable differences related to conditions/routine[20], interaction issues,[21] and security. At men's institutions, offenders with a use of force had filed more grievances (M = 16.8, SD = 120.0) relative to the comparison group (M = 10.7, SD = 79.2; $F(1, 8{,}596) = 7.9$, $p < .01$). At women's institutions, offenders with a use of force also had filed more grievances (M = 10.3, SD = 38.3) compared to offenders with an incident that did not result in a use of force (M = 4.4, SD = 12.3; $F(1, 468) = 5.1$, $p = .02$).

Table 19

Grievances Filed Prior to Selected Incident

Measure	Men's Institutions (N = 8,598)			Women's Institutions (N = 468)		
	Percentage (n) of offenders			Percentage (n) of offenders		
	Use of Force (n = 4,299)	Non-UoF (n = 4,299)	V	Use of Force (n = 234)	Non-UoF (n = 234)	V
Any grievances	72.8 (3,129)	61.7 (2,652)	.12***	75.6 (177)	65.8 (154)	.11*
Case management	13.9 (596)	10.4 (446)	.05***	6.4 (15)	8.1 (19)	n.s.
Conditions/ routine	56.1 (2,413)	46.6 (2,003)	.10***	58.5 (137)	36.8 (86)	.22***
Health issues	28.5 (1,224)	21.1 (905)	.10***	31.6 (74)	23.1 (54)	.10*
Interaction Issues	39.0 (1,677)	28.3 (1,216)	.11***	49.1 (115)	34.6 (81)	.15**
Other subjects	15.5 (668)	11.1 (479)	.07***	12.0 (28)	6.8 (16)	n.s.
Programs/pay	21.7 (933)	17.0 (732)	.06***	17.1 (40)	9.4 (22)	.11*
Security	22.0 (944)	12.8 (549)	.12***	20.9 (49)	8.1 (19)	.18***
Transfer	14.9 (641)	9.7 (417)	.08***	12.4 (29)	2.6 (6)	.19***
Visits/leisure	34.9 (1,502)	27.0 (1,159)	.09***	38.0 (89)	26.1 (61)	.13**

Note. UoF = Use of Force; V = Cramer's V; n.s. = not significant.
*$p < .05$. **$p < .01$. ***$p < .001$.

[20] Conditions/routine related grievances include a variety of issues such as food amenities (the timing or quality of meals), timing of activities, frequency and timing of offender counts, control of offender movements within the facility, opportunities for socializing and offender privileges, use of identification cards, access to basic legal documents, issues related to offender accounts, offender canteen, room and board, shared accommodations, etc.
[21] Interaction related grievances include a variety of interpersonal issues, including discrimination concerns, harassment by staff, staff performance concerns, instances of sexual harassment, and cross-gender staffing concerns.

Correctional programming. Involvement in pro-social interventions are presented in Table 20. At men's institutions, a significantly greater proportion of offenders with a use of force incident were assigned to any correctional programming[22] compared to offenders with an incident that did not result in a use of force; however, there was not a significant difference in the proportion of any program completion between the two groups. In contrast, a significantly greater proportion of offenders in the comparison group were assigned to and completed moderate intensity programming compared to the use of force group. Although offenders with a use of force were more likely to be assigned to high intensity, offenders in the comparison group were more likely to complete high intensity programming compared to the use of force group. Offenders with a use of force incident were more likely to be assigned to education, whereas offenders in the comparison group were more likely to complete education. In addition, a greater proportion of offenders with a use of force incident were assigned to and completed employment programs.

At women's institutions, while a similar proportion of offenders in both groups were assigned to any programming, offenders in the comparison group were more likely to complete any programming compared to offenders in the use of force group. There were no significant differences in the proportion of moderate and high intensity program assignment and completion as well as education and employment assignment and completion between groups.

[22] Any correctional programming includes moderate and high intensity as well as Indigenous specific programming (moderate and high intensity).

Table 20

Involvement in Pro-social Interventions Prior to Selected Incident

Measure	Men's Institutions (*N* = 8,598)			Women's Institutions (*N* = 468)		
	Percentage (*n*) of offenders			Percentage (*n*) of offenders		
	Use of Force (*n* = 4,299)	Non-UoF (*n* = 4,299)	*V*	Use of Force (*n* = 234)	Non-UoF (*n* = 234)	*V*
Assigned to any programming	81.2 (3,489)	78.6 (3,377)	.03**	89.7 (210)	90.2 (211)	n.s.
Completed any programming	86.4 (3,015)	85.1 (2,874)	n.s.	89.5 (188)	94.8 (200)	.10*
Assigned to moderate intensity	39.0 (1,675)	45.8 (1,967)	.07***	81.2 (190)	76.5 (179)	n.s.
Completed moderate intensity	68.5 (1,148)	76.2 (1,499)	.09***	76.3 (145)	80.4 (144)	n.s.
Assigned to high intensity	33.6 (1,446)	28.9 (1,242)	.05***	21.4 (50)	15.4 (36)	n.s.
Completed high intensity	49.8 (720)	58.5 (727)	.09***	60.0 (30)	72.2 (26)	n.s.
Assigned to education	70.9 (3,050)	63.6 (2,734)	.08***	80.3 (188)	71.8 (168)	.10*
Completed education	46.2 (1,410)	51.1 (1,397)	.05***	66.5 (125)	61.9 (104)	n.s.
Assigned to employment	89.0 (3,827)	86.6 (3,725)	.04**	79.5 (186)	82.9 (194)	n.s.
Completed employment	21.8 (834)	18.7 (698)	.04**	59.1 (110)	65.5 (127)	n.s.
Visits	48.3 (2,076)	44.8 (1,925)	.04**	27.4 (64)	36.3 (85)	.10*

Note. UoF = Use of Force; V = Cramer's V; n.s. = not significant.
*$p < .05$. **$p < .01$. ***$p < .001$.

Institutional experience of offenders by ethnocultural group. Examination of indicators of institutional experience across ethnocultural groups at men's institutions were completed (see Appendix B, Table B2).[23] Across all ethnocultural groups, offenders with a use of force incident demonstrated more problematic institutional behaviour compared to offenders

[23] Sub-analyses by ethnocultural groups for women's institutions were not conducted due to sample size concerns.

with an incident that did not result in a use of force. More specifically, offenders with a use of force were more likely to have any previous minor and serious guilty disciplinary charges, a previous incident where they were identified as the instigator (including all incident sub-types) and a previous use of force incident. Across all ethnocultural groups examined, a greater proportion of offenders with a use of force incident had filed grievances (including all grievance sub-types) compared to offenders with an incident that did not result in a use of force.

With respect to involvement in pro-social interventions, a greater proportion of offenders with a use of force incident were assigned to any correctional programming compared to offenders in the comparison group, which was consistent across ethnocultural groups. However, any program completion, and assignment and completion of moderate and high intensity varied slightly between the use of force group and the comparison group, as well as across ethnocultural groups. Similarly, there were slight variations in education and employment assignment and completion between the use of force group and the comparison group and across ethnocultural groups.

Table 21

Participation of Indigenous Offenders in Culturally-Specific Interventions

Measure	Men (*N* = 3,214)			Women's Institutions (*N* = 276)		
	Percentage (*n*) of offenders			Percentage (*n*) of offenders		
	Use of Force (*n* = 1,623)	Non-UoF (*n* = 1,591)	*V*	Use of Force (*n* = 138)	Non-UoF (*n* = 138)	*V*
Initial Elder review	72.8 (1,182)	75.8 (1,206)	n.s.	81.9 (113)	73.2 (101)	n.s.
Progress Elder review	21.3 (345)	28.0 (446)	.08***	31.9 (44)	30.4 (42)	n.s.
Pathways participation	8.8 (143)	18.0 (287)	.14***	20.3 (28)	16.7 (23)	n.s.
Pre-pathways participation	7.7 (125)	2.8 (44)	.11***	9.4 (13)	4.3 (6)	n.s.

Note. UoF = Use of Force; V = Cramer's V; n.s. = not significant.
*$p < .05$. **$p < .01$. ***$p < .001$.

For Indigenous offenders at men's and women's institutions, Table 21 displays participation in culturally specific interventions. At men's institutions, there was not a significant difference between the use of force group and the comparison group in terms of initial Elder

reviews; however, a greater proportion of Indigenous offenders in the comparison group had progress Elder reviews. A greater proportion of Indigenous offenders in the comparison group participated in Pathways compared to the use of force group. In contrast, Indigenous offenders in the use of force group were more likely to participate in Pre-Pathways. At women's institutions, there were no significant differences between groups in Elder reviews or Pathways participation.[24]

Necessary and Proportionate Uses of Force

Following any incident with a use of force, a review process is completed to assess all incident-related information against law and policy. While all incidents are reviewed at the institutional level, policy requires a proportion of use of force incidents to be reviewed at regional and/or national levels (refer to CD-567-1; CSC, 2018b). For offenders in men's institutions, the majority of incidents were reviewed solely by the institution (69.2%, *n* = 2,977), while an additional 21.2% (*n* = 913) also had a regional review and 9.1% (*n* = 393) had a national review. In women's institutions, the majority were reviewed at the highest level by the Women Offender Sector (63.2%, *n* = 147), while 33.8% (*n* = 79) had a final review level at the institution and 3.0% (*n* = 7) at Regional Headquarters.

The findings of all reviews are presented in Table 22. For cases that were reviewed by the institution, the majority of assessments at men's (91%) and women's (95%) institutions concluded that the use of force was both necessary and that the amount of force used was proportionate to the situation. The assessment regarding the necessity and proportionality of the use of force dropped at the regional level of review (83%–87%), though overall the regional reviews concurred with the institutional reviews in 94% of cases. A vast majority of the NHQ and WOS reviews concurred, or concurred in part, with the reviews completed by the institution (98–99%) and all of the NHQ and WOS reviews concurred, or concurred in part, with the reviews completed by RHQ.[25] It is important to highlight that the RHQ, NHQ and WOS level of concurrence represent an overall review of the incident and are not specifically limited to whether the use of force was appropriate (i.e., was necessary and proportionate).

Table 22

[24] Of note, two of the five women's institutions do not have Pathways units.

[25] In 59 cases at men's institutions, an RHQ review was not completed prior to the NHQ review, and thus excluded from this analysis. In 66 cases at women's institutions, an RHQ review was not completed prior to the WOS review, and thus excluded from this analysis.

Use of Force Review Level and Findings

Review Level and Findings	Percentage (*n*) of offenders	
	Men's Institutions[a] (*N* = 4,299)	Women's Institutions (*N* = 234)
Institution	*N* = 4,284	*N* = 234
Necessary and proportionate	91.0 (3,897)	94.9 (222)
Regional Headquarters	*N* = 1,248	*N* = 82
Necessary and proportionate	82.5 (1,029)	86.6 (71)
Concur with institution	94.3 (1,177)	93.9 (77)
National Headquarters	*N* = 393	-
Concur with institution (*N* = 393)	98.2 (386)	-
Concur with RHQ (*N* = 334)	100.0 (334)	-
Women Offender Sector	-	*N* = 148
Concur with institution (*N* = 148)	-	98.6 (146)
Concur with RHQ (*N* = 81)	-	100.0 (81)

Note. UoF = Use of Force; RHQ = Regional Headquarters. Percent values reflect the number of incidents that were reviewed at each level (i.e., row totals). Concurrence refers to reviews fully concurred or concurred in part.
[a]Review level information was missing for 15 offenders at men's institutions.

For offenders involved in use of force incidents, it was of interest to examine whether there were differences in the profile or institutional behaviour of the offenders where the use of force was deemed to be necessary and proportionate compared to those where it was not. Given the small number of offenders in women's institutions where the force was deemed to be not necessary and/or proportionate (*n* = 18), this analysis focused on the full sample of offenders with a use of force incident. Overall, 4,038 offenders (89.1%) were categorized in the necessary and proportionate use of force group, while 448 offenders (9.9%) were categorized as being involved[26] in an incident/intervention where the use of force that was deemed to be not necessary and/or proportionate at the institutional, regional, and/or national level of review.[27] Overall, very

[26] In cases where there are multiple offenders, it may not be the force used against all offenders in the incident that was not necessary/proportionate but the force used against one particular offender or one particular force option. The system does not permit for an assessment of the force used against each individual offender involved in the incident but instead reflects the overall assessment.
[27] An additional 47 offenders (1.0%) did not have review information available and were excluded from the subsequent analyses. The majority of these cases occurred in March 2022 and were still in the institutional review phase (32 were identified as having the preliminary review in progress while 15 provided no information on status).

few large differences were found between groups in profile or prior institutional behaviour, with the exception of the specific characteristics of the incident and use of force.

The characteristics of the incident and use of force was the area where the greatest differences were observed between use of force that was deemed to be necessary and proportionate and those where it was not (see Table 23). There was a significant association between the review assessment of necessity/proportionality and incident type, with a greater proportion of offenders with a use of force that was considered necessary and proportionate involved in assault related incidents. On the other hand, a significantly greater proportion of offenders with a use of force that was deemed either not necessary and/or not proportionate were involved in behaviour related incidents compared to the necessary and proportionate use of force group. Lastly, a significant association was observed with preparation type, with significantly greater proportion of offenders with a use of force that considered necessary and proportionate to be spontaneous uses of force, compared to offenders with a use of force that was deemed not necessary and/or proportionate.

A number of interesting patterns emerged when examining the association between the necessity and proportionately of the use of force and the force options utilized in the incident. In particular, a greater proportion of necessary and proportionate uses of force had chemical agents, distraction devices, firearms, shields, and/or other intermediary weapons utilized in the incident. In contrast, offenders with a use of force that was deemed to be unnecessary and/or not proportionate were more likely to have had physical handling, restraint equipment and/or batons used as force types. However, no differences emerged in the number of force types between those cases where the use of force was deemed to be necessary and proportionate (M = 1.6, SD = 0.9) and those where it was not (M = 1.6, SD = 0.9; $F(1, 3{,}250) = 1.0$, $p > .05$). There were also no differences between groups observed where the Emergency Response Team was used.

Table 23

Incident and Use of Force Characteristics of Offenders Involved in Use of Force Incidents

Measure	Percentage (*n*) of offenders		Cramer's *V*
	Necessary and Proportionate (*N* = 4,038)	Not Necessary and/or Proportionate (*N* = 448)	
Incident type			.17***
Behaviour related	34.1 (1,377)	56.0 (251)	
Assault related	52.6 (2,125)	29.9 (134)	
Contraband related	6.8 (273)	5.4 (24)	
Self-Injurious behaviour	4.1 (167)	4.9 (22)	
Miscellaneous	1.4 (56)	2.0 (9)	
Property related	0.4 (16)	† (†)	
Medical/Health related	0.3 (11)	† (†)	
Death related	0.2 (8)	0 (0)	
Escape related/UAL	† (†)	0 (0)	
Search related	† (†)	1.1 (5)	
Preparation type			.10***
Planned	11.8 (468)	23.4 (102)	
Spontaneous	88.2 (3,504)	76.6 (334)	
Level of force type			
Baton	0.3 (13)	1.3 (6)	.05**
Chemical agent	5.3 (212)	0 (0)	.07***
Distraction device	4.3 (173)	2.0 (9)	.04*
Firearms	3.6 (145)	† (†)	.06***
Inflammatory agent	55.2 (2,227)	58.5 (262)	n.s.
Other intermediary weapon	13.0 (524)	6.7 (30)	.06***
Physical handling	45.2 (1,825)	51.1 (229)	.04*
Restraint equipment	29.8 (1,205)	37.9 (170)	.05***
Shield	1.5 (62)	2.5 (11)	n.s.
Use of Emergency Response Team	9.2 (370)	8.3 (37)	n.s.

Note. n.s. = not significant. †Information suppressed due to frequencies fewer than 5 in one category.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 24 demonstrates the demographics of offenders involved in use of force incidents, comparing those that were considered necessary and proportionate to those who were not. Again, it is important to note that the categorization is based on the overall assessment of the use of

force incident and does not necessarily reflect that the use of force was assessed as necessary/proportionate or not necessary/not proportionate against that particular offender but of the overall force used during the incident. In general, the groups were comparable in ethnocultural groups and institution type (i.e., men's and women's). In addition, there were no significant differences in the age of the offenders with a necessary and proportionate use of force (M = 33.4, SD = 9.5) and those with a use of force that was considered not necessary and/or proportionate (M = 34.1, SD = 9.7; F(1, 4,484) = 2.4, p > .05). However, there was a significant association between the review assessment of necessity/proportionality of use of force and region of the incident. More specifically, a greater proportion of offenders with a use of force that was considered necessary and proportionate were located in the Prairie region at the time of their incident. In contrast, a significantly greater proportion of offenders with a use of force that was deemed either not necessary and/or not proportionate were located in the Ontario region compared to the necessary and proportionate use of force group.

There were a few small associations between the review assessment of necessity/proportionality of use of force and the offence and sentence characteristics of the offender (see Table 25). There was a significantly greater proportion of offenders with a use of force that was considered not necessary and/or proportionate convicted of violent offences, compared to the necessary and proportionate use of force group. No differences emerged in the offence type between groups. While a larger proportion of offenders with a necessary and proportionate use of force were serving determinate sentences, there were no significant differences in mean sentence length for this group (M = 1,934 days, SD = 1,480) compared to offenders with a use of force that was deemed not necessary and/or proportionate (M = 2,045 days, SD = 1,731; F(1, 3,638) = 1.7, p > .05).

Table 24

Demographics of Offenders Involved in Use of Force Incidents

	Percentage (*n*) of offenders		
	Necessary and Proportionate (*N* = 4,038)	Not Necessary and/or Proportionate (*N* = 448)	Cramer's *V*
Ethnocultural group			n.s.
Indigenous	39.3 (1,587)	36.8 (165)	
White	38.9 (1,570)	38.4 (172)	
Black	13.4 (540)	14.1 (63)	
Other Combined	6.3 (253)	7.8 (35)	
Institution type			n.s.
Men's	94.7 (3,822)	96.0 (430)	
Women's	5.3 (216)	4.0 (18)	
Region			.16***
Prairies	35.1 (1,417)	14.1 (63)	
Ontario	23.9 (965)	42.2 (189)	
Quebec	20.6 (830)	19.0 (85)	
Pacific	12.5 (505)	15.4 (69)	
Atlantic	7.9 (321)	9.4 (42)	

Note. n.s. = not significant.
†Information suppressed due to frequencies fewer than 5 in one category.
***$p < .001$.

Table 25

Offence and Sentence Characteristics of Offenders Involved in Use of Force Incidents

Measure	Percentage (*n*) of offenders		Cramer's *V*
	Necessary and Proportionate (*N* = 4,038)	Not Necessary and/or Proportionate (*N* = 448)	
Violent offence[a]	77.8 (3,130)	82.3 (368)	.03*
Offence type[a]			n.s.
Homicide related	24.3 (977)	25.7 (115)	
Assault	20.9 (842)	21.9 (98)	
Robbery	18.9 (761)	23.9 (107)	
Drug offence	10.0 (403)	8.3 (37)	
Other violent	7.9 (319)	5.8 (26)	
Sexual offence	6.7 (269)	5.6 (25)	
Other non-violent	5.7 (229)	4.9 (22)	
Property	5.5 (222)	3.8 (17)	
Sentence type			.03*
Determinate	81.5 (3,292)	77.7 (348)	
Indeterminate	18.5 (746)	22.3 (100)	

Note. n.s. = not significant.
[a] Violent offence refers to Schedule 1 or homicide offences. Offence-related data was missing for 18 offenders.
*$p < .05$.

As demonstrated in Table 26, the criminogenic need, risk, and engagement profile of offenders were fairly comparable for those with a use of force considered to be necessary and proportionate and those where it was not. No significant differences emerged in dynamic need, CRI, motivation, accountability, responsivity, and engagement between groups. Both groups also had comparable CRI scores at intake (necessary and proportionate $M = 18.6$, $SD = 8.1$ versus not necessary/proportionate $M = 19.0$, $SD = 8.0$; $F(1, 4426) = .88$, $p > .05$). A greater proportion of offenders with a use of force that was deemed to be unnecessary and/or not proportionate were found to have higher levels of static risk and lower levels of reintegration potential at intake compared to those with a necessary and proportionate use of force. In contrast, offenders with a use of force assessed as necessary and proportionate were significantly more likely to have an STG affiliation.

Table 26

Risk, Need and Engagement Characteristics of Offenders Involved in Use of Force Incidents

Measure	Percentage (*n*) of offenders		Cramer's *V*
	Necessary and Proportionate (*N* = 4,038)	Not Necessary and/or Proportionate (*N* = 448)	
Static risk			.05**
High	75.5 (3,042)	81.3 (362)	
Moderate	22.6 (912)	18.2 (81)	
Low	1.9 (76)	† (†)	
Dynamic need			n.s.
High	89.9 (3,624)	91.7 (408)	
Moderate	9.9 (398)	8.3 (37)	
Low	0.2 (8)	0 (0)	
Reintegration Potential			.05**
Low	71.6 (2,884)	77.8 (346)	
Moderate	24.8 (999)	20.4 (91)	
High	3.6 (147)	1.8 (8)	
Criminal Risk Index			n.s.
High	42.0 (1,653)	43.8 (191)	
Moderate	34.5 (1,358)	34.6 (151)	
Low	23.5 (925)	21.6 (94)	
Motivation			n.s.
Low	23.3 (937)	24.3 (108)	
Medium	72.7 (2,930)	73.3 (326)	
High	4.0 (163)	2.5 (11)	
Accountability			n.s.
Low	31.9 (1,284)	32.8 (146)	
Medium	64.3 (2,583)	64.9 (289)	
High	3.8 (152)	2.2 (10)	
Responsivity	28.4 (1,142)	32.8 (146)	n.s.
Engagement	62.8 (2,522)	62.9 (280)	n.s.
STG affiliation	9.3 (377)	5.6 (25)	.04**

Note. STG = Security Threat Group; n.s. = not significant.
†Information suppressed due to frequencies fewer than 5 in one category.
**$p < .01$.

Though the groups were comparable in overall dynamic need, there were a couple of significant differences that emerged in the dynamic need domains (see Table 27). In particular, offenders with a use of force that was deemed to be either unnecessary and/or not proportionate were more likely to demonstrate moderate or high need for improvement in the associates and attitudes domains, compared to those with a necessary and proportionate use of force.

Table 27

Dynamic Need Domains of Offenders Involved in Use of Force Incidents

Domain	Percentage (*n*) of offenders		Cramer's *V*
	Necessary and Proportionate (*N* = 4,038)[a]	Not Necessary and/or Proportionate (*N* = 448)[b]	
Associates	84.3 (3,196)	88.0 (368)	.03*
Attitudes	89.1 (3,375)	94.3 (394)	.05**
Community	45.8 (1,735)	46.4 (194)	n.s.
Employment	77.9 (2,953)	74.9 (313)	n.s.
Marital/family	44.2 (1,674)	47.4 (198)	n.s.
Personal emotional	90.5 (3,431)	92.3 (386)	n.s.
Substance abuse	79.0 (2,994)	78.2 (327)	n.s.

Note. n.s. = not significant. Information presented in this table is based on the first available DFIA-R assessment, usually done at intake. Need was determined as having a rating of "High Need for Improvement" or "Moderate Need for Improvement."

[a]248 offenders in the necessary/proportionate group were missing information on DFIA-R need domains..

[b]30 offenders in the not necessary/proportionate group were missing information on DFIA-R need domains.

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

CASA/WCASA assessments were available for 2,802 offenders (62.5%) in the use of force group, while the remaining 1,684 (37.5%) were not assessed. Similar to the dynamic need domain of substance abuse, there were no significant differences between groups in CASA/WCASA treatment needs (see Table 28). There was a significant association between the assessment of the necessity and proportionality of use of force incidents and the mental health need of offenders. Specifically, a greater proportion of offenders with a use of force that was deemed to be unnecessary and/or not proportionate were found to have higher levels of mental health need at the time of the incident compared to those with a necessary and proportionate use of force.

Table 28

Specialized Needs of Offenders Involved in Use of Force Incidents

Measure	Percentage (*n*) of offenders		Cramer's *V*
	Necessary and Proportionate (*N* = 4,038)[a]	Not Necessary and/or Proportionate (*N* = 448)[b]	
CASA/WCASA (*n* = 2802)			n.s.
High intensity	43.7 (1,123)	48.9 (115)	
Moderate intensity	17.3 (443)	11.9 (28)	
Low intensity	26.5 (681)	23.8 (56)	
No treatment	12.5 (320)	15.3 (36)	
Mental Health Need Scale			.04*
No or low need	70.8 (2,857)	64.3 (288)	
Some need	16.5 (666)	20.1 (90)	
Considerable or higher need	12.8 (515)	15.6 (70)	

Note. CASA/WCASA = Computerized Assessment of Substance Abuses/Women's Computerized Assessment of Substance Abuse. n.s. = not significant.

[a]1,471 offenders in the necessary/proportionate group were not assessed on the CASA/WCASA.

[b]213 offenders in the not necessary/proportionate group were not assessed on the CASA/WCASA

*$p < .05$.

As displayed in Table 29, a number of significant but small associations emerged when examining involvement in institutional incidents and disciplinary charges prior to the selected use of force incident (i.e., the last use of force incident during the study period). A greater proportion of offenders with a use of force deemed to be either unnecessary and/or not proportionate had previous incidents where they were identified as the instigator, as well as various incident types including assault, behaviour, self-injurious behaviour, property, and miscellaneous incidents, compared to those offenders with a necessary and proportionate use of force. They were also more likely to have a minor disciplinary charge prior to the selected incident. Offenders with a use of force that was deemed to be unnecessary and/or not proportionate had a higher number of prior incidents where they were identified as instigator (M = 22.3, SD = 39.2) compared to offenders with a necessary and proportionate use of force (M = 16.4, SD = 31.6; $F(1, 4{,}484) = 13.3$, $p < .001$). A larger share of those with an unnecessary/not proportionate use of force also had a previous use of force incident, and a higher number of previous use of force incidents (M = 3.9, SD = 8.1) compared to offenders with a necessary and

proportionate use of force (M = 2.8, SD = 6.6; F(1, 4,484) = 10.1, p = .002).

Table 29

Involvement in Incidents and Disciplinary Charges Prior to Selected Use of Force Incident

	Percentage (*n*) of offenders		
	Necessary and Proportionate (*N* = 4,038)	Not Necessary and/or Proportionate (*N* = 448)	Cramer's *V*
Any incidents	89.7 (3,621)	92.6 (415)	.03*
Any use of force	54.9 (2,217)	63.2 (283)	.05**
Incident sub-types			
Assault	61.7 (2,490)	70.1 (314)	.05***
Behaviour	72.0 (2,908)	79.0 (354)	.05**
Contraband	70.5 (2,846)	73.4 (329)	n.s.
Death	1.2 (50)	1.8 (8)	n.s.
Escape	10.3 (414)	10.5 (47)	n.s.
Miscellaneous	41.1 (1,661)	46.4 (208)	.03*
Property	17.8 (719)	22.8 (102)	.04*
Self-injurious behaviour	20.4 (823)	27.5 (123)	.05***
Disciplinary charges	81.6 (3,295)	83.7 (375)	n.s.
Any minor	69.4 (2,284)	75.0 (261)	.04*
Any serious	65.2 (2,146)	68.1 (237)	n.s.

Note. n.s. = not significant. Incidents are restricted to those whereby the offender was identified as the instigator.
* $p < .05$. ** $p < .01$. *** $p < .001$.

The final indicators of prior institutional behaviour that were examined were the results of grievances filed. Grievances prior to the selected use of force incident were examined in terms of the overall number of grievances filed, and grievance types including conditions/routine, interaction issues, and security (see Table 30). Differences between groups in the overall number of grievances did not reach statistical significance (F(1, 4,484) = 1.16, $p > .05$). However, offenders with a use of force that was deemed either not necessary and/or not proportionate were more likely to have filed grievances related to conditions/routine, interaction issues, and security.

Table 30

Selected Grievance Types for Offenders Involved in Use of Force Incidents

	Percentage (*n*) of offenders		
	Necessary and Proportionate (*N* = 4,038)	Not Necessary and/or Proportionate (*N* = 448)	Cramer's *V*
Total grievances (*M/SD*)	16.0 (115.6)	22.3 (136.2)	
Any grievances	72.7 (2,937)	75.7 (339)	n.s.
Conditions/routine	55.9 (2,257)	62.1 (278)	.04*
Interaction issues	39.1 (1,578)	44.6 (200)	.03*
Security	21.5 (869)	26.1 (117)	.03*

Note. n.s. = not significant.
*$p < .05$.

Discussion

The purpose of this study was to examine the profile and institutional experience of offenders involved in use of force incidents relative to similar offenders with an incident that did not result in a use of force. The groups were matched based on relevant variables including race, incident type, incident role, OSL, and region at the time of the incident. Overall, at both men's and women's institutions, offenders with a use of force incident presented with unique and more complex needs and demonstrated more problematic institutional behaviour compared to offenders with an incident that did not result in a use of force.

Consistent with previous research (e.g., Hyland et al., 2015; Lawton, 2007), a number of factors at the individual level were associated with use of force. Offenders with a use of force incident were more likely to have committed a violent offence and were serving longer sentences than the matched comparison groups. A significant association with offence type was also found, where offenders with a use of force incident were more likely to have assault (both men's and women's institutions), homicide, or robbery offences (men's institutions only). Offenders with a use of force incident were younger than the matched comparison group, and were more likely to be rated low in motivation and accountability, and they were less likely to be engaged in their correctional plan. At men's institutions only, offenders with a use of force were also more likely to have responsivity factors identified. At men's and women's institutions, offenders with a use of force were assessed as having higher mental health needs prior to the incident. While previous research in this area often has contradictory findings, these results are consistent with those studies that have found a relationship between police use of force and individuals with mental health needs (e.g., Kesic et al., 2013; Rossler & Terrill, 2017).

Differences also emerged in risk and criminogenic need between groups, with offenders with a use of force incident more likely to be rated as high in static risk and dynamic need, and low in reintegration potential in comparison to the control groups. At men's institutions only, offenders with a use of force incident were more likely to have an STG affiliation. Examining dynamic need in more depth, offenders with a use of force at men's institutions were more likely to demonstrate higher needs in all need domains, with the exception of the marital/family domain. At women's institutions, a greater proportion of offenders with a use of force incident demonstrated moderate or high need in the associates, attitudes, and community functioning

domains relative to the comparison group. At both men's and women's institutions, offenders with a use of force were also found to have higher treatment needs in regards to substance use severity.

Further differences were found between groups in specific dynamic need indicators, with offenders in the use of force group more likely to demonstrate needs in general criminal attitudes (e.g., negative towards criminal justice/correctional system), violence-specific attitudes (e.g., attitudes support instrumental/goal-oriented violence), general aggression (e.g., frequently acts in an aggressive manner), and problem solving (e.g., displays narrow and rigid thinking). These results are consistent with previous research that has linked self-control and impulse control deficits with criminal offending (Bonta & Andrews, 2016; Longshore, 1998; Moffitt et al., 2011). In particular, criminal behaviour is associated with difficulty inhibiting inappropriate responses (Chen et al., 2005; Chen et al., 2008). It is important to note that impulsive aggressive or violent behaviours have been attributed in part to differences in the structure and function of the prefrontal cortex area of the brain (Bufkin & Luttrell, 2005; Yang & Raine, 2009). When offenders are required to make choices between engaging in one or more different behaviours, some behaviours may be more reflexive and automatic but also associated with negative outcomes (Amlung et al., 2018). These underlying deficits in their self-control and impulse control may contribute to offenders engaging in disruptive behaviours (Amlung et al., 2018).

Beyond the profile characteristics examined, offenders with a use of force demonstrated differences in their institutional behaviour leading up to their incident. At both men's and women's institutions, offenders with a use of force were more likely to have had previous incidents, uses of force, minor disciplinary charges, and serious disciplinary charges. At men's institutions, once controlling for other relevant factors (e.g., OSL, region, offender role, and mental health need), offenders with a use of force were 1.77 times more likely to have any prior guilty disciplinary charges and 2.18 times more likely to have any prior incident in which they were identified as instigator. At women's institutions, once controlling for those same relevant factors, offenders with a use of force were 2.07 times more likely to have any prior guilty disciplinary charges and 3.07 times more likely to have any prior incident in which they were identified as instigator. These results are consistent with previous research in police settings that has shown that individuals with previous contacts with police are more likely to experience use of force (Hyland et al., 2015).

Other indicators of institutional experience were examined such as grievances and involvement in pro-social interventions. Prior to the selected incident, offenders with a use of force were more likely to have filed grievances and had filed more grievances than the comparison groups, with notable differences in security, conditions/routine, and interaction issues. It is unclear if these results are more indicative of problematic institutional behaviour (e.g., in terms of creating an administrative burden for unwarranted complaints) or unfair treatment by staff or in a manner that is not consistent with legislation or policy.

Generally, offenders with a use of force demonstrated more challenges in completing pro-social interventions. Offenders at men's institutions with a use of force were more likely to be assigned to any correctional programming but no differences emerged in program completion. Further, the use of force group was more likely than the comparison group to be assigned to high intensity correctional programs, but less likely to complete them. Similar patterns emerged with education, with the use of force group more likely to be assigned to educational programs but less likely to complete them. However, offenders with a use of force were more likely to be assigned to and complete employment programs relative to the comparison group. There were very few significant differences in pro-social interventions observed for offenders at women's institutions, though offenders with a use of force were less likely to complete any correctional programming and more likely to be assigned to educational programs. Interestingly, offenders with a use of force were more likely to have had visits prior to the incident at men's institutions, while they were less likely to have had visits at women's institutions.

For comparative purposes, descriptive analyses were also provided by ethnocultural group. Across all ethnocultural groups, offenders with a use of force incident demonstrated a more complex profile and more problematic institutional behaviour compared to offenders with an incident that did not result in a use of force. However, differences emerged in the use of force characteristics by ethnocultural group. For instance, inflammatory agents were used as a force measure more often during incidents that involved Black and Indigenous offenders than White offenders. Utilizing three or more force options was more common in incidents where Black offenders were involved than White and Indigenous offenders. Planned use of force preparations and use of the ERT were slightly more pronounced in incidents involving Black offenders. These results build on the OCI's investigation by providing more contextual information regarding how

the use of force may differ depending on ethnocultural group.[28] Of note, Indigenous offenders in the comparison group at men's institutions were more likely to participate in Pathways and have progress Elder reviews, suggesting that participation in culturally specific interventions may serve as a protective factor.

For offenders involved in use of force incidents, it was also of interest to examine whether there were differences in the profile or institutional behaviour of the offenders where the use of force was deemed to be necessary and proportionate compared to those involved in incidents/interventions where it was not. The necessary and proportionate principle comprises one of the five guiding principles of the EIM in guiding staff in using the most reasonable interventions when preventing, responding, and/or resolving incidents related to security and health. This analysis revealed very few meaningful differences between groups in profile or institutional experience, but differences did emerge based on the characteristics of the incident and the use of force. In particular, characteristics of uses of force that were considered necessary and proportionate included assault related incidents and a spontaneous use of force. A greater proportion of necessary and proportionate uses of force also had chemical agents, distraction devices, firearms, shields, and/or other intermediary weapons utilized in the incident. On the other hand, uses of force that were deemed either not necessary and/or not proportionate were more likely to involve behaviour-related incidents, a planned use of force, and used force types of physical handling, restraint equipment, and/or batons. Findings related to the preparation type are interesting given that a recent evaluation found that there has been an increase in planned uses of force and a decrease in spontaneous uses of force under EIM (CSC, 2021). These results suggest that staff are effective in selecting an appropriate intervention when the use of force is spontaneous, but there is an apparent disconnect in planned uses of force. These findings identify potential areas that may be targeted in policy and practice to ensure that force is reserved for circumstances when it is required and that the amount of force used is commensurate with the situation.

Limitations and Future Directions

Research regarding use of force incidents in correctional settings remains under-explored, though the findings of this study provides evidence of the individual level factors that may

[28] While the OCI utilized BIPOC (Black, Indigenous, and Peoples of Colour) categories in their investigation, this study utilized the race groupings currently in use by CSC to more accurately reflect the diversity between groups.

impact the use of force. However, firm conclusions cannot be drawn as to whether their profile (e.g. higher risk and need, lower engagement) puts certain offenders at higher risk for involvement in incidents that may result in a use of force, or that force is more likely to be used as a result of their profile. Due to the study being retrospective in design and being reliant on existing data, this study was also limited to considering individual level factors. This study was not able to capture factors at the Correctional Officer level or environmental level that may impact the use of force. However, previous literature on officer level and situational factors in policing settings indicates that these factors may also have an impact on the decision to use force in managing and resolving incidents. In reality, uses of force likely reflect a complex inter-relationship of factors at the individual, officer, and situational levels. Future research may consider a more comprehensive examination of factors influencing use of force expanding beyond those at the individual level to include factors at the officer and situational levels.

A number of obstacles and methodological issues impact research on use of force generally, which extended to the current study. While attempts were made to create comparison groups that were as similar as possible to the sample of offenders with a use of force incident, limitations in the available possible matches resulted in some imbalances between groups. In particular, the use of force group had more offenders with an assault-related incident as the selected incident of study, as well as a larger proportion with a maximum security level. These imbalances were controlled for statistically where possible, but it is important to highlight that the matching process did not result in identical groups. Further, CSC's Offender Management System is an administrative database that was not designed for research purposes. This study relied on available quantitative indicators of profile, institutional experience, incidents, and uses of force, which does not capture the process or complexities involved in responding to and resolving institutional incidents. Qualitative or mixed-methods research may be able to provide a more holistic examination of use of force and consideration of the process of how use of force incidents unfold.

In order to compare uses of force that were deemed necessary and proportionate to those where they were not, categorizations were created based on reviews at all levels. The review system reflects the overall assessment of the use of force for all offenders involved in an incident, as opposed to an assessment of the force used against each individual offender. As such, it may not be the force used against all offenders in the incident that was not

necessary/proportionate but the force used against one particular offender or one particular force option. In addition, there was the potential for reviewer bias at the institutional, regional, and/or national levels that may have impacted these groupings. To help minimize the potential for reviewer bias, any finding of not necessary or not proportionate at any level resulted in the case being categorized in the not necessary/proportionate group. It is important to note that this study did not examine biases or systemic racism directly, as this is not possible with the administrative data that is available. In reality, racism functions at a number of levels, including the individual and systemic levels. It is recognized that there is the potential for conscious and unconscious biases to creep into any of the variables that were examined regarding the profile, institutional experience, as well as at any stage leading up to, during, and after an incident that may be reflected in the data examined.

Conclusions

The findings of this study provide important context to the OCI's investigation regarding the over-representation of Indigenous and Black individuals in use of force incidents. The purpose of this study was not to contest or replicate these findings, but instead to provide contextual information regarding the profile and institutional experience of individuals involved in incidents that resulted in a use of force response. In comparison to similar offenders with an incident that did not have a use of force response, offenders with a use of force incident demonstrated unique and more complex needs and more problematic institutional behaviour leading up to the incident of study. While the myriad of interconnecting issues in and of themselves require targeted supports and interventions (e.g., addressing criminal history, mitigating risk and need, addressing substance use, providing interventions related to mental health needs), the multi-faceted nature of the offenders involved in uses of force suggested that a holistic and integrated approach is needed. The findings of this study may inform the development of an evidence-based approach to reduce the over-representation of those groups exposed to uses of force, ensuring that force is utilized only when necessary and in a proportionate manner to the circumstances.

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Appendix A: Ethnocultural Groups and Offender Self-Identification Options

Ethnocultural Group	OMS Offender Self-Identification Race Options
Asian	Arab, Arab/West Asian, Asian-East and Southeast, Asian-South, Asian West, Asiatic, Chinese, East Indian, Filipino, Japanese, Korean, South Asian, South East Asian
Black	Black, Caribbean, Sub-Saharan African
White	White, British Isles, European French, European-Eastern, European-Northern, European-Southern, European-Western
Hispanic	Hispanic, Latin American
Indigenous	First Nations, Inuit, Métis, Innu
Multiracial / Bi-Racial	Multiracial/ethnic
Other / Unknown	Oceania, Unable to Specify, Other, Unknown, No race listed

Note. OMS = Offender Management System.

Appendix B: Sub-Analyses by Ethnocultural Group for Men's Institutions

Table B1. Profile of Offenders by Ethnocultural Group

Indicator	Percentage (*n*) of offenders											
	Asian		**Black**		**White**		**Hispanic**		**Indigenous**		**Multi/Bi-Racial**	
	UoF (*N* = 193)	**Non-UoF (*N* = 207)**	**UoF (*N* = 611)**	**Non-UoF (*N* = 593)**	**UoF (*N* = 1,676)**	**Non-UoF (*N* = 1,678)**	**UoF (*N* = 39)**	**Non-UoF (*N* = 46)**	**UoF (*N* = 1,623)**	**Non-UoF (*N* = 1,591)**	**UoF (*N* = 58)**	**Non-UoF (*N* = 52)**
Incident type												
Assault-related	46 (90)	34 (71)	43 (268)	25 (151)	44 (770)	32 (563)	50 (20)	32 (15)	59 (1033)	35 (604)	49 (29)	19 (10)
Behaviour-related	37 (72)	27 (56)	37 (230)	37 (220)	42 (735)	24 (423)	33 (13)	30 (14)	31 (540)	38 (658)	41 (24)	50 (27)
Contraband/ unauthorized	10 (19)	29 (62)	14 (85)	31 (183)	6 (107)	29 (505)	13 (5)	23 (11)	5 (81)	16 (273)	† (†)	22 (12)
Self-injurious behaviour	4 (7)	3 (6)	2 (10)	2 (11)	5 (88)	5 (85)	† (†)	† (†)	4 (74)	5 (82)	† (†)	0 (0)
Miscellaneous	3 (5)	4 (9)	2 (12)	4 (21)	2 (33)	6 (104)	† (†)	† (†)	1 (13)	3 (47)	† (†)	† (†)
Search-related	† (†)	0 (0)	2 (10)	† (†)	0.3 (6)	0.3 (6)	0 (0)	† (†)	† (†)	† (†)	0 (0)	0 (0)
Property-related	† (†)	† (†)	† (†)	† (†)	† (†)	1 (25)	0 (0)	0 (0)	1 (11)	1 (25)	† (†)	† (†)
Medical/health	0 (0)	0 (0)	† (†)	† (†)	0.3 (6)	1 (9)	0 (0)	† (†)	† (†)	1 (14)	0 (0)	0 (0)
Death	0 (0)	† (†)	† (†)	1 (5)	† (†)	2 (39)	0 (0)	† (†)	† (†)	1 (24)	0 (0)	0 (0)
Escape-related/ UAL	0 (0)	0 (0)	0 (0)	† (†)	† (†)	0 (0)	0 (0)	0 (0)	† (†)	† (†)	0 (0)	0 (0)
Age												
18-29 years old	45 (86)	36 (74)	52 (319)	41 (245)	31 (521)	22 (363)	44 (17)	37 (17)	46 (745)	31 (498)	60 (35)	44 (23)
30-39 years old	39 (75)	40 (82)	37 (223)	35 (210)	38 (640)	33 (552)	41 (16)	43 (20)	37 (598)	37 (592)	29 (17)	33 (17)
40-49 years old	10 (19)	15 (31)	9 (55)	15 (87)	19 (312)	23 (378)	† (†)	13 (6)	12 (190)	18 (281)	† (†)	17 (9)
50-59 years old	5 (10)	6 (13)	2 (11)	6 (35)	9 (153)	14 (238)	† (†)	† (†)	5 (73)	10 (163)	† (†)	† (†)
60+ years old	† (†)	3 (7)	† (†)	3 (16)	3 (50)	9 (147)	0 (0)	† (†)	1 (17)	4 (57)	0 (0)	† (†)

Indicator	Percentage (*n*) of offenders											
	Asian		Black		White		Hispanic		Indigenous		Multi/Bi-Racial	
	UoF (*N* = 193)	Non-UoF (*N* = 207)	UoF (*N* = 611)	Non-UoF (*N* = 593)	UoF (*N* = 1,676)	Non-UoF (*N* = 1,678)	UoF (*N* = 39)	Non-UoF (*N* = 46)	UoF (*N* = 1,623)	Non-UoF (*N* = 1,591)	UoF (*N* = 58)	Non-UoF (*N* = 52)
Marital Status												
Single	40 (77)	42 (87)	36 (219)	34 (202)	56 (934)	53 (896)	49 (19)	39 (18)	58 (941)	55 (880)	50 (29)	33 (17)
Common Law/Married	31 (59)	26 (53)	34 (205)	33 (193)	29 (478)	27 (449)	31 (12)	28 (13)	29 (478)	29 (461)	22 (13)	33 (17)
Divorced/Widow /Separated	5 (10)	3 (7)	† (†)	2 (12)	4 (65)	7 (112)	0 (0)	† (†)	2 (32)	3 (49)	0 (0)	† (†)
Not Specified	24 (47)	29 (60)	30 (184)	31 (186)	12 (199)	13 (221)	21 (8)	30 (14)	11 (172)	13 (201)	28 (16)	31 (16)
Violent offence	73 (141)	63 (130)	78 (473)	67 (397)	75 (1,246)	67 (1,117)	82 (32)	69 (31)	84 (1,351)	76 (1,197)	78 (45)	67 (34)
Offence type												
Drug-related	19 (36)	27 (55)	13 (78)	21 (125)	12 (199)	17 (286)	15 (6)	15 (7)	5 (79)	9 (146)	14 (8)	19 (10)
Assault	12 (23)	8 (16)	19 (117)	13 (78)	18 (295)	12 (204)	† (†)	17 (8)	26 (418)	18 (281)	31 (18)	12 (6)
Robbery	11 (22)	11 (22)	12 (76)	14 (83)	22 (365)	13 (215)	15 (6)	20 (9)	20 (327)	14 (221)	14 (8)	19 (10)
Other nonviolent	5 (10)	8 (17)	8 (49)	9 (54)	5 (90)	6 (95)	† (†)	13 (6)	5 (86)	7 (111)	† (†)	† (†)
Other violent	8 (16)	7 (15)	7 (40)	6 (37)	9 (149)	9 (142)	† (†)	† (†)	7 (116)	8 (129)	† (†)	† (†)
Property	3 (5)	2 (5)	1 (6)	2 (11)	7 (119)	10 (159)	0 (0)	0 (0)	5 (83)	7 (117)	† (†)	† (†)
Homicide	40 (77)	23 (48)	31 (191)	23 (136)	20 (334)	21 (342)	39 (15)	17 (8)	25 (411)	20 (320)	21 (12)	15 (8)
Sex-related	† (†)	14 (29)	9 (52)	11 (67)	7 (118)	13 (224)	† (†)	† (†)	6 (98)	16 (258)	9 (5)	14 (7)
Sentence Type												
Determinate	75 (145)	80 (165)	75 (456)	84 (500)	84 (1,399)	79 (1,332)	74 (29)	87 (40)	81 (1,315)	84 (1,342)	81 (47)	89 (46)
Indeterminate	25 (48)	20 (42)	25 (155)	16 (93)	17 (277)	21 (346)	26 (10)	13 (6)	19 (308)	16 (249)	19 (11)	12 (6)
Sentence Number												
One	80 (155)	83 (171)	75 (459)	74 (441)	55 (918)	61 (1,029)	80 (31)	78 (36)	60 (975)	62 (993)	76 (44)	85 (44)
Two	17 (32)	15 (30)	20 (121)	21 (122)	26 (428)	22 (368)	13 (5)	20 (9)	26 (418)	21 (339)	16 (9)	† (†)
Three or more	3 (6)	3 (6)	5 (31)	5 (30)	20 (330)	17 (281)	† (†)	† (†)	14 (230)	16 (259)	9 (5)	10 (5)

Indicator	Percentage (*n*) of offenders											
	Asian		Black		White		Hispanic		Indigenous		Multi/Bi-Racial	
	UoF (*N* = 193)	Non-UoF (*N* = 207)	UoF (*N* = 611)	Non-UoF (*N* = 593)	UoF (*N* = 1,676)	Non-UoF (*N* = 1,678)	UoF (*N* = 39)	Non-UoF (*N* = 46)	UoF (*N* = 1,623)	Non-UoF (*N* = 1,591)	UoF (*N* = 58)	Non-UoF (*N* = 52)
Static Risk												
Low	† (†)	13 (27)	2 (13)	9 (56)	2 (38)	4 (59)	0 (0)	† (†)	0.3 (5)	2 (28)	† (†)	† (†)
Medium	31 (59)	38 (78)	25 (151)	29 (170)	21 (347)	29 (491)	26 (10)	33 (15)	19 (307)	29 (465)	22 (13)	37 (19)
High	67 (130)	49 (101)	73 (447)	62 (367)	77 (1,288)	67 (1,123)	74 (29)	61 (28)	81 (1,310)	69 (1,094)	74 (43)	58 (30)
Dynamic Need												
Low	0 (0)	8 (16)	† (†)	5 (32)	0.3 (5)	1 (18)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	† (†)
Medium	21 (41)	34 (70)	19 (114)	26 (154)	10 (168)	18 (300)	13 (5)	35 (16)	4 (66)	14 (215)	22 (13)	37 (19)
High	79 (152)	58 (120)	81 (494)	69 (407)	90 (1,500)	81 (1,355)	87 (34)	65 (30)	96 (1,556)	86 (1,364)	78 (45)	62 (32)
Reintegration Potential												
Low	54 (105)	35 (72)	66 (400)	45 (265)	68 (1,143)	53 (888)	62 (24)	35 (16)	84 (1,361)	65 (1,023)	64 (37)	39 (20)
Medium	34 (65)	39 (81)	30 (183)	40 (234)	27 (453)	36 (608)	33 (13)	50 (23)	15 (249)	30 (482)	35 (20)	42 (22)
High	12 (23)	26 (53)	5 (28)	16 (94)	5 (77)	11 (176)	† (†)	15 (7)	1 (12)	5 (82)	† (†)	19 (10)
Criminal Risk Index												
Low	48 (91)	68 (137)	36 (214)	48 (277)	22 (357)	36 (577)	41 (16)	50 (23)	15 (245)	24 (370)	33 (19)	50 (25)
Moderate	36 (68)	22 (44)	38 (227)	33 (191)	34 (557)	38 (604)	41 (16)	33 (15)	33 (528)	38 (578)	29 (17)	30 (15)
High	16 (31)	10 (21)	27 (160)	18 (104)	44 (703)	26 (406)	18 (7)	17 (8)	52 (824)	38 (583)	38 (22)	20 (10)
STG affiliation	9 (18)	4 (9)	7 (44)	4 (26)	4 (63)	1 (23)	13 (5)	† (†)	15 (249)	8 (125)	9 (5)	† (†)
Motivation												
Low	25 (49)	14 (29)	27 (164)	19 (113)	26 (426)	18 (303)	18 (7)	† (†)	21 (342)	15 (236)	345 (20)	14 (7)
Medium	71 (136)	71 (146)	72 (437)	71 (423)	69 (1,160)	73 (1,227)	82 (32)	80 (37)	77 (1,248)	78 (1,241)	66 (38)	64 (33)
High	4 (8)	15 (31)	2 (10)	10 (57)	5 (87)	9 (142)	0 (0)	11 (5)	2 (32)	7 (110)	0 (0)	23 (12)

Indicator	Percentage (*n*) of offenders											
	Asian		Black		White		Hispanic		Indigenous		Multi/Bi-Racial	
	UoF (*N* = 193)	Non-UoF (*N* = 207)	UoF (*N* = 611)	Non-UoF (*N* = 593)	UoF (*N* = 1,676)	Non-UoF (*N* = 1,678)	UoF (*N* = 39)	Non-UoF (*N* = 46)	UoF (*N* = 1,623)	Non-UoF (*N* = 1,591)	UoF (*N* = 58)	Non-UoF (*N* = 52)
Accountability												
Low	38 (73)	29 (60)	44 (266)	33 (197)	32 (529)	27 (449)	31 (12)	15 (7)	29 (469)	23 (366)	43 (25)	21 (11)
Medium	59 (113)	59 (122)	54 (332)	60 (355)	64 (1,070)	66 (1,091)	67 (26)	80 (37)	69 (1,110)	71 (1,116)	55 (32)	75 (39)
High	4 (7)	12 (24)	2 (12)	6 (37)	4 (68)	8 (124)	† (†)	† (†)	3 (40)	6 (98)	† (†)	† (†)
Responsivity	16 (31)	17 (35)	16 (95)	12 (70)	26 (426)	20 (340)	13 (5)	20 (9)	36 (582)	31 (495)	26 (15)	15 (8)
Engagement	61 (117)	70 (144)	54 (330)	66 (391)	62 (1,036)	70 (1,164)	67 (26)	83 (38)	66 (1,060)	74 (1,172)	47 (27)	79 (41)
DFIA-R needs												
Associates	86 (159)	69 (137)	89 (520)	79 (437)	80 (1,229)	70 (1,050)	87 (32)	71 (32)	88 (1,349)	77 (1,121)	83 (47)	80 (41)
Attitudes	90 (166)	80 (160)	93 (544)	85 (472)	91 (1,389)	83 (1,246)	92 (34)	78 (35)	89 (1,370)	82 (1,205)	95 (54)	84 (43)
Community functioning	29 (54)	21 (42)	34 (199)	26 (143)	40 (605)	30 (450)	27 (10)	29 (13)	55 (847)	46 (671)	44 (25)	24 (12)
Employment	68 (125)	50 (100)	78 (456)	61 (339)	69 (1,061)	58 (862)	76 (28)	51 (23)	88 (1,358)	77 (1,132)	70 (40)	65 (33)
Marital/family	24 (45)	27 (53)	25 (144)	26 (145)	40 (619)	40 (593)	30 (11)	33 (15)	54 (828)	55 (810)	42 (24)	20 (10)
Personal/ emotional	84 (155)	80 (160)	85 (495)	78 (434)	89 (1,370)	86 (1,283)	87 (32)	87 (39)	94 (1,451)	92 (1,348)	91 (52)	80 (41)
Substance abuse	56 (103)	42 (84)	36 (212)	40 (219)	84 (1,289)	74 (1,107)	68 (25)	42 (19)	91 (1,406)	89 (1,299)	58 (33)	55 (28)
Substance Use Severity												
Assessment completed	59 (114)	66 (137)	54 (328)	62 (365)	54 (903)	59 (983)	72 (28)	67 (31)	73 (1,186)	68 (1,087)	47 (27)	62 (32)
High intensity	19 (22)	15 (20)	9 (29)	9 (33)	45 (402)	33 (326)	18 (5)	19 (6)	52 (612)	51 (550)	33 (9)	† (†)
Moderate intensity	16 (18)	15 (20)	10 (31)	8 (29)	18 (165)	18 (175)	25 (7)	† (†)	19 (225)	19 (210)	† (†)	19 (6)
Low intensity	47 (54)	38 (52)	43 (140)	44 (159)	25 (225)	34 (331)	39 (11)	48 (15)	23 (269)	24 (257)	52 (14)	44 (14)
No treatment	18 (20)	33 (45)	39 (128)	40 (144)	12 (111)	15 (151)	18 (5)	26 (8)	7 (80)	6 (70)	† (†)	28 (9)

Indicator	Percentage (*n*) of offenders											
	Asian		Black		White		Hispanic		Indigenous		Multi/Bi-Racial	
	UoF (*N* = 193)	Non-UoF (*N* = 207)	UoF (*N* = 611)	Non-UoF (*N* = 593)	UoF (*N* = 1,676)	Non-UoF (*N* = 1,678)	UoF (*N* = 39)	Non-UoF (*N* = 46)	UoF (*N* = 1,623)	Non-UoF (*N* = 1,591)	UoF (*N* = 58)	Non-UoF (*N* = 52)
Mental Health Need Scale												
No or low need	85 (163)	87 (180)	84 (511)	89 (526)	68 (1,144)	77 (1,296)	77 (30)	85 (39)	70 (1,143)	78 (1,243)	71 (41)	92 (48)
Some need	9 (17)	7 (14)	9 (56)	8 (46)	17 (286)	14 (242)	21 (8)	† (†)	18 (298)	15 (230)	22 (13)	† (†)
Considerable or higher need	7 (13)	6 (13)	7 (44)	4 (21)	15 (246)	8 (140)	† (†)	† (†)	11 (182)	7 (118)	† (†)	† (†)

Note. UoF = use of force; UAL = unlawfully at large; STG = security threat group; DFIA-R = Dynamic Factor Identification and Analysis – Revised.
†Information suppressed due to frequencies fewer than 5 in one category.

Table B2. Institutional Experience of Offenders Prior to Selected Incident by Ethnocultural Group

Indicator	Percentage (*n*) of offenders											
	Asian		Black		White		Hispanic		Indigenous		Multi-Bi/Racial	
	UoF (*N*= 193)	Non-UoF (*N*= 207)	UoF (*N*= 611)	Non-UoF (*N*= 593)	UoF (*N*=1,676)	Non-UoF (*N*= 1,678)	UoF (*N*= 39)	Non-UoF (*N*= 46)	UoF (*N*= 1,623)	Non-UoF (*N*= 1,591)	UoF (*N*= 58)	Non-UoF (*N*= 52)
Any incidents	91 (175)	73 (150)	90 (548)	73 (435)	91 (1,523)	74 (1243)	82 (32)	74 (34)	91 (1,469)	77 (1,228)	90 (52)	73 (38)
Any use of force	50 (97)	12 (24)	62 (379)	14 (82)	52 (868)	14 (227)	56 (22)	† (†)	60 (968)	14 (218)	62 (36)	10 (5)
Incident sub-types												
Assault	59 (113)	32 (67)	64 (391)	34 (200)	55 (923)	30 (510)	59 (23)	30 (14)	70 (1,139)	35 (561)	71 (41)	25 (13)
Contraband	69 (134)	54 (111)	69 (421)	50 (299)	72 (1,203)	52 (870)	74 (29)	57 (26)	73 (1,182)	56 (895)	69 (40)	33 (17)
Behaviour	74 (142)	44 (90)	76 (467)	53 (314)	71 (1,196)	45 (752)	67 (26)	52 (24)	74 (1,202)	52 (823)	71 (41)	48 (25)
Property	10 (20)	3 (6)	16 (97)	5 (27)	17 (291)	7 (119)	† (†)	† (†)	21 (337)	9 (141)	31 (18)	† (†)
Self-injurious	12 (23)	3 (7)	10 (63)	4 (22)	23 (390)	10 (169)	† (†)	† (†)	23 (366)	10 (156)	16 (9)	† (†)
Death/escape	3 (6)	† (†)	3 (17)	2 (9)	12 (198)	7 (120)	† (†)	† (†)	15 (238)	10 (155)	† (†)	† (†)
Miscellaneous	45 (86)	28 (58)	42 (254)	30 (175)	45 (753)	32 (537)	33 (13)	30 (14)	39 (629)	28 (443)	36 (21)	27 (14)
Disciplinary Charges	81 (156)	62 (128)	82 (500)	68 (400)	83 (1384)	67 (1,127)	80 (31)	65 (30)	82 (1,333)	69 (1,090)	74 (43)	56 (30)
Any minor	69 (134)	53 (109)	71 (434)	56 (329)	73 (1,221)	57 (950)	72 (28)	50 (23)	71 (1,155)	57 (914)	60 (35)	44 (23)
Any serious	60 (116)	39 (80)	65 (398)	47 (278)	67 (1,116)	47 (783)	74 (29)	44 (20)	70 (1,141)	48 (763)	64 (37)	35 (18)
Any grievances	74 (143)	56 (116)	68 (418)	56 (333)	77 (1,289)	67 (1,131)	85 (33)	57 (26)	71 (1,150)	60 (958)	64 (37)	56 (29)
Case management	14 (26)	9 (19)	13 (82)	10 (60)	16 (264)	12 (201)	13 (5)	† (†)	13 (207)	10 (151)	10 (6)	† (†)
Conditions/ routine	55 (107)	43 (89)	48 (292)	42 (250)	63 (1050)	53 (887)	62 (24)	37 (17)	54 (872)	44 (700)	45 (26)	39 (20)
Health issues	23 (45)	15 (31)	19 (114)	12 (73)	36 (596)	26 (439)	31 (12)	13 (6)	27 (436)	20 (325)	19 (11)	15 (8)
Interaction issues	34 (65)	22 (45)	39 (239)	30 (175)	41 (688)	30 (499)	49 (19)	20 (9)	38 (616)	29 (455)	31 (18)	12 (6)
Other subjects	13 (25)	8 (16)	13 (79)	8 (50)	19 (315)	14 (239)	15 (6)	† (†)	14 (227)	10 (160)	14 (8)	† (†)
Programs/pay	13 (25)	11 (23)	18 (112)	16 (96)	27 (447)	21 (348)	15 (6)	† (†)	20 (326)	16 (246)	14 (8)	12 (6)
Security	21 (41)	14 (28)	25 (152)	13 (77)	25 (414)	15 (258)	21 (8)	† (†)	19 (309)	11 (169)	17 (10)	† (†)

Indicator	Percentage (*n*) of offenders											
	Asian		**Black**		**White**		**Hispanic**		**Indigenous**		**Multi-Bi/Racial**	
	UoF (*N*= 193)	**Non-UoF (*N*= 207)**	**UoF (*N*= 611)**	**Non-UoF (*N*= 593)**	**UoF (*N*=1,676)**	**Non-UoF (*N*= 1,678)**	**UoF (*N*= 39)**	**Non-UoF (*N*= 46)**	**UoF (*N*= 1,623)**	**Non-UoF (*N*= 1,591)**	**UoF (*N*= 58)**	**Non-UoF (*N*= 52)**
Transfer	19 (37)	10 (21)	18 (107)	12 (71)	15 (256)	10 (174)	21 (8)	17 (8)	13 (215)	8 (129)	9 (5)	† (†)
Visit/leisure	37 (71)	24 (49)	37 (224)	28 (163)	39 (649)	31 (517)	56 (22)	24 (11)	31 (501)	25 (394)	35 (20)	19 (10)
Assigned to any programming	83 (161)	62 (129)	81 (494)	72 (429)	83 (1,392)	79 (1,330)	87 (34)	78 (36)	62 (1,011)	61 (971)	83 (48)	77 (40)
Completed any programming	89 (143)	84 (108)	88 (435)	91 (390)	88 (1,231)	87 (1,158)	88 (30)	92 (33)	77 (773)	78 (761)	94 (45)	88 (35)
Assigned to moderate intensity	53 (103)	42 (86)	41 (250)	46 (271)	37 (615)	45 (754)	51 (20)	50 (23)	25 (402)	30 (472)	41 (24)	50 (26)
Completed moderate intensity	62 (64)	77 (66)	71 (177)	84 (228)	70 (433)	76 (570)	80 (16)	78 (18)	69 (279)	76 (359)	75 (18)	89 (23)
Assigned to high intensity	20 (39)	11 (22)	21 (131)	22 (130)	37 (617)	31 (515)	31 (12)	13 (6)	28 (446)	23 (363)	33 (19)	19 (10)
Completed high intensity	51 (20)	50 (11)	50 (65)	52 (68)	55 (338)	61 (316)	† (†)	† (†)	42 (186)	57 (207)	42 (8)	† (†)
Assigned to education	74 (142)	55 (114)	71 (434)	63 (372)	71 (1,182)	62 (1,044)	77 (30)	65 (30)	73 (1,176)	67 (1,064)	72 (42)	58 (30)
Completed education	58 (82)	51 (58)	51 (219)	61 (228)	45 (526)	50 (521)	60 (18)	63 (19)	45 (525)	49 (520)	38 (16)	57 (17)
Assigned to employment	87 (167)	87 (179)	87 (534)	85 (505)	89 (1,485)	87 (1,461)	95 (37)	85 (39)	91 (1,480)	87 (1,391)	91 (53)	89 (46)
Completed employment	21 (35)	20 (35)	23 (124)	21 (108)	21 (318)	18 (267)	16 (6)	13 (5)	22 (323)	19 (259)	30 (16)	17 (8)
Visits	68 (131)	58 (120)	57 (345)	56 (334)	52 (874)	50 (840)	67 (26)	59 (27)	38 (624)	33 (524)	57 (33)	48 (25)

Note. UoF = Use of Force. For Indigenous offenders, analyses were restricted to Indigenous specific correctional programming.
†Information suppressed due to frequencies fewer than 5 in one category.

Appendix C: Additional Dynamic Need Indicators Examined

Indicator	Men (N = 8,598)[a]			Women (N = 468)[b]		
	Percentage (n) of offenders			Percentage (n) of offenders		
	Use of Force (n = 4,299)	Non-UoF (n = 4,299)	Cramer's V	Use of Force (n = 234)	Non-UoF (n = 234)	Cramer's V
Problem Solving Skills						
Displays narrow and rigid thinking	62.9 (2,433)	53.6 (1,967)	.09***	44.3 (90)	38.0 (74)	n.s.
Ability to generate choices is limited	80.9 (3,134)	76.5 (2,810)	.05***	85.4 (176)	86.7 (170)	n.s.
Gives up easily when challenged	43.9 (1,608)	39.1 (1,351)	.05***	56.0 (107)	47.8 (86)	n.s.
Ability to link actions to consequences is limited	74.7 (2,892)	72.2 (2,657)	.03*	76.1 (159)	71.2 (141)	n.s.
Has difficulty coping with stress	72.3 (2,753)	71.4 (2,565)	n.s.	91.9 (192)	92.9 (182)	n.s.
Self-Regulation						
Engages in thrill seeking behaviour	49.3 (1,852)	40.5 (1,455)	.09***	47.8 (97)	43.5 (84)	n.s.
Interpersonal Skills						
Has difficulty solving interpersonal problems	81.1 (3,120)	72.4 (2,634)	.10***	88.2 (179)	82.4 (159)	n.s.
Assertiveness skills are limited	29.1 (1,114)	27.9 (1,014)	n.s.	54.4 (112)	49.0 (97)	n.s.
Manipulates others to achieve goals	52.1 (1,945)	47.5 (1,683)	.05***	52.6 (103)	40.3 (77)	.12*
General Aggression						
Frequently suppresses anger	30.1 (1,107)	26.2 (915)	.04***	49.8 (100)	45.9 (89)	n.s.
General Criminal Attitudes						
Values a substance abusing lifestyle	71.1 (2,722)	65.1 (2,369)	.06***	51.0 (105)	36.4 (71)	.15**

Note. UoF = Use of Force.
[a]Due to missing data at intake, dynamic need indicator ratings were missing for 1024-1479 offenders at men's sites.
[b]Due to missing data at intake, dynamic need indicator ratings were missing for 61-97 offenders at women's sites.
*p < .05. **p < .01. ***p < .001.

Appendix D: Additional Logistic Regression Findings

Logistic Regression Examining Guilty Disciplinary Charges at Men's Institutions

The logistic regression also revealed a number of other significant findings. Controlling for use of force, region, offender role, and mental health need, OSL at the time of the incident was also a significant predictor of prior charges, where the odds of any prior guilty disciplinary charges increased 1.82 times for offenders placed in medium security compared to offenders in minimum security. Similarly, the odds of any prior guilty disciplinary charges increased 2.96 times for offenders in maximum security compared to offenders in minimum security. Controlling for use of force, OSL, offender role and mental health need, offenders in the Quebec region and the Pacific region demonstrated greater odds of any previous guilty disciplinary charges compared to offenders in the Prairie region, whereas offenders in the Atlantic region demonstrated lower odds of any prior charges compared to offenders in the Prairie region. Controlling for all other variables, the odds of any prior guilty disciplinary charges increased 1.66 times for offenders identified as the instigator compared to offenders identified as the victim. Lastly, holding the other variables constant, there was not a significant relationship between mental health need and any prior guilty disciplinary charges.

Logistic Regression Examining Incidents at Men's Institutions

The results of the logistic regression also show that holding all other variables constant, the odds of any prior incident in which they were identified as an instigator increased 2.28 times for offenders in medium security compared to offenders in minimum security and the odds of any prior incident increased 7.17 times for offenders in maximum security compared to offenders in minimum security. Controlling for use of force, OSL, offender role, and mental health need, offenders in the Ontario region and the Pacific region demonstrated greater odds of any prior incident in which they were identified as an instigator compared to offenders in the Prairie region; however, the odds of any prior incident decreased for offenders in the Quebec region compared to offenders in the Prairie region. Controlling for all other variables, the odds of any prior incident increased 1.82 times for offenders identified as the instigator compared to offenders identified as the victim. Lastly, holding the other variables constant, the odds of any prior incident in which they were identified as the instigator increased 1.30 times for offenders assessed as having some mental health need compared to offenders with no or low need. Similarly, the odds of any prior incident in which they were identified as an instigator increased 1.90 times for offenders assessed as having considerable or higher need compared to offenders with no or low need.

Logistic Regression Examining Guilty Disciplinary Charges at Women's Institutions

Controlling for use of force, region, offender role, and mental health need, the odds of any prior guilty disciplinary charges increased 2.67 times for offenders in medium security compared to offenders in minimum security and the odds of any prior guilty disciplinary charges increased 5.01 times for offenders in maximum security compared to offenders in minimum security. Controlling for all other variables, the odds of any prior guilty disciplinary charges increased 5.44 times for offenders in the Quebec region compared to offenders in the Prairie region. Lastly,

holding the other variables constant, the odds of any prior guilty disciplinary charges increased 2.14 times for offenders assessed as having some mental health need compared to offenders assessed has having no or low need. Similarly, the odds of any prior guilty disciplinary charges increased 2.45 times for offenders assessed as having considerable or higher need compared to offenders assessed as having no or low need.

Logistic Regression Examining Incidents at Women's Institutions

Holding all other variables constant, the odds of any prior incident in which they were identified as an instigator increased 3.43 times for offenders in medium security compared to offenders in minimum security and the odds of any prior incident increased 8.17 times for offenders in maximum security compared to offenders in minimum security. Controlling for use of force, OSL, offender role, and mental health need, the odds of any prior incident in which they were identified as an instigator increased 6.02 times for offenders in the Pacific region compared to offenders in the Prairie region. In contrast, the odds of a prior incident in which they were identified as an instigator decreased 1.69 times for offenders in the Quebec region compared to offenders in the Prairie region. Lastly, holding all other variables constant, the odds of any prior incident in which they were identified as an instigator increased 2.52 times for offenders assessed as having some mental health need compared to offenders assessed has having no or low need. Similarly, the odds of any prior incident in which they were identified as an instigator increased 4.14 times for offenders assessed as having considerable or higher need compared to offenders assessed as having no or low need.