

Risky Business:  
The Role of Psychopathy and Violence Risk Assessment in Forensic Decision-Making

by  
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### **Abstract**

Forensic decision-making is often subject to irrelevant influences (Hilton & Simmons, 2001) and disregards pertinent risk factors (McKee et al., 2007). Although this seems to be improving (Crocker et al., 2014), research has failed to examine if any progress has been made in almost a decade. Forensic psychiatric hospital files were retrospectively coded for 89 male Not Criminally Responsible on Account of Mental Disorder patients that had a Review Board (RB) hearing between 2007-2014 to investigate whether items from four empirically supported risk measures, the Violence Risk Appraisal Guide, the Historical Clinical Risk Management-20, the Psychopathy Checklist-Revised, and the Structured Assessment of Protective factors were considered. Just over half of expert reports and one quarter of RB rationales noted use of a structured risk assessment which increased over time. Despite inconsistency of use, empirically supported factors were frequently discussed and centered on mental health, treatment, criminal history, and reintegration. Overall, disposition decisions were predicted by discussion of both empirically supported risk and protective factors, however, still appear to be biased by irrelevant influences such as attractiveness. In spite of improvement, the results highlight the need for policies to ensure greater structure in how risk assessments are implemented into the decision-making process.

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Risky business: The role of psychopathy and violence risk assessment in discharge dispositions

In light of the trials of James Holmes, the Dark Knight Rises shooter, Anders Breivik, the Norwegian shooter and bomber, and Vince Li, the Greyhound bus beheader, controversy surrounding the insanity defence has become reignited in today's society. In particular, the implications it carries for the amount of time offenders will spend detained, and more importantly, decisions surrounding release, have become contentious topics receiving widespread attention. Indeed, media portrayals of real-life violence linked to mental illness has a global reach and research has demonstrated that with each highly publicized attack, the public's stigma and desire to maintain social distance from the mentally ill markedly increases (Angermeyer & Matschinger, 2004; Angermeyer & Schulze, 2001; McGinty, Webster, & Barry, 2013). This societal stigma and discrimination against mentally ill offenders has undoubtedly increased pressure on the government, mental health professionals, and legal decision makers alike to ensure the efficacy of the laws and decisions concerning mentally ill offenders and public safety. In Canadian law, those found to be severely mentally ill at the time of their offence may be deemed Not Criminally Responsible on Account of Mental Disorder (NCRMD) and diverted into the mental health system, assuming they meet specified criteria laid out in the Criminal Code of Canada. Those found NCRMD come under the jurisdiction of provincial or territorial Review Boards (RB) which must decide whether to detain or release them. It was previously the case that these decisions would be brought before the RB annually to reevaluate disposition, while balancing the need for public safety and the rights of the accused. However, legislation passed earlier this year demonstrates a move towards the Conservative government's "tough on crime" approach, employing mandatory minimum sentences of three years without review for those deemed "high-risk" (cf. Bill C-14, 2014). The relationship between more

punitive dispositions and public safety has received considerable attention from many experts in the field, commonly resulting in sentiments surrounding the counterproductive actions this legislation will inevitably lead to (e.g., Canadian Mental Health Association, 2014; Grantham, 2014). Ultimately, the need for new legislation regarding the release of NCRMD offenders comes down to the efficacy of decisions currently being made by mental health tribunals.

By law, the RB must make the least onerous and least restrictive disposition, "taking into consideration the need to protect the public from dangerous persons, the mental condition of the accused, the reintegration of the accused into society, and the other needs of the accused." (Criminal Code, s.672.54). Although the Criminal Code may outline what factors are to be evaluated when making decisions regarding disposition, *how* these factors are to be operationalized and assessed is much more elusive. Fortunately, the last thirty years of research on risk assessment has brought about immense change in how risk for violence is assessed, resulting in several measures that have been found to yield predictive utility across a variety of samples, including forensic psychiatric populations. Unfortunately, little research has focused on whether these advancements in risk assessment measures have been implemented into forensic clinical practice. In some respects, research to date has demonstrated that the field has come a long way; at one time these empirically supported risk measures were relatively absent in forensic practice (Boothby & Clements, 2000; Gallagher, Somwaru, & Ben-Porath, 1999) but are now coming to be more highly used (Hurdurcas, Singh, de Ruiter, & Petrila, 2014; Viljoen, McLachlan, & Vincent, 2010). However, when research investigating the self-reported use of these risk measures is compared to studies evaluating their influence on forensic decision-making, discordance is apparent. Studies conducted over the last ten to fifteen years are still showing that forensic decision-making is subject to irrelevant influences (e.g., Hilton &

Simmons 2001; McKee, Harris, & Rice, 2007) and often disregards evaluation of pertinent risk factors that research has repeatedly linked to violence (e.g., Côté, Crocker, Nicholls, & Seto, 2012; Wilson, Nicholls, Crocker, Seto, Côté, & Caulet, 2014). More recently, emerging evidence suggests that clinicians and clinical team members are incorporating these empirically supported risk factors into their decision-making process (e.g., Crocker, Nicholls, Charette, & Seto, 2014). However, due to the use of dated samples, research has failed to examine what progress, if any, has been made in this regard over almost the last decade.

The current study sought to investigate which empirically validated risk factors are being discussed when making decisions to detain or release NCRMD acquittees in recent years. Ultimately, this study sought to provide an answer to the question of whether the last several decades of research on violence risk prediction is being utilized in forensic decision-making. Descriptive research on the implementation of the wealth of prescriptive research conducted over the last thirty years carries immense importance because understanding the process of risk assessment in practice can be used to help shape the development of future assessments and clinical guidelines (Elbogen, 2002), bringing the field one step closer toward bridging the gap between research and practice.

This thesis will begin with a brief history of NCRMD legislation in Canada, followed by a discussion of changes in forensic risk assessment and four of the most prominent tools emerging from this. Next, two concurrent lines of research evaluating the implementation of research in practice will be discussed. First, this will focus on survey research which has sought to evaluate the self-reported use of risk assessment tools in practice. And finally, this research will be compared and contrasted with a second line of research which has evaluated this through statistical associations between risk factors and decision-making (i.e., disposition decisions).

### History of NCRMD Legislation

Individuals with a mental disorder are defined by the Criminal Code as having a disease of the mind (*Criminal Code*, c. C-46, s. 2.), however, not all individuals with a mental disorder are exempt from culpability. Lying at the heart of this determination is whether the accused possessed the capacity to understand that the criminal behaviour was wrong or whether the mental disorder rendered the individual incapable of understanding the nature and quality of the act (*Criminal Code*, c. C-46, s. 16(1)). Proof that the accused falls under this criteria will result in a ruling of NCRMD followed by diversion to the mental health tribunal, however, an inability to do so will result in the individual being tried through the criminal justice system, in spite of their mental illness.

Historically, Canadian criminal law adopted the British approach to dealing with individuals who lack the mental capacity necessary for a conviction, which was based upon the M'Naghten rule (Carver & Langlois-Klassen, 2006). The M'Naghten rule was originally derived from the trial of Daniel M'Naghten, who in 1843, attempted to murder England's Prime Minister and was ultimately found not guilty by reason of insanity (NGRI; the terminology used in Canada prior to 1992) due to psychosis (*R. v. M'Naghten*, 1843). In response to the public upset this verdict caused, the Lords of Justice were asked to devise a strict definition of criminal insanity to which they declared that insanity may be used as a defence only if:

at the time of the committing of the act, the party accused was labouring under such a defect of reason, from a disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it, that he did not know what he was doing was wrong. (*R v. M'Naghten*, 1843, 8 Eng. Rep. 718).

This soon became the standard in most Western countries to pardon or diminish criminal responsibility for those with a serious mental illness (for review see Zapf, Golding, & Roesch, 2006). Despite the fact that over 170 years have passed since this ruling and much debate has

surrounded its efficacy, the M'Naghten rule, or derivatives of it, still predominate criminal law today. In Canada, Section 16 of the Criminal Code captures the essence of this ruling and, prior to 1992, provided that those acquitted on the basis of insanity were to be automatically detained by the Lieutenant Governor, acting on the advice of the Cabinet of the province (*Criminal Code*, 1970, s. 542(2)). However, the Code stated nothing further about how this was to be carried out or whether it could be challenged (Carver & Langlois-Klassen, 2006). It wasn't until the 1970s that several provinces enacted forensic psychiatry statutes to govern the procedure and treatment of these patients (see Forensic Psychiatry Act, R.S.B.C., 1979, c.139; now R.S.B.C., 1996, c.156). However, these provincial statutes still did not have the authority to overrule the power of the provincial Cabinets, which became problematic in high profile cases in which the Cabinets could refuse to release patients in spite of recommendations made by their treatment teams (Golding, Eaves, & Kowaz, 1989). The forensic system was one of the last components of Canada's criminal justice system that still could be biased by political motivation and it had been widely accepted that it was at risk for a breach of the newly enacted Charter of Rights and Freedoms (Carver & Langlois-Klassen, 2006). This finally came to fruition in 1991 in a decision made by the Supreme Court (i.e., *R. v. Swain*, 1991). During a period of mental disorder, Swain had committed aggravated assault. However, by the time of his trial almost a year and a half later, he had regained mental stability and had been living in the community on bail, without incident. Despite Swain's objections, the Crown counsel was permitted to cite evidence in support of Swain's insanity at the time of the offence, which resulted in him being found NGRI and detained by the Lieutenant Governor (*R. v. Swain*, 1991). Swain challenged both the constitutionality of the Crown's ability to submit an insanity defence as well as the Lieutenant

Governor warrant system for automatic detainment of an indeterminate period. The Supreme Court of Canada ruled in his favour on both issues (Carver & Langlois-Klassen, 2006).

In response to this case, in addition to several other landmark cases and parliamentary bills (most notably Bill C-30, 1992; *Winko v. British Columbia*, 1999), the forensic psychiatric system has experienced a drastic change in practice and in how the NCRMD defence is adjudicated. This was in order to align with the deinstitutionalization movement as well as to offer the least restrictive care appropriate to patient need and public safety (Crocker & Côté, 2009). Most noteworthy is that the changes, which are thoroughly reviewed elsewhere (e.g., Desmerais, Hucker, Brink, & De Freitas, 2008; Eaves, Ogloff, & Roesch, 2000; Swaminath, Norris, Komer, & Sidhu, 1993), brought about by these reforms essentially ended the automatic and indefinite detention of offenders found NCRMD and granted them the right to an annual review process by a provincial administrative tribunal which possessed increased capacity to make disposition provisions (Penney, Morgan, & Simpson, 2013). Detainment was now only reserved for those who posed a significant threat to public safety and provincial RBs were to do so in the least restrictive manner possible. This was so much so that following the decision in *Winko v. British Columbia*, RBs were now required to order an absolute discharge to all individuals found to be NCRMD, unless there was evidence to show that they posed a significant threat to public safety (Penney et al., 2013).

Overall, the impact of the *Winko* decision, in addition to the introduction of Bill C-30, may be seen through changes in the number of people remanded for criminal responsibility assessment and adjudication of the NCRMD defence. Following these decisions, Canada's most populated provinces (i.e., Ontario, British Columbia, and Quebec) have seen a marked increase in the number of individuals tried and found not criminally responsible (Nussbaum, Malcolmson,

& Dosis, 2000; Ohayon & Crocker, 2000; Roesch, Ogloff, Hart, Dempster, Zapf, & Whittemore, 1997). Although this trend has not been consistently seen across all provinces (e.g., Crocker, Nicholls, Côté, Latimer, & Seto, 2010; Jansman-Hart, Seto, Crocker, Nicholls, & Côté, 2011), data released from RBs has continued to demonstrate a rising number of NCRMD referrals and acquittals (e.g., Latimer & Lawrence, 2006; Livingston, Wilson, Tien, & Bond, 2003; Ontario Review Board, 2011; Schneider, Forestell, & MacGarvie, 2002). Additionally, research has found that the length of hospitalization for individuals found to be NCRMD has declined over time and the number of absolute discharges granted has increased (e.g., Balachandra, Swaminath, & Litman, 2004; Schneider et al., 2002). Furthermore, research findings are demonstrating greater heterogeneity in the criminal offending and clinical profiles of NCRMD acquittees following these pivotal changes in forensic mental health legislation (Department of Justice Canada, 2006).

The insanity defence was at one point a last resort for offenders with only the most serious mental illness and criminal charges, however, the increase in applications for insanity pleas suggests that the NCRMD defence is now attracting a broader range of individuals with varying clinical profiles and offences (Penney et al., 2013). Little is known about the causal factors which influenced this trend, however, the rising number of individuals going through the forensic psychiatric system underscored the need for effective risk assessment tools to accurately evaluate the danger these patients pose to recidivate upon release. Fortunately, the field of risk assessment was concurrently undergoing many changes which was accompanied by the development of a range of tools designed for the prediction of both general and violent recidivism.

### **Changes in the Field of Risk Assessment**

Accurate assessments of patients' risk for reoffending is of the utmost importance in forensic psychiatric settings and has far reaching implications for legal decision makers, patients, and public safety. Consequently, research in the field of risk assessment has flourished over the last several decades with the introduction of new assessments focusing on a variety of risk factors to aid in the clinical assessment of an individual's likelihood to recidivate upon release (Heilbrun, Yasuhara, & Shah, 2009). Use of these tools in clinical practice is beginning to take hold and has been driven by evidence supporting links between mental illness and violence (Fazel, Lichtenstein, Grann, Goodwin, & Langstrom, 2010; Wallace, Mullen, Burgess, Palmer, Ruschena, & Browne, 1998) as well as public concern about the safety of mentally ill patients (Pescosolido, Martin, Long, Medina, Phelan, & Link, 2010). Over time, the field has undoubtedly seen a shift from the almost exclusive reliance on clinical expertise and experience to the incorporation of tools derived from empirically and theoretically based risk factors.

Approaches to risk assessment are often characterized as falling into one of three categories: unstructured clinical judgment, actuarial, or structured professional judgment. Unstructured clinical judgment involves individually-focused judgments based on the clinician's knowledge, experience, and expertise (Dolan & Doyle, 2000). This method has been criticized on many grounds including low reliability and validity as well as an inability to specify the factors playing into the decision making process (Monahan & Steadman, 1994; Quinsey & Ambtman, 1979). Although more recent research has demonstrated that unaided clinical judgement is not as dismal as once believed (e.g., Fuller & Cowan, 1999; Gardner, Lidz, Mulvey, & Shaw, 1996), the literature has more consistently shown structured and empirically based measures to outperform unstructured clinical assessments (e.g., Aegisdóttir et al., 2006;



Grove, Zald, Lebow, Snitz, & Nelson, 2000; Monahan & Steadman, 1994). Conversely, actuarial approaches to risk assessment offer a more standardized method which is based upon constructs that have been found to be statistically predictive of recidivism (e.g., criminal history). Actuarial methods allow assessors to make decisions on a small number of risk factors according to specified rules regarding how the risk predictors are combined, weighted, and interpreted (Dolan & Doyle, 2000; Meehl, 1954). This method of assessment leaves little room for clinical opinion or expertise, but rather, the importance of each risk factor is based upon its empirically defined association with recidivism and each factor is assigned quantitative scores accordingly (Yang, Wong, & Coid, 2010). Actuarial tools have continually been found to outperform unstructured clinical judgement in a variety of contexts and with diverse samples, including mentally ill offenders (e.g., Aegisdóttir et al., 2006; Andrews, Bonta, & Wormith, 2006; Bonta, Law, & Hanson, 1998; Hanson & Bussière, 1998). Lastly, structured professional judgement (SPJ) instruments represent a composite of empirical research and clinical expertise (Webster et al., 1997b). In this approach, the risk factors are specified in advance, but the overall assessment of risk is left to professional judgment and no explicit rules are provided for combining risk factors into a total score (Hanson, 2009). SPJ instruments have the advantage of flexibility, however, critics of this approach perceive this to be too subjective and unreliable (Quinsey, Harris, Rice, & Cormier, 2006). Nevertheless, SPJ instruments have continued to prevail in practice due to their demonstrable ability to predict future violence (see Campbell, French, & Gendreau 2009; de Vogel & de Ruiter, 2006; Douglas, Yeomans, & Boer, 2005). Although many in the field of risk assessment may be partial to one method or another, research comparing the predictive efficacy of actuarial and SPJ tools have found both to perform equally well in the prediction of violence (Douglas et al., 2005; Yang et al., 2011). Consequently, little consensus exists as to which

compilation of factors or method of assessment is a clear frontrunner when informing estimates of violence risk. However, how these methods are to be applied in practice and utilized to increase public safety is less contentious due to the work of a small group of Canadian psychologists who transformed the literature of 'what works' into a model of offender rehabilitation with applicability to both correctional and forensic psychiatric populations.

One of the most influential contemporary conceptions of risk assessment and offender rehabilitation is the risk/needs/responsivity (RNR) model (for a review, see Andrews, Bonta, & Hoge, 1990). In this model there are three related domains. Risk pertains to the probability that the individual will engage in certain behaviour in the future (e.g., violent offending) and is typically assessed through static (i.e., unchanging) factors such as criminal history, however, some tools also employ the use of risk-relevant needs (Andrews et al., 1990). The risk principle states that the offender's likelihood of recidivism can be reduced if the level of services provided to them is commensurate with their level of risk, with those at greater risk requiring more intense monitoring and supervision (Bonta & Andrews, 2007). Needs refer to deficits that are related to the probability of this outcome and are composed of dynamic (i.e., changeable) risk or protective factors (termed criminogenic needs in this model) which may be targeted through intervention. Lastly, responsivity refers to the extent to which an individual is likely to respond to treatment aimed at reducing the targeted behaviour (Andrews et al., 1990). This theoretical framework has been shown to be a truly effective way in which to model rehabilitation and intervention programming and research continues to find that our ability to reduce recidivism is related to the extent to which those in the field conform to this model (e.g., Andrews, 2006; Goggin & Gendreau, 2006; Hanson, Bourgon, Helmus, & Hodgson, 2009; Lowenkamp, Latessa, & Smith, 2006). However, with risk assessment being the first key piece to the successful implementation

of this model, the efficacy of the assessments being used to gauge risk are of the utmost importance.

The plethora of risk assessment instruments developed over the last several decades has made selection a difficult task. Arguably, three of the most well validated tools for predicting risk for violence include the Violence Risk Appraisal Guide (VRAG; Harris, Rice, & Quinsey, 1993), the Historical Clinical Risk Management-20 (HCR-20; Webster, Eaves, Douglas, & Wintrup, 1995), and the Hare Psychopathy Checklist Revised (PCL-R; Hare, 2003). However, before reviewing the predictive validity of these measures, one must first examine how researchers in the field of risk assessment gauge such accuracy.

**Statistical measures for assessing accuracy.** There are several measures available to determine the predictive validity of an instrument, however, receiver operating characteristics (ROCs), which yield an area under the curve (AUC) measure, appear to be the preferred method (Dolan & Doyle, 2000). Overall, it yields an index of predictive accuracy which is less dependent on the base rate of violence (Douglas & Reeves, 2010; Mossman, 1994). AUCs can range from 0 (perfect negative prediction) to .5 (chance prediction) to 1.0 (perfect positive prediction) and provides information that is similar to that of other effect size measures such as Cohen's *d* (see Cohen, 1992), allowing comparison between measures (Dolan & Doyle, 2000; Hildebrand, 2004). The AUC represents the probability that a randomly selected true recidivist would be more likely to have a high score on the instrument in comparison to a randomly selected non-recidivist (Mossman, 1994). For example, an AUC of .80 may be interpreted that there is an 80% chance that a violent individual will score higher on the measure in question than a nonviolent individual (Hildebrand, 2004). In general, a *d* that is greater than .50 or an AUC in the range of .70 to .80 is considered to demonstrate moderate to large effect sizes (Dolan &

Doyle, 2000; Douglas & Reeves, 2010; Rice, 1997). The following review of the literature on the VRAG, HCR-20, and PCL-R will demonstrate that these measures have repeatedly been shown to meet this threshold.

**Violence Risk Appraisal Guide (VRAG).** The VRAG is an actuarial risk assessment tool developed by Harris and colleagues in the early 1990's (Harris et al., 1993) on a sample of 618 mentally disordered males charged with a serious offence. The VRAG was designed to assess violence risk for incarcerated mentally disordered individuals after their release into the community and consists of 12 static risk factors. This includes items pertaining to criminal history (e.g., age at index offence) and clinical factors (e.g., meets DSM-III criteria for any personality disorder) and is scored based on a differential weighting procedure with the heaviest weight being allocated to the PCL-R score (Harris et al., 1993).

There has been a wealth of research conducted on the VRAG providing support for its reliability and validity. Interrater reliability (IRR) has generally been found to be high due to the objective nature of historical items, with reports of intraclass correlation coefficients (ICCs) generally falling within the good to excellent range (Gray, Fitzgerald, Taylor, MacCulloch, & Snowden, 2007; Harris, Rice, & Cormier, 2002; Hilton, Harris, Rice, Lang, Cormier, & Lines, 2004). The predictive validity of the VRAG has been evaluated in over 60 studies encompassing a variety of different populations, including both correctional and forensic psychiatric samples (Rice, Harris, & Lang, 2013). Although the VRAG was initially designed for the prediction of violence after release into the community, it has also been found to demonstrate utility in predicting institutional violence (e.g., Campbell et al., 2009; Hastings, Krishnan, Tangney, & Steuwig, 2012; Vitacco, Gonsalves, Tomony, Smith, & Lishner, 2012), general recidivism (e.g., Glover, Nicholson, Hemmati, Bernfeld, & Quinsey, 2002; Gray et al., 2007) and sexual

recidivism (Barbaree, Seto, Langton, & Peacock, 2001), with replication studies reporting follow-ups ranging from 5 months (Harris, Rice, & Camilleri, 2004) to 49 years (Rice et al., 2013). With regards to violent recidivism, data from several studies utilizing various populations including insanity acquittees, sex offenders, and federal offenders found the VRAG to have moderate to strong accuracy with AUCs of .75, .74, and .74 over 3.5, 6, and 10 year follow-ups, respectively (Rice & Harris, 1995). Predictive validity of the VRAG in forensic psychiatric samples in particular have generally yielded AUCs in the range of .65 (Doyle, Carter, Shaw, & Dolan, 2012) to .80 (Harris et al., 2002) with specific diagnostic categories, such as schizophrenia, yielding AUCs ranging from .60 (Grann, Belfrage, & Tengström, 2000) to .77 (Thomson, Davidson, Brett, Steele, & Darjee, 2008). More recently, Rice and colleagues re-examined the predictive accuracy of the VRAG in a sample of 1,261 mentally disordered offenders, over fixed follow-ups broadly ranging from 6 months to 49 years. Overall, they found that the VRAG's ability to predict dichotomous decisions of violent recidivism was still essentially indistinguishable from that reported in the initial construction sample (AUC= .75; Rice et al., 2013).

**Historical Clinical Risk Management-20 (HCR-20).** The Historical, Clinical, and Risk Management Scale (HCR-20; Webster et al., 1997b) is a SPJ scale developed for the assessment of violence risk and management. It has potential applicability to a variety of settings including forensic psychiatric, civil psychiatric, prison institutional, and community settings, however, its authors suggest its use be restricted to settings in which the individuals are strongly suggested to suffer from a mental disorder and/or have a history of violence (Webster et al., 1997b). The HCR-20 temporally organizes its 20 risk markers into the past, present, and future. Its 10

Historical items focuses on the past, the five Clinical scale items assess the present, and lastly, the five Risk Management scale items look at future risk factors (Webster et al., 1997a).

There has been a wealth of research conducted on the HCR-20 which provides support for its reliability and validity. IRR has generally been found to exceed ICCs of .80 (Douglas, Blanchard, Guy, Reeves, & Weir, 2002-2013), ranging from .71 (Desmarais, Wilson, Nicholls, & Brink, 2010) to .96 (Telles, Day, Folino, & Taborda, 2009) for total scores and reaching median ICCs of .86, .74, and .68 for the Historical, Clinical, and Risk Management scales, respectively (Douglas & Reeves, 2010). With regards to its predictive validity, retrospective and prospective research have established that the HCR-20 demonstrates predictive accuracy for both violent and non-violent recidivism as well as institutional violence across a variety of populations, including various psychiatric disorders (Gray, Taylor, & Snowden, 2011), and schizophrenia in particular (Gray et al., 2011; Strand, Belfrage, Fransson, & Levander, 1999; Webster et al., 1997a). Overall, its predictive accuracy has been found to be moderate to strong (AUCs = .62 to .82) (de Vogel, de Ruiter, Hildebrand, Bos, & van de Ven, 2004; Kroner & Mills, 2001). The Historical scale has often been found to demonstrate the strongest predictive accuracy for violent offending, owing to its focus on criminal history variables which have been repeatedly linked to future violence (see Douglas, 1996, unpublished), with AUCs typically falling within the moderate to strong range (Douglas et al., 2002-2013) and ranging from .53 (Thomson et al., 2008) to .83 (Côté, 2001). Conversely, the Clinical and Risk Management scales have been found to show stronger predictive efficacy in predicting inpatient aggression (Daffern & Howells, 2007; Mudde, Nijman, van der Hulst, & van den Bout, 2011; O'Shea, Mitchell, Picchioni, & Dickens, 2013). In terms of violence prediction, the Clinical scale has been found to have AUCs ranging from .48 (Gray et al., 2004) to .79 (Gray et al., 2003) and the

Risk Management Scale has been found to have AUCs ranging from .51 (Vojt, Thomson, & Marshall, 2013) to .79 (Stadtland & Nedopil, 2008).

There are now a number of meta-analytic reviews which have evaluated the predictive validity of the HCR-20. A reasonable summary of these reviews is that the HCR-20 performs at least as well as other risk assessment measures (Campbell et al., 2009; Fazel, Singh, Doll, & Grann, 2012; Singh, Grann, & Fazel, 2011; Yang et al., 2010) and in some cases seems to demonstrate significant incremental validity relative to the PCL-R (Douglas et al., 2013; Guy, Douglas, & Hendry, 2010; Yang et al., 2010).

**Psychopathy Checklist - Revised (PCL-R).** The PCL-R (Hare, 1991, 2003) is one of the most widely used instruments in the assessment of psychopathy and consists of a 20-item symptom construct rating scale. It was first described in 1980 (PCL; Hare, 1980) and later revised and published in 1991 (PCL-R; Hare, 1991). Since this time, it has led to the creation of several direct derivatives; a 12-item screening version called the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995) and the Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003), intended for use with adolescents. All three measures have received considerable attention over the last ten to thirty years resulting in extensive evidence supporting their reliability and predictive validity, making psychopathy one of the most researched risk factors for violence (Guy et al., 2010; Harris, Rice, & Cormier, 1991; Leistico, Salekin, DeCoster, & Rogers, 2008; Salekin, Rogers, & Sewell, 1996).

Psychopathy is defined by a constellation of interpersonal, affective, and behavioural traits, which taken together, can be described as a personality disorder (Hare, 2003). On the interpersonal level, individuals with psychopathic traits may be grandiose, deceptive, superficial, manipulative, and pathological liars. Affectively, they are shallow, lack empathy, guilt, or

remorse. Behaviourally, they are likely to engage in an antisocial lifestyle characterized by sensation seeking, impulsivity, and a history of criminal versatility and delinquency (Hare, Harpur, Hakstian, Forth, Hart, & Newman, 1990; Hare & Neumann, 2009; Harpur, Hakstian, & Hare, 1988; Hart et al., 1995). Cleckley (1941) was one of the first clinicians to conceptualize psychopathic personality and the interpersonal and affective features contained within the PCL-R reflect those described in his influential work, *The Mask of Sanity*. Conversely, the behavioural components of the PCL-R overlap with many of the behaviours used in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychological Association, 2013) to define antisocial personality disorder (ASPD) (Crocker et al., 2005).

The PCL-R is broadly conceptualized as consisting of two factors: Factor 1 (F1), which taps into the interpersonal and affective features of psychopathy and Factor 2 (F2), which captures the chronic antisocial and unstable behaviours outlined previously. See Appendix A for a description of the items and factor structure of the PCL-R. The number of factors indicative of psychopathy continues to be debated with some arguing for a three-factor model (i.e., interpersonal, affective, and behavioural/lifestyle, Cooke & Michie, 2001), whereas others have proposed a four-factor model (Hare, 2003). Next to Hare's (1991) original two-factor model, the four-factor model has received more widespread acceptance due to considerable empirical support (e.g., Hill, Neumann, & Rogers, 2004; Jackson, Neumann, & Vitacco, 2007; Neumann, Kosson, Forth, & Hare, 2006; Salekin, Brannen, Zalot, Leistico, & Neumann, 2006; Vitacco, Neumann, Caldwell, Leistico, & Van Rybroek, 2006; Vitacco, Neumann, & Jackson, 2005). The four-factor model of psychopathy essentially retains the two original superordinate factors, one being identical to the original F1, and the latter being identical to the original F2, with the addition of 1 item (i.e., criminal versatility). However, in this proposed model, these two broad



factors each split up into two subfactors, or facets: Facet 1 (Interpersonal), Facet 2 (Affective), Facet 3 (Lifestyle), and Facet 4 (Antisocial) (Hare, 2003). Overall, despite evidence of various factor models derived from differential combinations of the items, it should be noted that all items contribute to the assessment of psychopathy and collectively contribute to the measure's widespread utility.

The importance of psychopathy, particularly as measured by the PCL-R, is recognized by both forensic clinicians (Archer, Buffington-Vollum, Stredny, & Handel, 2006; Lally, 2003) and the courts (Walsh & Walsh, 2006; Zinger & Forth, 1998). Although it was not initially designed for the assessment of risk, a vast amount of literature has emerged demonstrating the PCL-R's ability to predict risk for recidivism and violence across a diversity of samples including male and female adult offenders (Eisenbarth, Osterheider, Nedopil, & Stadtland, 2012; Kroner, Mills, & Reddon, 2005; Loucks & Zamble, 2000), civil psychiatric patients (Swogger, Walsh, Homaifar, Caine, & Conner, 2012), and forensic psychiatric patients (Grann, Långström, Tengström, & Kullgren, 1999; Hildebrand, De Ruiter, & Nijman, 2004; McGregor, Castle, & Dolan, 2012).

A review of the literature provides strong support for the psychometric properties of the PCL-R with IRR (when used with trained and experienced raters) often exceeding ICCs of .80 (Hare, Clark, Grann, & Thornton, 2000). Research evaluating the predictive efficacy of the PCL-R has consistently yielded moderate to large effect sizes over varying follow-up periods and samples (see Hare, 2003 for a review of the evidence). For example, a meta-analysis conducted by Leistico and colleagues (2008) analyzing the relationship between the PCL scales and antisocial conduct (i.e., recidivism and institutional maladjustment) found that higher PCL scores were moderately associated with increased antisocial conduct ( $AUC = .63$ ). Sample

characteristics found to influence the explanatory power of psychopathy were gender, ethnicity, institutional setting, follow-up period, country, and information used to score the PCL measures. This was such that effects were higher for samples containing females, Caucasians, psychiatric patients, and in studies with longer follow-up periods, conducted outside of the United States, or that which used file information only (Leistico et al., 2008). These results fell in line with findings from prior meta-analyses (Country; Guy, Edens, Anthony, & Douglas, 2005; Follow-up period; Hemphill, Hare, & Wong, 1998; Ethnicity; Edens, Campbell, & Weir, 2007) while failing to replicate others (Gender; Edens et al., 2007). More recently, a meta-analysis conducted by Yang and colleagues (2010) comparing the predictive efficacy of nine risk assessment tools found the PCL-R to perform at the same moderate level of predictive efficacy ( $AUC = .65$ ) as the other risk measures, with studies conducted in Canada, with longer follow-up periods, and studies using women or mixed samples reporting larger effect sizes overall.

Analyses have also been conducted on the individual factors of the PCL-R. In the meta-analysis by Yang and colleagues (2010), they found that while F2 yielded similar predictive efficacy to the PCL-R total score ( $AUC = .67$ ), F1 of the PCL-R was not found to be much more predictive than chance ( $AUC = .56$ ). This appears to fall in line with increasing evidence yielding similar findings that F2 (Lifestyle/Antisocial), and in some cases specifically Facet 4 (Antisocial), best predict violence (Edens, Skeem, & Douglas, 2006; Skeem & Mulvey, 2001; Wallinius, Nilsson, Hofvander, Anckarsäter, & Stålenheim, 2012; Walters, 2003a, 2003b; Walters, Knight, Grann, & Dahle, 2008). Taken together, these findings demonstrate that the PCL-R consistently yields moderate effect sizes for the prediction of violent recidivism across varying samples, with research suggesting that F2 and Facet 4 are particularly important in the prediction of violence.

**A move toward identification of protective factors.** Although the evolution of structured risk assessments has provided many tools to assist researchers and clinicians in the prediction of future violent behaviour and to aid in decision making, one area of investigation has often been overlooked: the identification of factors that may work to mitigate future risk, or protective factors. Protective factors are defined as characteristics of an offender, their environment, or circumstances that protect an individual from returning to violent behaviour (de Vogel, de Ruiter, Bouman, & de Vries Robbé, 2009). Although this is not a novel concept, research in the field of risk assessment has been admittedly one sided in their enumeration of risk factors due to the exclusion of protective factors, often leading to negative consequences for forensic populations (Rogers, 2000). According to Miller (2006a), the exclusive reliance on risk factors is inevitably prone to the overprediction of recidivism, which stands to have a negative impact on both the offender (e.g., loss of personal liberty) and society (e.g., financial costs of detainment).

Most research on protective factors has been conducted on children or adolescents aimed at the identification of variables which may be relevant to preventative programs (e.g., Blum & Ireland, 2004; Henrich, Brookmeyer, & Shahar, 2005; Lodewijks, de Ruiter, & Doreleijers, 2010; Reese, Vera, Simon, & Ikeda, 2000). This may be due to the notion that early identification of antisocial behaviors may prevent criminal behavior later in life, and that children and adolescents are more receptive to these protective influences because they are still in the process of development (Ullrich & Coid, 2011). Comparatively, less is known about protective factors for violence risk in adulthood, which may be due to lack of agreement among researchers on the nature of protective factors. Some perceive protective factors to be exclusively the absence of risk factors (Costa, Jessor, & Turbin, 1999), while others view risk and protection

on a continuum, with protective factors representing the opposite end of a risk factor (Webster, Martin, Brink, Nicholls, & Middleton, 2004). Conversely, others argue that protective factors may exist without any corresponding risk factor (i.e., if present= decreased risk, if absent = not at increased risk; Farrington & Loeber, 2000).

Regardless of the lack of consensus on the nature of protective factors, many researchers now share the sentiment that including protective factors in risk assessment is vital for an accurate evaluation of risk for future violence (e.g., DeMatteo, Heilbrun, & Marczyk, 2005; Douglas et al., 2005; Gagliardi, Lovell, Peterson, & Jemelka, 2004; Haggard-Grann, 2005; Jones & Brown, 2008; Salekin & Lochman, 2008). In response to these research findings, assessments have since emerged which now include empirically derived protective factors for use in adult populations, including the Inventory of Offender Risk, Needs, and Strengths (IORN; Miller, 2006b); the Short-Term Assessment of Risk and Treatability (START; Webster et al., 2004); the Dynamic Risk Assessment for Offender Re-entry (DRAOR; Serin, Mailloux, & Wilson, 2012); and the Structured Assessment of Protective Factors for violence risk (SAPROF; de Vogel et al., 2009). Despite their relatively recent entrance into the field of risk assessment, research has been conducted on the predictive utility of these instruments, demonstrating them to have good predictive accuracy and in many cases providing incremental validity to accompanying risk assessments (e.g., Braithwaite, Charette, Crocker, & Reyes, 2010; de Vries Robbé, de Vogel, Douglas, & Nijman, 2015; O'Shea, Picchioni, & Dickens, 2015; Serin & Prell, 2012; Yesberg, Scanlan, Hanby, Serin, & Polaschek, 2015). With regards to forensic psychiatric populations, one of the more recent and promising additions to the study of protective factors for violence risk is the SAPROF (de Vogel et al., 2009).

*Structured Assessment of Protective Factors for violence risk (SAPROF)*. The SAPROF (de Vogel et al., 2009) is a checklist made up entirely of protective factors that was developed to assess mitigating factors for adult males suffering from a psychiatric disorder with a history of violence (de Vries Robbé, 2014). The aim of the instrument is to identify protective factors that can compensate for risk factors in order to create a more balanced assessment of future violent behavior and was designed to be used in combination with other structured guidelines, such as the HCR-20 (de Vogel et al., 2009). It consists of 17 items, two static and 15 dynamic, which are organized into three scales based on the face-value origin of their protection: Internal factors, Motivational factors and External factors (de Vogel et al., 2009). Its static protective factors include personal historical variables such as Intelligence and Secure attachment in childhood while the dynamic protective factors include internal characteristics such as Coping and Self-control; motivational attributes such as Work and Motivation for treatment; and external factors such as Professional care and Living circumstances (de Vogel et al., 2009).

Preliminary research suggests that the SAPROF has good interrater reliability with ICCs typically exceeding .80 (de Vogel et al., 2009). In terms of its predictive efficacy, the SAPROF has been found to demonstrate good predictive validity with moderate to large AUCs, typically exceeding .75 for both general (de Vogel et al., 2009), violent (de Vries Robbé, de Vogel, Koster, & Bogaerts, 2015), and sexual recidivism (de Vries Robbé et al., 2015), across varying follow-up periods. Furthermore, when paired with a structured risk assessment, such as the HCR-20, it has been shown to demonstrate incremental validity above and beyond the predictive validity of either measure alone (de Vogel et al., 2009). Generally, the SAPROF have been shown to be a strong predictor of desistance from violence and contributes to enhanced accuracy in risk assessment. More importantly, improvements on these protective items have been

demonstrated to be related to reductions in violent behavior (de Vries Robbé et al., 2015). These findings not only provide promising opportunities for treatment evaluations but also provide guidance on pertinent factors that should be attended to when making decisions surrounding patients' risk to public safety and restrictions of personal liberty.

**Knowledge versus application.** Overall, the last several decades have seen immense change in how risk for violence is to be assessed. Several measures have been found to have predictive utility in studies spanning a number of decades and across a variety of samples, including forensic psychiatric populations. Although numerous studies have investigated the psychometric properties of these risk assessment tools, comparatively few studies have sought to explore if these instruments are actually used in practice and more importantly, how (Elbogen, 2002). Because good clinical practice is founded upon possessing the appropriate skills, experience, and knowledge, some have suggested that it should be ethically mandated that those who work within a particular field be apprised of all of the relevant literature, assessment tools, and professional guidelines (Edens, 2006). Just as it is the responsibility of researchers to keep track of progress being made in order to revise their assessment tools and incorporate this knowledge base into subsequent works, it is equally, if not more important, for clinicians and those in the field of risk assessment to stay apprised of the current state of research in order to engage in evidence-based practice. Indeed, some courts in the United States have explicitly stated such sentiments (e.g., *Littleton v. Good Samaritan Hospital and Health Center*, 1988). Given this responsibility for those in the field of applied risk assessment, one would assume that investigations into the use of these instruments in practice would align with the current state of research. Unfortunately this has not been the case, as evidenced by a relatively new line of inquiry seeking to determine if the last 30 years of research on risk assessment is being

incorporated into practice (cf. Côté et al., 2012; Crocker, Braithwaite, Côté, Nicholls, & Seto, 2011; Hilton & Simmons, 2001; McKee et al., 2007).

### **Risk Assessment in the 21st Century: Research in Practice?**

"The greatest challenge that remains of the 1990s is to integrate the almost separate worlds of research on the prediction of violence and the clinical practice of assessment. At present, the two domains scarcely intersect." (Webster et al., 1997a, p.1)

Based on the research presented, there is sound empirical basis to believe that forensic decisions regarding violence risk would have improved over recent years. However, research conducted over the last decade has been cause for concern, suggesting that real-life forensic practice (at least with regards to violence risk) has not kept up with empirical developments and in some cases, is still susceptible to the same disconnect between reported and observed practices noted almost forty years ago. In 1978, Quinsey and Ambtman conducted one of the first quantitative studies assessing what factors psychiatrists use in making assessments of dangerousness. They asked four senior clinical staff (i.e., three psychiatrists and one psychologist) to each fill out a treatment conference questionnaire for every patient whose conference (i.e., disposition evaluation) they attended ( $M = 82$ ), which contained questions surrounding 10 predictor variables (e.g., patients' mental status, risk for recidivism). Additionally, they were asked to rank these variables in terms of their importance in the assessment of dangerousness as well as the direction of the relationship each held with dangerousness. The authors compared these ratings within subjects and additionally, to assessments participants had made previously regarding decisions of release or transfer. Overall, the results demonstrated that clinicians perceived strong correlations between dangerousness and unsubstantiated risk markers (e.g., degree of mental illness), demonstrated poor interrater reliability, and furthermore, clinicians' ratings of what they reported as valid predictors of risk

did not coincide with factors they actually used when making assessments of patients (Quinsey & Ambtman, 1978). Given the immense growth made in the field of risk assessment subsequent to this older study, one would believe that progress was inevitable. However, the quote made by Webster and colleagues (1997a) opening this section speaks to what little improvement was made in the following twenty years. It is possible that this lack of progress may be attributed to a disconnect between clinicians and empirical developments during this period. However, it is also possible that it may be due to researchers spending an inordinate amount of time on prescriptive research (i.e., what clinicians *should* do) as opposed to descriptive research (i.e., what clinicians actually *do*) (Elbogen, 2002; Grisso, 1996). Nevertheless, the last decade has seen reinvigorated interest into what clinicians actually do when conducting violence risk assessment.

In 2000, Boothby and Clements conducted a survey of 830 correctional psychologists to determine what tools they used for assessment purposes and found that the most highly reported test utilized (87%) was the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1967), with projective tests such as the Rorschach and projective drawings falling within the fifth and sixth most commonly used assessments, respectively (20% and 14%; Boothby & Clements, 2000). Although the authors did not solicit information from their respondents on *why* the assessments were used, 65% of respondents indicated their involvement in the psychological assessment of offenders, including risk assessment, making the results somewhat disconcerting. To date, little research has provided support for the predictive efficacy of projective tests in predicting violence (Bonta, 2002). Furthermore, risk assessment tools carrying a wealth of literature supporting their reliability and predictive validity were some of the least endorsed; with the PCL-R demonstrating the greatest amount of support (11%) and the VRAG bottoming out at less than 1% (Boothby & Clements, 2000).



Several years later, Elbogen and colleagues (2002) sought to evaluate clinicians' perceptions of risk factors that have been empirically supported in the risk literature in a sample of 134 mental health professionals (e.g., nurses, psychiatrists, clinical psychologists, etc.). Overall, clinicians perceived risk factors taken from actuarial instruments to be relevant to assessments of violence, however, they perceived behavioural variables (e.g., being placed in restraints or seclusion) to be more relevant than research based risk factors such as psychopathy or items taken from the HCR-20 and VRAG (Elbogen, Mercado, Scalora, & Tomkins, 2002). Although this study sheds light on some improvement towards the endorsement of empirically validated risk factors, there is still a clear gap between research and practice.

More specific to forensic practice regarding the assessment of NCRMD patients, similar results were found by McKee and colleagues (2007) in a survey of 157 forensic clinical staff members from a large maximum security forensic hospital in Ontario. They specifically focused on identifying what information respondents felt was most important when providing advice to the RB and asked respondents to rank 25 patient problems consisting of both empirically supported and unsupported items. Results from the survey indicated that, overall, clinicians were aware of some empirically valid predictors of violence when rendering risk related advice (e.g., substance abuse, impulsivity). However, attention was also paid to factors that are generally unrelated to violent recidivism (e.g., severity of index offense; McKee et al., 2007) as well as factors found to be unrelated or inversely related to violent recidivism in this particular sample (e.g., medication noncompliance, thought disorder). A unique and informative attribute of this study was that these results were then compared to advice they had given for hypothetical cases in a prior stage of the study, which revealed little to no agreement between things they said

should be attended to and factors they actually used in formulating their decisions (McKee et al., 2007).

More recently, Viljoen and colleagues (2010) conducted a Web-based survey of 130 psychologists to examine the use of violence risk assessment tools in forensic evaluations of juveniles and adults. The researchers found that clinical psychologists were more likely to use a structured instrument when assessing violence risk in adults and the most commonly used tools were the Psychopathy Checklist measures (PCL-R and PCL:SV), the HCR-20, and the MMPI-2. Furthermore, when comparing the practices of older and younger clinicians, younger clinicians were found to be more likely to use structured risk assessment tools when evaluating adults (Viljoen et al., 2010). These results allude to some progress toward the incorporation of validated risk measures into practice which may be in part due to the younger generation of newly trained professionals entering the work force.

Within the last year a systematic review was conducted by Hurdurcas and colleagues (2014) to analyze the consistency of findings from surveys soliciting reports on the use of violence risk assessment tools. The review consisted of nine surveys published between 2000 and 2013 which examined the practices of psychologists predominantly in the United Kingdom and the United States. Overall, the studies reported prominent use of structured risk assessments such as the PCL-R, HCR-20, and the VRAG, however, there was considerable variation in the extent to which these tools were reportedly used, ranging from 19% (Bengston & Pederson, 2008) to 82% (Lally, 2003). Based on the results, the authors concluded that there is still a paucity of research in this area, and although the results suggest a small progression towards the use of empirically validated risk tools, there is still a gap between research and practice that needs to be addressed (Hurdurcas et al., 2014).

Taken together, these studies indicate that although clinicians consider empirically validated risk assessment instruments to be important, they make less use of them in practice and often include factors that have not been shown to predict violence. Despite a potential increase in the use of validated risk measures over time, further research is needed to provide information about how effective research efforts have been at changing and improving violence risk assessment in practice to date. Ultimately, there are two ways in which this can be examined. The first is continued efforts to solicit reports from those in the field through surveys, however, as evidenced by few studies that have concurrently sought to evaluate the validity of these self reports (e.g., McKee et al., 2007; Quinsey & Ambtman, 1978), what clinicians say they do and what they actually do are often discrepant. A second, and perhaps more important, way of investigating this is by analyzing whether forensic decision-making actually incorporates these empirically supported risk measures/factors into practice.

### **Factors Influencing Release Decisions**

A review of the research on forensic decision-making, more specifically RB decision-making, suggests that there is a lack a consistency in the risk factors assessed to make such judgments across studies, settings, and jurisdictions (cf. Callahan & Silver, 1998; Crocker et al., 2014; Crocker et al., 2011; Silver, 1995; Wilson et al., 2014). In spite of the literature demonstrating the self-reported use of validated risk assessments and their risk items, early research evaluating factors statistically associated with discharge dispositions has identified seriousness of index offence (Silver, 1995) and gender (Callahan & Silver, 1998) to differentiate dispositions of those found NCRMD. As evidenced by the literature, these factors are not supported as prognostic indicators of violence (Harris et al., 1993; Silver, 1995). On the other hand, developments in violence risk assessment did not come to predominate the literature until

the 1990s, potentially lending credence to this observed gap between science and practice.

However, given the time that has elapsed since this initial research, one would expect that RB decisions would have come in line with the literature; demonstrating associations with static and dynamic risk factors which have been repeatedly linked with violence risk and recidivism. Unfortunately, almost twenty years later it appears that the use of structured risk assessments are the exception, rather than the rule (Crocker et al., 2014).

In 2001, Hilton and Simmons retrospectively evaluated clinical judgments and RB decisions to detain or transfer patients from a maximum security facility, consisting of 187 hearings, 69 RB members, and 10 senior clinicians (who provided testimony). The goal of this study was to identify the use of actuarial risk assessment in making risk-related advice, recommendations, and discharge dispositions since the advent of the tribunal Ontario Review Board in 1992 (Hilton & Simmons, 2001). Variables included patient history factors (e.g., length of stay, availability of VRAG), clinical presentation factors (e.g., problems documented in prior year, active psychotic symptoms), patient characteristics (e.g., attractiveness, PCL-R), and medication compliance. Furthermore, senior clinician testimony, recommendations made to the RB, and RB decisions were coded (see Hilton & Simmons, 2001, for a full review of their coding strategy). Overall, they found that RB decisions, team recommendations, and clinician testimony were not influenced by the presence or absence of a risk report on file and additionally, bore no relationship to the scores obtained. Rather, the authors found that RB decisions were solely associated with clinician testimony, and unfortunately, clinician testimony was influenced by invalid indicators such as physical attractiveness (Hilton & Simmons, 2001). This replicates a wealth of research suggesting that judicial decision making essentially 'rubber stamps' psychiatrists' advice (see, e.g., Adams, Pitre, & Cieszkowski, 1997; Mohan, Murray, Steed, &

Mullee, 1998; Quinsey & Ambtman, 1978) as well as research demonstrating that attractive people are often viewed more favourably in legal contexts (e.g., Castellow, Wuensch, & Moore, 1990; Esses & Webster, 1988; Langlois, Kalakanis, Rubenstein, Larson, Hallam, & Smoot, 2000). In terms of psychopathy, PCL-R scores were found to differentiate between decisions to detain or transfer such that those with higher PCL-R scores were more likely to be detained than transferred (Hilton & Simmons, 2001). However, the influence of individual factor and facet scores were not analyzed. Lastly, based on the VRAG published norms (Quinsey, Rice, & Cormier, 1998), the authors found that the projected violent recidivism rate of patients who were released in this study was 48% within 10 years of eventual opportunity (Hilton & Simmons, 2001). This is in stark contrast to the percentage of those expected to recidivate within this time frame had release decisions been based strictly on the VRAG (i.e., 24%; Hilton & Simmons, 2001). Ultimately, this study demonstrated that despite advances in the field (namely with regards to the introduction of actuarial risk assessment), clinicians' advice to the RB failed to take into account these empirically supported risk factors, and hence, was no better than unaided clinical opinion. Unfortunately, given that the PCL-R was scored by the study's investigators and VRAG scores were obtained from a database created subsequent to most of the decisions of the study (Hilton & Simmons, 2001), the actual use of structured risk assessments in the hearings being analyzed could not be evaluated.

Following this, in 2007 McKee and colleagues sought to re-evaluate factors associated with tribunal RB decisions in the same institution as the previous study. This was in an effort to provide an update on the performance of the tribunal and therefore, followed similar methodology with the addition of several variables (e.g., insight into illness). Results of this analysis again demonstrated that RB decisions were strongly associated with psychiatric

testimony but was not significantly associated with scores on the VRAG (McKee et al., 2007). Also similar to earlier findings was that there was a significant relationship between RB decisions and PCL-R score, such that those with higher scores on the PCL-R were more likely to be detained than those with lower scores. Again, investigation into the influence of the PCL-R's individual factor or facet scores was not undertaken. Contrary to prior research, McKee and colleagues (2007) found that psychiatric testimony and team recommendations were associated with scores on the VRAG, however, this was only found in the appropriate direction for those with extreme scores. Overall, the most encouraging difference between this study and prior research was the relationship between clinician testimony and the VRAG, and additionally, a nonsignificant trend towards more restrictive RB decisions for those scoring higher on actuarial assessments (McKee et al., 2007). This suggests a slightly improved situation regarding clinical recommendations and structured risk assessment. However, due to the fact that the information on structured risk assessment was again obtained from a third party (i.e., PCL-R; coded by study investigator; VRAG; obtained from forensic database) and may have been completed at a later time point than the hearings being analyzed (Hilton & Simmons, 2001), analysis into the actual use of these assessments at the disposition hearings remains unclear.

More recently, four key disseminations have emerged from The National Trajectory Project (NTP), a project designed to examine the antecedents and trajectories of NCRMD patients in Canada (e.g., criminal justice involvement, RB decision-making, and outcomes), funded through the Mental Health Commission of Canada (The National Trajectory Project, n.d.). The first study emerging from the NTP sought to identify the psychosocial, criminological, and risk measure correlates of RB decision-making that took place among three hospitals in Quebec between 2004 and 2006 (Crocker et al., 2011). Risk was coded through structured

interview and file review by the study's investigators using the HCR-20, VRAG, and PCL-R across 102 hearings consisting of 96 men. The results revealed that those who were detained were younger, had a more severe index offence, and higher HCR-20 scores, however, this was found to be driven solely by higher scores on the clinical subscale (Crocker et al., 2011). They also found no difference between detained and released men in the number of prior violent and non-violent offences, demonstrating that criminal history did not have much influence on decision-making. Consequently, AUC analysis revealed that VRAG scores were not found to distinguish between dispositions (Crocker et al., 2011). Additionally, the PCL-R was also not found to significantly predict disposition and this was true of both the 2-factor and 4-factor models. However, there was a trend for F1 of the 2-factor model ( $AUC = .57, p=.06$ ) and Facet 2 (Affective) of the 4-factor model ( $AUC = .62, p=.06$ ) in predicting decisions to detain (Crocker et al., 2011), suggesting that those with the more core interpersonal and affective features of psychopathy were perhaps slightly more apt to be denied release. However, logistic regression analysis revealed that the only significant predictors of decisions to detain were higher scores on the clinical subscale of the HCR-20 and a more severe index offence (Crocker et al., 2011). This study demonstrated that disposition decisions are still only weakly related to actuarial risk assessment, despite the fact that they have the best accuracy for long-term prediction (Crocker et al., 2011). Furthermore, this study shows that there is still too much reliance on factors that are not associated with risk of future violence (i.e., severity of index offence), however, dynamic risk factors are beginning to have some influence in practice. One major limitation of this study, similar to prior research, is that although risk assessments completed by individuals external to the hearing process (e.g., research assistants) allows for investigation into the relationship between disposition decisions and structured risk assessments, it fails to address the actual use of

these assessments in practice. More specifically, it fails to address whether or not these assessments, or the risk factors contained within them, were actually taken into account and considered by clinicians in their report to the RB and whether RBs used them to inform their decisions (Crocker et al., 2011).

Following from these limitations, the authors next sought to investigate the extent to which clinician testimony and RB decisions reflected items contained within the HCR-20 (Côté et al., 2012). In this study, research assistants were present at the RB hearings in order to code any mention of the HCR-20 factors within the clinician's verbal testimony, written report, as well as the reasons the RB cited to justify their decisions (Côté et al., 2012). Analysis was then conducted to determine the level of agreement between the risk factors identified by the research team (assessed through both interview and file review) and those noted by the clinician or RB. Overall, the study revealed that very few of the HCR-20 risk factors were noted at all during the hearing process, whether in discussion during the hearing, written reports, or reasons cited for decisions made by the RB (Côté et al., 2012). Furthermore, the only agreement between relevant risk factors identified by the research assistants and those actually mentioned in the hearing process were H1 (previous violence) and H6 (major mental illness) (Côté et al., 2012), both of which are likely to apply to most of those found NCRMD.

Taking into consideration the results of the last two studies together, it appears that empirically validated risk measures are still not being incorporated into the disposition decision-making process; as both clinicians and RB members do not appear to be either discussing risk factors relevant to these measures or using them to any great extent. However, one limitation of this research that still remains is that the actual use of the HCR-20 by clinicians and RBs was not evaluated. Without examination of the actual noted use of the HCR-20, one cannot make



accurate claims as to its application toward the hearings being analyzed. Clinicians and review boards may very well be attending to relevant risk factors without completing the structured risk assessment that happens to contain them, although that doesn't appear to be the case based on the results presented. Furthermore, this research is limited based on its sole reliance on factors contained within the HCR-20, as it fails to capture whether or not other empirically validated risk or protective factors may be influencing decisions.

Two more recent studies emerging from the NTP sought to overcome these limitations. The first was an investigation into the influence of static and dynamic risk factors on disposition decisions. This large scale study examined the static and dynamic predictors of discharge dispositions for both women and men found NCRMD in British Columbia, Ontario, and Quebec between 2000 and 2005 using the HCR-20 as a template to code risk factors mentioned by clinicians and RBs (Crocker et al., 2014). Through coding the mentioned use of a structured risk assessment within expert reports they were able to assess the actual frequency of use of these tools in the decision making process, something prior research had failed to elucidate. Overall, the results in many ways supported prior research in demonstrating that severity of index offence was still being used to make decisions, and furthermore, empirically supported risk factors were in some cases being used inappropriately (e.g., presence of a personality disorder increased the likelihood of an absolute discharge over a conditional discharge; Crocker et al., 2014). In terms of risk assessment use, the authors found that clinicians mentioned using a structured risk assessment in only 17.3% of cases (Crocker et al., 2014). No further information was provided as to the types of assessments noted or their respective frequency of use. Nevertheless, in spite of these results, items from the HCR-20 were consistently mentioned, and when these risk factors were mentioned, the results suggest that they were used to render and justify decisions (Crocker

et al., 2014). In contrast to earlier findings by Hilton and Simmons (2001), the presence of a structured risk assessment on file was associated with disposition decisions. This was such that those with a completed risk assessment in their file were more likely to receive a conditional discharge, suggesting that risk assessment may be utilized more often to support recommendations for less restrictive dispositions.

Lastly, a study published earlier this year by Wilson and colleagues (2015), focused on examining what risk factors are most often mentioned in expert reports and the RBs' reason for decisions. Using the same sample of hearings identified in the previous study, they sought to broaden their analysis on the influence of valid risk factors through the coding of items contained within both the VRAG and the HCR-20, thereby expanding on previous research through the analysis of additional empirically supported risk factors. Given the overlap in sample from the previous study, structured risk assessments were again reportedly used in just 17% of hearings, however, use of the HCR-20 and VRAG were reported as being noted in only 8% and 9% of hearings, respectively (Wilson, Crocker, Nicholls, Charette, & Seto, 2015). What risk assessments comprised the remaining proportion of hearings and whether their frequency exceeded use of the VRAG or HCR-20 was not reported. One of the most prominent findings from this study was that few empirically supported risk factors were mentioned by both experts and RBs, with less than half of the items contained within the VRAG or the HCR-20 noted within either the expert's report or the RB's reasons for decision (Wilson et al., 2015). When risk factors were discussed, they were predominantly related to mental health (e.g., HCR-20, major mental illness, active symptoms of a major mental illness; VRAG, meets DSM criteria for schizophrenia, meets DSM criteria for personality disorder), treatment (e.g., HCR-20,

unresponsiveness to treatment), and criminal history (e.g., HCR-20, previous violence) (Wilson et al., 2015). The same pattern of results was found across both expert reports and RB rationales.

Although this study did not analyze these risk factors as they relate to disposition decisions, a paper previously presented by the author (i.e., Wilson et al., 2014) using the same data, interestingly reported that a greater number of risk factors were discussed in the RB's reasons for decision when a more restrictive disposition was rendered. This is contrary to previous evidence suggesting that risk assessment may be used to support *less* restrictive dispositions (Crocker et al., 2014). Although these results appear to be consistent with theory that individuals at higher risk require more intense supervision and monitoring (see Bonta & Andrews, 2007), the authors note that it is also possible that this may be due to the fact that RBs feel the need to discuss more risk factors to justify their decision (Wilson et al., 2014). Additionally, this study identified prominent use of the HCR-20 in comparison to the VRAG across all three provinces. However, provincial differences arose in the use of particular items contained within the HCR-20, such that each province focused on a particular type of risk factor (i.e., ON= historical, BC= clinical, QC= risk management).

Overall, the evidence presented demonstrates that some progress has been made to incorporate research supporting the utility of structured risk assessment into practice. However, in most cases, there is evidence to suggest that clinicians and RBs alike are still engaging in decision-making predicated on factors that bear no relation to violent recidivism and are rarely employing the use of structured risk assessment, in spite of their reported use of such instruments. More recent research sheds light on the possibility of a progression towards the incorporation of validated risk factors (e.g., Crocker et al., 2014; Wilson et al., 2015). However, uncertainty still exists given that some of the findings appears to contradict both earlier evidence

(e.g., Hilton & Simmons, 2001) as well as findings from the same population demonstrating how risk assessments are being used to aid decision-making (cf., Crocker et al., 2014; Wilson et al., 2014). It is true that recent studies have been able to overcome some of the limitations of prior research through reporting on the frequency of use of structured risk assessments, as well as by expanding on the number and type of risk factors being analyzed. However, further research is still needed to clarify what structured risk assessments are being utilized in clinical practice and to what extent. Given the predominantly narrow focus on the involvement of risk factors from only one or two risk assessments (cf. Crocker et al., 2014; Hilton & Simmons, 2001; McKee et al., 2007; Wilson et al., 2015), the conclusions that can be drawn from these results is often limited to one risk tool in particular (i.e., HCR-20), as opposed to the use of structured risk assessment more generally. To add further to this point, no research to date has examined the role that protective factors might play in forensic decision-making. It is quite possible that clinicians may observe the presence of certain mitigating factors to preclude discussion of particular risk factors, (e.g., exposure to stress in the presence of strong coping skills). Just as those in the field of risk assessment may argue that an unbiased evaluation of violence risk must include analysis of protective factors (e.g., Miller, 2006a), it could also be argued that in order to obtain an unbiased examination of forensic decision-making, one must also account for their role in the decision-making process. And finally, despite the fact that studies appear to be becoming more prominent in the literature, no study to date has been able to elucidate any changes that may have occurred in almost the last decade (research spans from 1992, Hilton & Simmons, 2001; to 2006 Côté et al., 2012), leaving the current state of research in practice relatively unknown. Given the apparent progression toward the incorporation of risk assessment in practice over time, as evidenced over the last several decades of research presented, one would expect to

see further improvements over the last eight years and therefore highlights the need for further research in this area.

### **The Current Study**

The purpose of the current study was to expand our knowledge on forensic mental health decision-making through an evaluation of the extent to which empirically validated risk and protective factors were being discussed when making disposition decisions. Given the dearth of research focusing on disposition decision-making subsequent to 2006, this study investigated reports from RB hearings that took place over the last eight years to determine how frequently items contained within the VRAG (Harris et al., 1993), HCR-20 (Webster et al., 1997), PCL-R (Hare, 2003), and the SAPROF (de Vogel et al., 2009) were being discussed in expert reports and the RB's reasons for decisions, and to what degree they influence decisions to detain or discharge NCRMD patients. The following section outlines the research questions and hypotheses explored in the present study.

#### **Research Question 1: How often are structured risk assessments mentioned in reports used to adjudicate disposition decisions and has this increased over time?**

Prior research has reported that only 17% of hearings mentioned the use of a structured risk assessment, with use of the VRAG and HCR-20 being noted in less than 10% of cases. However, due to the amount of time that has elapsed from prior investigations, allowing for greater incorporation of research into practice, I hypothesized that the majority of reports analyzed in the current study will include reference to the use of a structured risk measure. Based on prior research, the HCR-20 was anticipated to be the most highly endorsed measure, followed by the VRAG, and PCL-R. Lastly, given the relatively recent introduction and emphasis on the

importance of protective factors in the field of risk assessment, I hypothesized that assessments employing their use would be rarely, if ever, mentioned.

Additionally, given the collective evidence demonstrating improvement over time toward the incorporation of risk assessment in practice, I hypothesized that time would be a significant predictor of the use of structured risk assessments, with use increasing over time.

**Research Question 2: How often are risk factors contained within the VRAG, HCR-20, PCL-R, and protective factors in the SAPROF mentioned in reports used to adjudicate disposition decisions?**

When assessing discussion of risk factors, prior research has solely focused on mention of items contained within the HCR-20, and to a lesser extent, the VRAG (e.g., Wilson et al., 2015). Overall, researchers have found that relatively few items from either risk instrument are frequently discussed, particularly psychopathy. However, evidence suggests that when valid risk factors were discussed, both clinicians and RBs appear to focus on factors related to mental health, treatment responsivity, and criminal history (Wilson et al., 2015). Following from this, in conjunction with provincial differences identifying that Ontario appears to favour historical risk factors (Wilson et al., 2014), I anticipated that factors related to mental health, treatment, and criminal history would be noted most frequently, particularly those that are historical in nature (e.g., major mental illness, DSM diagnosis of schizophrenia, prior supervision failure).

With regards to psychopathy, no research to date has specifically analyzed how frequently items contained within the PCL-R are mentioned in reports. However, I hypothesized that items contained within F2 (Lifestyle/Antisocial), and more particularly Facet 4 (Antisocial), would be discussed more frequently due to the fact that they overlap with many of the historical risk factors contained within other measures (e.g., VRAG) as well as their strong association

with violent recidivism in the literature (e.g., Wallinius et al., 2012; Walters, 2003a, 2003b; Walters et al., 2008).

Lastly, given that no research to date has explored the role of protective factors in disposition decision-making, this was exploratory in nature. However, I anticipated that external factors would be noted most frequently due to the ease with which they could be objectively identified from both clinicians and RB members (e.g., living circumstances).

**Research Question 3: What factors differentiate between those receiving each type of disposition?**

With regards to the specific factors associated with dispositions, I anticipated that prior psychiatric admissions, length of stay, and prior criminal history would differentiate groups such that those with higher scores on these items (i.e., more prior admissions, longer stays) would be associated with more restrictive decisions, in line with prior findings (e.g., Crocker et al., 2014; Hilton & Simmons, 2001; McKee et al., 2007). Furthermore, based on consistent findings demonstrating that decisions are often influenced by unsupported prognostic factors (e.g., physical attractiveness, severity of index offense), I predicted that this trend would continue to persist. More specifically, I hypothesized that greater attractiveness would be associated with less restrictive dispositions and that more severe index offences would be associated with more restrictive dispositions.

With regards to the frequency of risk factors mentioned across dispositions, I hypothesized that a greater number of risk items would be discussed when making more restrictive decisions, as this more closely coincides with the principles of the RNR model (i.e., individuals at higher risk require more intense supervision and monitoring; see Bonta & Andrews, 2007) and is in keeping with prior findings (e.g., Wilson et al., 2014). This effect was

anticipated to be generalized across the VRAG, HCR-20, and PCL-R such that a greater number of items from each measure would be noted when making more restrictive dispositions.

Conversely, given that the SAPROF focuses solely on factors which mitigate risk, I anticipated that a greater proportion of protective factors would be noted for those receiving less restrictive dispositions.

With regards to differences in the specific type of risk factors noted, I anticipated that factors contained within the Clinical scale of the HCR-20 would differentiate groups, such that those with a greater proportion of items mentioned would receive more restrictive dispositions as this coincides with prior research demonstrating the influence of these factors on clinical recommendations (and consequently RB decisions) (Crocker et al., 2011). With regards to psychopathy, I predicted that a greater number of items from F2, and particularly Facet 4 (Antisocial), would be associated with more restrictive dispositions. This was due to the widespread attention and validation that antisocial/criminal history risk factors (e.g., prior supervision failures, criminal versatility) have received over the last 10-20 years.

**Research Question 4: What factors have the greatest influence in predicting clinical recommendations and Review Board decisions to detain patients?**

Lastly, in terms of factors predictive of disposition decisions, I hypothesized that RB decisions will still primarily be guided by clinical recommendations, such that factors bearing the greatest influence on clinical recommendations would also show the greatest influence on RB decisions. Conversely, clinical recommendations made in the expert's report were expected to be driven largely by the presence of clinical variables (e.g., insight into illness, unresponsiveness to treatment), similar to prior research (e.g., Hilton & Simmons, 2001; McKee et al., 2007; Crocker et al., 2011).



## **Method**

### **Participants**

Files were retrospectively coded for 90 male NCRMD patients that had a RB hearing at the Royal Ottawa Mental Health Center in central Ontario between the years of 2007 and 2014, excluding those that were there for assessment or involuntarily committed patients because they are not under the jurisdiction of the RB. The Royal Ottawa Mental Health Center's forensic program, a 43 bed inpatient psychiatric facility, provides specialized services for assessment and treatment of adults who have been found NRCMD or unfit to stand trial. In order to be eligible for the study, patients were to be male, found NCRMD, between the ages of 18 to 65, who had at least one RB hearing during the study period, January 2007 to December 2014. Only closed files (i.e., patients that are no longer under the RB) and current outpatients were included. Patients that were identified as current inpatients of the hospital during the coding period (March 25-June 1, 2015) were excluded due to concern over access and availability of their files. One hearing was examined for each patient, excluding hearings in which the patient was found fit to stand trial and returned to court since this does not pertain to release. A stratified sampling method based on year of the hearing was instituted in order to obtain an appropriate distribution of hearings to assess the influence of time. Additionally, given that these hearings take place annually for each patient, often resulting in no change in patient status (cf. Taylor, Goldberg, Leese, Butwell, & Reed, 1999), a stratified sampling method was also used based on disposition. Based on prior research utilizing this method (e.g., Hilton & Simmons, 2001), a minimum of 30% of hearings resulting in a release decision (i.e., conditional or absolute discharge) was selected.

### **Review Board decisions/Clinical recommendations**

Two reports were of primary focus for the current study: the hospital's report to the Ontario Review Board (ORB) and the ORB's reasons for decision report. The hospital's report to the ORB tribunal, hereafter referred to as the expert's report, is a report authored by the attending psychiatrist and clinical team outlining the patient's history (i.e., criminal, psychosocial, psychiatric, behavioural, etc.), progress in hospital, and current risk assessment, followed by conclusions/recommendations. Following the hearing, the ORB releases a report citing their reasons for disposition, hereinafter referred to as the RB's rationale, which provides a brief account of the patient's index offence, history, progress in hospital, evidence put forth at the hearing, followed by their decision (i.e., disposition rendered) and all relevant information factoring into their decision.

The RB's decision was confirmed by file review and coded on a 3-point scale (i.e., 1 = "*absolute discharge*", 2 = "*conditional discharge*", and 3 = "*detained*"). Clinical recommendations made in the expert's report were also coded on a 3-point scale (i.e., 1 = "*Recommendation for absolute discharge*", 2 = "*Recommendation for conditional discharge*", 3 = "*Recommendation for detainment*"). For some analyses, these variables were dichotomized (i.e., discharged-detained).

Expert reports and the RB's rationale were coded for mentioned use of any structured risk assessment tool. Additionally, both reports were coded for the mention of all risk/protective factors contained within the VRAG, HCR-20, PCL-R and the SAPROF. Given that expert reports include a section specifically dedicated "risk assessment" or "assessment of dangerousness", this section was also coded separately in order to determine what factors are specifically being highlighted as risk factors and whether this section held more influence on factors cited in the RB's rationale. Given that some of the risk factors contained within these

measures (e.g., Lived with both biological parents to age 16, Meets DSM criteria for any personality disorder) may be discussed simply due to the nature of describing the historical background or clinical status of the patient, assessing whether these factors were conceptualized as risk factors through inclusion in the risk assessment portion of the report allowed for a more fine tuned analysis of what *risk factors* are truly being discussed. Items contained within the PCL-R were exempt from this section of coding due to the fact that the individual items contained within the PCL-R are not necessarily conceptualized as risk factors, but rather the construct as a whole.

### **Procedure**

All RB hearings that took place during the study period were identified and patients were screened to determine if they met the study criteria (e.g., age, patient status). The resulting list was then divided up based on year of the hearing and 10 files were randomly selected using an online resource for generating random samples. One additional file was selected from each year using this method, except for the start (i.e., 2007) and the end (i.e., 2014) of the sampling period where two files were selected to round out the sample ( $N = 90$ ). Each subsample of files was obtained and assessed to determine disposition outcome for the selected hearing. If the subsample of files did not meet the minimum 30% cutoff for release (i.e., conditional or absolute discharge), half of the files ( $n = 5$ ) were sent back in order to re-draw for cases pertaining to release.

For each case, the principal investigator and a trained research assistant reviewed the entirety of the patient's files to collate information pertaining to patient characteristics, clinical data, and patient history. Information was obtained from psychiatrist's reports, psychological and social work assessments, correspondence with physicians from prior hospitalizations, and police

reports including criminal record information. Finally, items from the risk assessment measures (described in the following section) were coded based on whether or not they were mentioned within the expert's report and the RB's rationale. The reliability of categorical variables was assessed using the kappa statistic (values under .20 are poor, those between .21 and .40 are fair, those between .41 and .60 are moderate, those between .61 and .80 are good, and those between .81 and 1.00 are very good; Altman, 1991). When kappa could not be calculated, percent agreement between raters was calculated. For continuous variables, a two-way random effects ICC with absolute agreement (single measure; see Shrout & Fleiss, 1979) was calculated (values under .40 are poor; moderate = .40 to .60; good = .60 to .75; and excellent = > .75; Fleiss, 1986).

## Measures

For each patient, four categories of data were collated: (1) patient characteristics, (2) clinical data, (3) patient history, and (4) risk assessment. See Appendix B for a copy of the coding manual.

**Patient characteristics.** Patient characteristics information coded included age, race, IQ, and physical attractiveness. Physical attractiveness was independently rated before coding the file by two raters on a scale of 1–10 (i.e., 1 = "*very unattractive*", 5-6 = "*average*", and 10 = "*very attractive*"), using the file photograph (head and shoulders) most recent to the hearing. This photograph was sometimes more than a year old at the time of the hearing. No attempt was made to obtain RB members' perceptions of patient attractiveness or other characteristics.

**Clinical data.** Clinical information included psychiatric diagnosis, length of stay, and psychiatric history. Both primary and secondary (if applicable) psychiatric diagnoses at the time of the hearing were recorded as one of five non-mutually exclusive diagnostic categories: psychotic spectrum disorder, mood spectrum disorder, substance use disorder, personality

disorder, other diagnosis. Psychiatric history prior to index offense was coded on a 3-point scale: 1 = "*No prior admissions*", 2 = "*One or two prior admissions*", and, 3 = "*Three or more prior admissions*" and was dichotomized for some analyses (yes/no).

**Patient history.** Index offense (the charge(s) resulting in the finding of NCRMD) and preindex criminal histories, including violent and nonviolent offenses, were scored using the Cormier–Lang system for quantifying criminal history (Quinsey et al., 1998). This score is the sum of weighted scores for each charge, ranging from 1 (e.g., possession of a weapon, breach of recognizance) to 28 (e.g., homicide) such that it quantifies the extent and severity of criminal history. Due to the range of charges identified in the patients' criminal histories, the expanded version of the Cormier-Lang Criminal History was used which includes additional criminal charges and their weights (See Appendix C). This allowed for a more thorough and structured collection of relevant criminal history information. The principal investigator was the only coder for this portion of data in the study.

**Risk Assessment.** Several risk assessment tools were utilized as templates for coding items in the expert's report and the RB's rationale: the Violence Risk Appraisal Guide (VRAG; Harris et al., 1993), the Historical Clinical Risk Management-20 (HCR-20; Webster et al., 1997b), the Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003) and the Structured Assessment of Protective Factors for violence risk (de Vogel et al., 2009). See Appendix B for a list of the risk factors captured by these measures. These measures were selected due to their strong psychometric properties and empirical support for use in this population (see de Vogel et al., 2009; Douglas & Reeves, 2010; Hare, 2003; Rice et al., 2013). The objective of coding was to determine how often each item was reported (i.e., mentioned) by either the clinical team or the RB when assessing each patient's disposition. Mention of risk factors were coded as: 0= "*Not*

*mentioned*", or 1= "*Mentioned*". Items were coded as "mentioned" whether the item was noted as being present (i.e., the patient has a history of substance abuse) or absent (i.e., the patient does *not* have a history of substance abuse). This was done in an effort to determine what risk factors were being considered and discussed, as opposed to attempting to evaluate patient risk from these individual reports.

*VRAG*. The VRAG (Harris et al., 1993) is an actuarial tool comprised of 12 static items that had the strongest statistical association with violent reoffending in the development sample of over 600 mentally disordered offenders (Quinsey, Harris, Rice, & Cormier, 1998, 2006). The predictive validity of the VRAG has been evaluated in over 60 studies encompassing a variety of different populations and has been found to demonstrate utility in predicting institutional violence (e.g., Campbell et al., 2009), general recidivism (e.g., Glover et al., 2002;) sexual recidivism (Barbaree et al., 2001), as well as the number and severity of violent offences (e.g., Doyle et al., 2012). Given the historical nature of its items, the timeframe for coding was lifetime.

*HCR-20*. The HCR-20 (Webster et al., 1997b) is a broadband violence risk assessment instrument which aligns 20 risk markers into past, present, and future. Ten Historical factors relate to the past, five Clinical items reflect current, dynamic correlates of violence and five Risk Management items focus on situational factors that may increase or mitigate risk. The timeframe for coding Historical variables was lifetime, whereas Clinical variables were coded pertaining to the previous year leading up to the tribunal review or beginning at admittance to the hospital, for those who were detained less than a year before the hearing. Conversely, Risk Management items were coded according to file information gathered on the patient's anticipated psychosocial adjustment, goals, and plans for the near future, following the review. With regards to its

predictive validity, retrospective and prospective research has established that the HCR-20 demonstrates predictive accuracy for both violent and non-violent recidivism as well as institutional violence across a variety of psychiatric populations (Gray et al., 2011; Strand et al., 1999).

*PCL-R.* The PCL-R (Hare, 1991, 2003) consists of 20 items which assess traits and behaviours associated with psychopathy including interpersonal, affective, lifestyle, and antisocial components. As such, PCL-R items were rated on the basis of the patient's lifetime. Research into the factor structure of the PCL-R has consistently found 2 overarching factors: F1 (Interpersonal/Affective) and F2 (Lifestyle/Antisocial) with more recent research supporting a 4-factor structure (i.e., Interpersonal, Affect, Lifestyle, Antisocial). Although not originally created as a risk assessment scale, research has consistently shown the PCL-R to be moderately predictive of general, violent, and sexual recidivism (Campbell et al., 2009; Hawes et al., 2013; Hemphill, Hare, & Wong, 1998; Yang et al., 2010).

*SAPROF.* The SAPROF (de Vogel et al., 2009) is an instrument used for the structured assessment of protective factors for violence risk and was designed to identify factors that can mitigate future violent behavior. It consists of 17 items, two historical and 15 dynamic which are organized into three scales: Internal factors, Motivational factors, and External factors (de Vries Robbé & de Vogel, 2013). Aside from the Internal Scale's two static items (i.e., Intelligence and Secure attachment in childhood), which were coded based on past information, the remaining dynamic variables were coded on the basis of information from the past 6 months and current plans regarding the near future (de Vogel et al., 2009). Retrospective and prospective research shows that the SAPROF has good interrater reliability and demonstrates predictive validity for general, violent, and sexual recidivism (de Vries Robbé & de Vogel, 2012).

## Data Analysis

Descriptive statistics were run on the entire sample for all patient characteristics, clinical data, and patient history variables in order to characterize the sample. To determine how often empirically validated risk measures/factors were mentioned in reports concerning disposition decisions, descriptive statistics were run for both experts' reports and the RB's rationales. This included mention of any structured risk assessment, the risk measures of interest, the mean number of items discussed from each risk measure, the scales, factors/facets contained within them, and total risk factors mentioned. To assess the overall level of agreement between clinical recommendations made in the expert's report and RB decisions, the kappa statistic was used.

To assess the frequency of risk factors mentioned between reports, Pearson's chi-square analyses were used. Fisher's exact test was interpreted when expected cell values were less than five. Odds ratios (OR; with 0.5 added to each cell to avoid empty cells; Fleiss, 1994) were calculated in order to compare mention of items within the expert's report, the expert's risk assessment, and the RB's rationales.

To determine if there were any group differences on patient characteristics, clinical data, and patient history variables, files were divided up based on disposition. However, due to missing data on several patient characteristic variables, groups were dichotomized to preserve power (i.e., detain/discharge). Differences between detained and discharged patients were analyzed using Pearson's chi-square analyses for categorical variables and independent-samples *t*-tests for continuous variables. For all analyses, a measure of the magnitude of the effect was calculated. Cramer's *V* was calculated for all categorical variables (values under .20 are small, those between .20 and .30 are moderate, and those over .30 are strong; Field, 2010) and Cohen's *d* was calculated for any mean differences. The standard convention for interpreting *d* values is



that values of .20 are to be considered to be “small,” values of .50 to be “medium,” and values larger than .80 to be “large” (Cohen, 1988).

Files were then divided up based on all disposition groups (i.e., detained, conditional discharge, absolute discharge) in order to assess for differences in frequency of mention of all risk assessment variables. A series of one-way analysis of variance (ANOVAs) were used with Fisher’s Least Significant Difference (LSD) test as a follow-up to significant results. If Levene’s test for the homogeneity of variance was violated, the Welch’s *F* test was used with *Dunnett’s T3* as a follow-up to significant results as it corrects for violations to the variance assumption.

Finally, binary stepwise logistic regression analyses (Menard, 2002) were utilized to evaluate which variables had the greatest influence in predicting detainment compared to discharge. These analyses were conducted for both clinical recommendations made in the expert's report and RB decisions.

## Results

### Interrater Reliability

Two raters were involved in data collection. The primary investigator was responsible for the majority of the coding ( $n = 80$ ). IRR of the VRAG, HCR-20, PCL-R, and SAPROF codings were examined using 15 of the patient files which were independently coded (16.7% of the hearing sample). Overall, variables showed moderate to very good reliability with kappa statistics ranging from .41 to 1.00 ( $Mdn = .84$ ). The majority (85%) of variables were found to have good to very good reliability with kappa statistics exceeding .60 (Altman, 1991). Continuous variables were also found to have good to excellent reliability (Fleiss, 1986) with ICCs ranging from .66 to .98 ( $Mdn = .82$ ). Finally, percent agreement ranged from 60 to 100% ( $Mdn = 100\%$ ). Table 1 presents the interrater reliabilities across each measure and report.

Table 1

*Interrater reliability for all risk factors/measures*

Expert's report (whole report)	ICC	Mean Kappa
VRAG total	.97	.93
HCR-20 total	.96	.82
HCR-20 Historical scale	.93	.90
HCR-20 Clinical scale	.79	.78
HCR-20 Risk Management scale	.90	.76
PCL-R total	.94	.75
PCL-R Factor 1	.82	.74
PCL-R Factor 2	.83	.69
PCL-R Facet 1	.87	.82
PCL-R Facet 2	.73	.65
PCL-R Facet 3	.67	.72
PCL-R Facet 4	.82	.65
SAPROF total	.89	.78
SAPROF Internal scale	.85	.71
SAPROF Motivation scale	.92	.77
SAPROF External scale	.82	.83
Expert's report (within risk assessment portion)		
VRAG total	.93	.96
HCR-20 total	.97	.92
HCR-20 Historical scale	.98	.96
HCR-20 Clinical scale	.96	.89
HCR-20 Risk Management scale	.94	.86
SAPROF total	.91	.79
SAPROF Internal scale	.67	.80
SAPROF Motivation scale	.80	.73
SAPROF External scale	.80	1.00
RB's Rationale		
VRAG total	.90	.85
HCR-20 total	.69	.74
HCR-20 Historical scale	.78	.72
HCR-20 Clinical scale	.70	.77
HCR-20 Risk Management scale	.66	.76
PCL-R total	.76	.85
PCL-R Factor 1	.84	.90
PCL-R Factor 2	.68	.88
PCL-R Facet 1	.66	1.00
PCL-R Facet 2	.87	.85
PCL-R Facet 3	.78	.88
PCL-R Facet 4	.81	.87

SAPROF total	.82	.72
SAPROF Internal scale	.73	.72
SAPROF Motivation scale	.84	.68
SAPROF External scale	.77	.77

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*Note.* VRAG= Violence Risk Appraisal Guide; HCR-20= Historical Clinical Risk Management-20; PCL-R= Psychopathy Checklist-Revised; SAPROF= Structured Assessment of Protective Factors for violence risk. For kappas that could not be calculated, mean percent agreement between raters were as follows: VRAG 100%, HCR-20 94.1%, PCL-R 95.7%, and SAPROF 93.4%.

### Missing Data

For each participant, the amount of missing data ranged from 0% to 0.005% (0 to 3 items). On the variable level, only three variables contained missing data. Information on race was missing for 4 cases (4.4%). Two of these files fell within the detained group while the other two fell within the absolute discharge group. Full scale IQ scores were to be coded from existing psychological reports in the file. However, psychological assessments containing information on intellectual functioning was often absent from file ( $n = 77$ ) and was therefore excluded from further analyses

Additionally, attractiveness ratings were unable to be completed for 28 cases (31.1%) due to the fact that a photo was not present in the patient's file. Patient photos are typically taken upon admittance to the hospital and are frequently updated and kept on file for identification purposes (e.g., staff administering medication). However, photographs are taken on a voluntary basis and are therefore not reliably present in all cases, as many patients may have refused for various reasons (e.g., noncompliant due to psychiatric disturbance or stress/trauma of being admitted to a forensic institution). Additionally it is possible that other factors, such as time of admittance, may bear influence on the presence of a photo on file due to the fact that patients brought in after hours may not be subject to the same admitting procedures (i.e., due to reduced staffing). Despite the multitude of extraneous variables that may have influenced the presence of a photograph on file, analyses were conducted to determine if the pattern of missingness was related to any of the variables of interest.

First, analyses were conducted to determine if the pattern of missingness differed as a function of disposition grouping. Pearson's chi-square analysis evaluating the presence or absence of a photograph across dichotomous disposition groups revealed a significant difference,

with 57.1% of cases with a missing photo belonging to the discharged group,  $\chi^2(1, N=89) = 4.32, p = .04$ . Given that those who were detained were more likely to have a photograph on file it was questioned as to whether this may be due to the fact that detained patients had simply spent more time in hospital, leaving more opportunity for a photograph to be taken. Although no information was collected on the amount of time patients had actually spent in hospital versus in the community (given that detainment does not preclude community living), time since index verdict was utilized as the closest proxy measure for opportunity for photo. Correlational analyses were then run on the relationship between the presence/absence of a photo and time since index verdict for detained patients and revealed no significant relationship,  $r = .027, p = .85$ . Age was also considered as it was thought that perhaps older individuals may be less likely to want to have their photo taken, however, this also yielded null findings,  $r = -.007, p = .95$ . Diagnostic groups ( $\chi^2(1, N=89) = 2.59, p = .29$ ), index severity ( $r = .15, p = .17$ ), and criminal histories ( $r = .11, p = .30$ ) were also investigated and nothing was found to be significantly related to a patient having a photograph on file. Furthermore, there was no evidence to believe that attractiveness ratings themselves (which were scored by the raters of the study before viewing disposition outcome) bore any relationship to the outcome variables. Ultimately, although the missingness was found to be related to a particular variable (i.e., disposition), it was not believed to be related to the value of the variable (i.e., attractiveness ratings) and was therefore deemed missing at random and retained. Pairwise deletion was instituted for all analyses on attractiveness. Despite the large percentage of missing information on this variable, prior research has identified it as a robust predictor (e.g., Hilton & Simmons, 2001; McKee et al., 2007) and therefore it was believed that analyzing its contribution carried more weight than the loss in power incurred.

**Normality**

All variables were checked for skewness and kurtosis. With large sample sizes the small standard error produced can lead to significant values for kurtosis or skewness even when the observed distribution does not deviate considerably from the normal distribution. In these instances, values above  $z = 3.29$  and below  $z = -3.29$  are considered deviations (Field, 2009). All variables were found to be within the acceptable range except for items pertaining to the PCL-R, which were positively skewed and in some cases leptokurtic due to their low frequency of mention across reports. For these variables, non-parametric tests were used including the Kruskal-Wallis test for three group comparisons with eta squared ( $\eta^2$ ) as the overall effect size indicator. Mann Whitney U-tests with a Bonferonni correction were used for post hoc analyses.

**Identification of Univariate Outliers**

All variables were checked for extreme values through transformation to standardized values (i.e., z scores) with values greater than three standard deviations (i.e.,  $\pm 3.29$ ) considered extreme. Analysis of variables utilizing this cut-off identified one case as extreme across multiple variables. Investigation into this particular case revealed that the patient had been under the ORB for 21 years (6 years longer than the next most extreme), leading to a significantly longer report (17 pages longer than next most extreme) and thus had more extensive discussion of the patient's background, behaviour, and consequently, noted risk factors. Analyses were conducted both with the case included and excluded to investigate its influence. Several statistical analyses were found to be unduly influenced by this outlier, thereby leading to the decision to delete this extreme case.

**Identification of Multivariate Outliers/Regression Diagnostics**

After each regression was run, diagnostic statistics were examined to determine if the appropriate assumptions had been met or if any influential cases (outliers) were present. In order to isolate points for which the model fit poorly, Studentized residuals, standardized residuals, and deviance statistics were analyzed. Values for Cook's distance, DFBeta, and leverage statistics were examined for the presence of outliers. The linearity of the logit assumption was tested by looking for interaction effects between the predictors and their log transformation. Multicollinearity was assessed through evaluation of variance inflation factor (VIF) values, eigenvalues of the scaled, uncentred cross-products matrix, and the condition index of the variance proportions for each predictor.

### **Descriptive Statistics**

The final sample consisted of 89 males who were found NCRMD between 1994 and 2014 for which a hearing took place to determine/review their disposition between January 2007 and September 2014. Eleven hearings were sampled from each year of the study period, except 2007 and 2014 which contained 12, and 2010 which contained 9 (after outlier removal). The dispositions were as follows: detained ( $n = 48$ ), conditional discharge ( $n = 18$ ), absolute discharge ( $n = 23$ ). The level of agreement between recommendations for dispositions made in the expert's report and RB decisions were found to be highly concordant,  $Kappa = .81, p < .001$ , agreeing in 88.8% of hearings. Descriptive statistics for patient characteristic, clinical data, and patient history can be found in Table 2.

**Patient characteristics.** Patient characteristics information obtained included age, race, and physical attractiveness. The average age of participants was 38.18 ( $SD = 11.74$ ). The racial composition of the sample was predominantly Caucasian (58.4%) with Black (18.8%) accounting for the second largest proportion of the sample. Average attractiveness ratings

Table 2

*Descriptive statistics for patient characteristics, clinical data, and patient history*

Potential Predictors (N= 89 cases)	<i>n/M</i>	%/SD
<i>Patient Characteristics</i>		
Age at hearing	38.18	11.74
Race ( <i>n</i> = 85)		
Caucasian/White	52	58.4
Black/African Canadian	16	18.8
Asian	4	4.7
Aboriginal/Native Canadian/First Nations	2	2.4
Middle Eastern	8	9.4
East Indian	2	2.4
Hispanic/Latino	1	1.2
Attractiveness ( <i>n</i> = 62)	4.46	1.73
<i>Clinical Data</i>		
Primary psychiatric diagnosis		
Psychotic spectrum disorder	69	77.5
Mood spectrum disorder	19	21.3
Other Axis I diagnosis	1	1.1
Secondary psychiatric disorder		
Substance use disorder	49	55.1
Personality disorder	1	1.1
Other	7	7.9
None	32	36.0
Length of stay (days)	822.35	1120.92
Presence of psychiatric history		
No prior admissions	26	29.2
1-2 prior admissions	21	23.6
3 or more prior admissions	42	47.2
<i>Patient History</i>		
Index offence score	7.84	6.10
Nonviolent score	3.88	4.05
Violent score	3.94	5.11
Pre-index criminal history score	11.79	20.61
Nonviolent score	7.38	14.87
Violent score	4.40	11.02



for the entire sample was 4.46 ( $SD = 1.73$ ). ICCs were used to determine the interrater reliability for physical attractiveness using 10% of the cases and produced an  $ICC = .62$ , which can be considered to have good reliability (Fleiss, 1986).

**Clinical data.** Clinical information included psychiatric diagnosis, length of stay, and psychiatric history. Diagnosis at the time of the hearing was predominantly psychotic spectrum disorders (77.5%) with mood disorder diagnoses being the second most common (21.3%). Over half of the sample had a co-morbid substance use disorder with either a psychotic or mood disorder (55.1%). Although the proportion of personality disorder diagnoses present in the current sample (1.1%) appears to be much lower than prior research within this population (e.g., Crocker et al., 2014), 18.9% ( $n = 17$ ) of the current sample were diagnosed as possessing personality spectrum disorder "traits", which may allude more to idiosyncratic differences in diagnostic practice. The average length of stay was over 2 years and over two thirds of the sample had a history of prior psychiatric admissions.

**Patient history.** Index offense (the charge(s) resulting in the finding of NCRMD) and preindex criminal histories, including violent and nonviolent offenses, were scored using the Cormier–Lang system for quantifying criminal history (Quinsey et al., 1998). With regards to index offence severity, scores ranged from 0-22 for nonviolent offences ( $M = 3.88$ ,  $SD = 4.05$ ) and 0-32 for violent offences ( $M = 3.94$ ,  $SD = 5.11$ ). For prior criminal histories, scores ranged from 0-88 ( $M = 7.38$ ,  $SD = 14.87$ ) for non-violent crimes and 0-80 for violent crimes ( $M = 4.40$ ,  $SD = 11.02$ ). In the study sample, 55.6% of NCRMD accused had an index offence of assault, 7.8% for sexual offences, 4.4% for kidnapping or forcible confinement offences, 2.2% for attempted murder, and 41.1% for threats and other offences against the person.

**Research Question 1: How often are structured risk assessments mentioned in reports used to adjudicate disposition decisions and has this increased over time?**

Table 3 displays the frequency of mentioned use of a structured risk assessment across reports. Overall, a structured risk assessment was reportedly used in the majority (57.3%) of expert reports which exceeded the RB's rationale (24.7%). Specific structured risk assessments noted across expert reports focused predominantly on the HCR-20 (40.4%), followed by the PCL-R (22.5%), VRAG (5.7%), and other structured assessments (4.5%), such as the Level of Service Inventory-Revised (LSI-R; Andrews & Bonta, 1995) and the START (Webster et al., 2004). The RB's rationale followed a similar pattern with mention of the HCR-20 being the most predominant (21.3%), followed by the PCL-R (13.5%), and VRAG (5.5%). However, no additional risk assessments beyond these three were noted in the RB rationale. Overall, the odds of the expert's report mentioning a structured risk assessment compared to the RB was 3.80 times greater for the HCR-20 and 2.87 times greater for the PCL-R. No differences were identified between reports for the other risk measures.

To assess the influence of time, a binary logistic regression was run using time as a predictor for the mentioned use of a structured risk assessment noted in the expert's report. Overall the model was significant,  $\chi^2(4) = 18.30, p < .0001$  (Nagelkerke  $R^2 = .25$ ), and the Hosmer and Lemeshow test revealed a good fit between the observed data and the model,  $\chi^2(6) = 3.03, p = .805$ . As Table 4 demonstrates, time was found to be a significant predictor such that the odds of the expert noting use of structured risk assessment increased 54% each year, Wald = 15.01,  $p < .001$ ,  $OR = 1.54$ , 95% CI [1.24, 1.92].

Although these results point to increased use of structured risk assessment in practice, almost one third of expert reports made no mention of using any empirically validated instrument

Table 3

*Frequency of mentioned use of a structured risk assessment across reports*

Risk Measures	Expert's Report %/ n	RB's Rationale %/ n	$\chi^2$	OR
Any structured risk assessment	57.3 (51)	24.7 (22)	19.35***	4.32
VRAG	5.7 (6)	5.5 (5)	0.10	1.20
HCR-20	40.4 (36)	21.3 (19)	16.73***	3.80
PCL-R	22.5 (20)	13.5 (12)	8.26**	2.87
Other <sup>a</sup>	4.5 (4)	0.0 (0)	4.09	9.42

*Note.* VRAG= Violence Risk Appraisal Guide; HCR-20= Historical Clinical Risk Management-20; PCL-R= Psychopathy Checklist-Revised; SAPROF= Structured Assessment of Protective Factors for violence risk; OR = odds ratio.

<sup>a</sup> Assumption of Pearson's chi-square test that the expected value of each cell exceeds 5 was violated. Fisher's Exact was interpreted to correct for this.

\*\* $p < .01$ , \*\*\* $p < .001$ .

Table 4

*Logistic regression results for time predicting experts' mentioned use of a structured risk assessment*

Variable	<i>B</i>	<i>SE</i>	Wald	<i>p</i>	Exp( <i>B</i> )	95% CI	
						Lower	Higher
Time	.433	0.11	15.01	<.001	1.54	1.24	1.92

*Note.* Time represents the year that the expert's report was written (i.e., year that hearing took place).

to aid in their assessment and recommendations. However, it is still possible that individual risk items from these measures would be discussed within the process and this was the focus of subsequent analyses.

**Research Question 2: How often are risk factors contained within the VRAG, HCR-20, PCL-R, and protective factors in the SAPROF mentioned in reports used to adjudicate disposition decisions?**

Table 5 displays the mean number of mentioned risk factors from each measure along with its corresponding scales, factors, and facets. Overall, a greater number of risk factors contained within the HCR-20 were noted in both the expert's report and the RB's, with the greatest focus being on Historical and Clinical items, and to a lesser extent, Risk Management items. Additionally, approximately half of the items contained within the SAPROF were noted in both the expert's report as well as the RB's rationale, demonstrating that protective factors are being discussed during the decision making process. SAPROF items most frequently mentioned pertained to External factors and Motivational factors, and more infrequently, Internal factors. Similarly, almost half of the items contained within the VRAG were noted by experts, however, only about one quarter of VRAG items were mentioned by the RB. PCL-R items were mentioned least frequently with expert's mentioning less than 21% of its items and RB's noting less than 8%. When PCL-R items were discussed, they tended to center on items contained within the Affective and Antisocial facets.

As Table 6 shows, items referred to in the expert reports appeared to focus on four major areas: mental health (VRAG, history of alcohol problems; HCR-20, major mental illness, active symptoms, lack of insight, personality disorder, substance use problems), treatment (HCR-20, unresponsive to treatment; SAPROF, medication), criminal history (HCR-20, previous violence,

Table 5

*Mean number of items mentioned from each risk measure, scale, factor, and facet*

Risk Factors	Expert's Report	RB's Rationale
	<i>M (SD)</i>	<i>M (SD)</i>
VRAG (/12)	5.6 (1.79)	3.8 (1.69)
HCR-20 (/20)	11.8 (3.12)	9.5 (2.32)
Historical Scale (/10)	6.5 (1.54)	4.5 (1.41)
Clinical Scale (/5)	3.2 (1.10)	2.7 (.97)
Risk Management Scale (/5)	2.1 (1.25)	2.3 (1.16)
PCL-R (/20)	4.1 (2.41)	1.5 (1.33)
Factor 1 (/8)	1.6 (1.43)	.37 (.65)
Factor 2 (/10)	1.9 (1.36)	.87 (.89)
Interpersonal facet (/4)	.45 (.64)	.16 (.40)
Affective facet (/4)	1.1 (1.16)	.22 (.49)
Lifestyle facet (/5)	.66 (.77)	.26 (.44)
Antisocial facet (/5)	1.3 (.99)	.63 (.77)
SAPROF (/17)	8.2 (2.58)	7.2 (2.11)
Internal Scale (/5)	1.2 (.74)	1.1 (.72)
Motivational Scale (/7)	3.7 (1.56)	3.0 (1.39)
External Scale (/5)	3.4 (1.26)	3.1 (.99)
Total Risk Factors (/69)	29.8 (7.24)	21.9 (4.74)

*Note.* VRAG= Violence Risk Appraisal Guide; HCR-20= Historical Clinical Risk Management-20; PCL-R= Psychopathy Checklist-Revised; SAPROF= Structured Assessment of Protective Factors for violence risk.

criminal history score for nonviolent offences), and reintegration/risk management (HCR-20, lack of personal support, noncompliance with remediation attempts; SAPROF, attitude towards authority, self control, external control, professional care, work, and living circumstances). RBs followed an identical pattern, albeit to an attenuated degree, citing factors pertaining to mental health, treatment, criminal history, and reintegration in a large proportion of the rationales. Overall, there was a moderate correlation between the total number of variables discussed within the experts' reports and the RB's rationales ( $r = .41, p < .001$ ).

Reports were also compared on mention of all risk factors to determine if there was continuity in the risk factors being identified or whether experts or RBs were more likely to note the relevancy of a particular risk factor across hearings. First, risk factors contained within the entirety of the expert's report were compared to risk factors mentioned within the RB's rationale (Table 5). Chi-square analyses were conducted to determine if the mention of risk factors differed across reports and odds ratios (OR) were provided as a measure of effect. ORs greater than 1 denote items that were more frequently mentioned within the expert's report while ORs less than 1 denote items mentioned more frequently by the RB. Non-significant results of chi-square analyses (with ORs close to 1) can be interpreted as the risk factor being noted relatively to the same extent by both the expert and the RB.

Overall, expert reports were more likely to mention risk factors pertaining to childhood/adolescence (VRAG, elementary school maladjustment; HCR-20, young age at first violent incident, early maladjustment; PCL-R, early behavioural problems), relationships (VRAG, marital status; HCR-20, relationship instability; PCL-R, many short-term marital relationships; SAPROF, intimate relationship), psychiatric history and symptomatology (VRAG, history of alcohol problems, meets DSM criteria for personality disorder; HCR-20, substance use

Table 6

*Frequency of risk factors mentioned in expert reports and RB's rationale*

Risk Factor	Expert's Report [% (n)]	RB's Rationale [% (n)]	$\chi^2$	OR
<b><i>VRAG items</i></b>				
V1. Lived with both biological parents to age 16	42.7 (38)	29.2 (26)	3.51	1.79
V2. Elementary school maladjustment	30.3 (27)	12.4 (11)	8.57**	6.28
V3. History of alcohol problems	86.5 (77)	49.4 (44)	28.11***	6.34
V4. Marital status	61.8 (55)	32.6 (29)	18.24***	3.30
V5. Criminal charges for nonviolent offenses prior to the index offense	70.8 (63)	80.9 (72)	2.48	0.58
V6. Failure on prior conditional release	32.6 (29)	25.8 (23)	.98	1.38
V7. Age at index offence	3.4 (3)	0.0 (0)	3.05 <sup>†</sup>	7.24
V8. Victim injury	25.8 (23)	29.2 (26)	.25	0.85
V9. Any female victim (for index offence)	48.3 (43)	38.2 (34)	1.85	1.50
V10. Meets DSM criteria for any personality disorder	67.4 (60)	13.5 (12)	53.74***	12.72
V11. Meets DSM criteria for schizophrenia	68.5 (61)	60.7 (54)	1.20	1.41
V12. Psychopathy Checklist score	25.8 (23)	7.9 (7)	10.26**	3.89
<b><i>HCR-20 items</i></b>				
H1. Previous violence	88.8 (79)	88.8 (79)	N/A	N/A
H2. Young age at first violent incident	14.6 (13)	3.4 (3)	6.87**	4.36
H3. Relationship instability	40.4 (36)	14.6 (13)	14.90***	3.87
H4. Employment problems	46.1 (41)	14.6 (13)	20.84***	4.85
H5. Substance use problems	96.6 (86)	80.9 (72)	11.04**	5.97
H6. Major mental illness	98.9 (88)	97.8 (87)	.34	1.69
H7. Psychopathy	39.2 (26)	9.0 (8)	11.78**	4.00
H8. Early maladjustment	74.2 (66)	36.0 (32)	2.25***	5.01
H9. Personality disorder	86.5 (77)	33.7 (30)	51.76***	12.10
H10. Prior supervision failure	75.3 (67)	67.4 (60)	1.35	1.46
C1. Lack of insight	87.6 (78)	91.0 (81)	.53	0.71
C2. Negative attitudes	23.6 (21)	6.7 (6)	9.82**	4.03



C3. Active symptoms of a major mental illness	89.9 (80)	68.5 (61)	12.32***	3.93
C4. Impulsivity	31.5 (28)	14.6 (13)	7.13**	2.63
C5. Unresponsive to treatment	89.9 (80)	85.4 (76)	.83	1.50
R1. Plans lack feasibility	28.1 (25)	41.6 (37)	3.56 <sup>†</sup>	0.55
R2. Exposure to destabilizers	32.6 (29)	39.3 (35)	.88	0.75
R3. Lack of personal support	62.9 (56)	64.0 (57)	.02	0.95
R4. Noncompliance with remediation attempts	53.9 (48)	66.3 (59)	2.84 <sup>†</sup>	0.60
R5. Stress	36.0 (32)	21.3 (19)	4.64*	2.04
<b><i>PCL-R items</i></b>				
P1. Glibness/Superficial Charm <sup>1</sup>	3.4 (3)	1.1 (1)	1.02	2.39
P2. Grandiose Sense of Self-Worth <sup>1</sup>	32.6 (29)	11.2 (10)	11.85**	3.69
P3. Need for Stimulation/Proneness to Boredom <sup>3</sup>	2.2 (2)	0.0 (0)	2.02	5.11
P4. Pathological Lying <sup>1</sup>	3.4 (3)	0.0 (0)	3.05 <sup>a</sup>	7.24
P5. Conning/Manipulative <sup>1</sup>	5.6 (5)	3.4 (3)	.52	1.61
P6. Lack of Remorse or Guilt <sup>2</sup>	25.8 (23)	9.0 (8)	8.79**	3.39
P7. Shallow Affect <sup>2</sup>	42.7 (38)	2.2 (2)	41.79***	26.17
P8. Callous/Lack of Empathy <sup>2</sup>	12.4 (11)	2.2 (2)	6.72*	5.13
P9. Parasitic Lifestyle <sup>3</sup>	2.2 (2)	1.1 (1)	.34	1.69
P10. Poor Behavioural Controls <sup>4</sup>	57.3 (51)	27.0 (24)	16.80***	3.58
P11. Promiscuous Sexual Behaviour	15.7 (14)	11.2 (10)	.77	1.45
P12. Early Behavioural Problems <sup>4</sup>	28.1 (25)	7.9 (7)	12.34***	4.35
P13. Lack of Realistic, Long-Term Goals <sup>3</sup>	11.2 (10)	7.9 (7)	.59	1.45
P14. Impulsivity <sup>3</sup>	31.5 (28)	10.1 (9)	12.32***	3.92
P15. Irresponsibility <sup>3</sup>	19.1 (17)	5.6 (5)	7.47**	3.71
P16. Failure to Accept Responsibility for Own Actions <sup>2</sup>	29.2 (26)	9.0 (8)	11.78**	4.00
P17. Many Short-Term Marital Relationships	47.2 (42)	12.4 (11)	25.82***	6.11
P18. Juvenile Delinquency <sup>4</sup>	10.1 (9)	5.6 (5)	1.24	1.81
P19. Revocation of Conditional Release <sup>4</sup>	32.6 (29)	24.7 (22)	1.35	1.47
P20. Criminal Versatility <sup>4</sup>	0.0 (0)	0.0 (0)	N/A	N/A
<b><i>SAPROF items</i></b>				
I1. Intelligence	14.6 (13)	5.6 (5)	3.96*	2.71
I2. Secure attachment in childhood	1.1 (1)	0.0 (0)	1.01 <sup>a</sup>	3.03
I3. Empathy	2.2 (2)	2.2 (2)	N/A	N/A

I4. Coping	30.3 (27)	28.1 (25)	.11	1.11
I5. Self-control	75.3 (67)	70.8 (63)	.46	1.25
M1. Work	62.9 (56)	55.1 (49)	1.14	1.38
M2. Leisure activities	27.0 (24)	10.1 (9)	8.37**	3.17
M3. Financial Management	29.2 (26)	10.1 (9)	10.28**	3.54
M4. Motivation for treatment	65.2 (58)	59.6 (53)	.60	1.27
M5. Attitude towards authority	78.7 (70)	80.9 (72)	.14	0.87
M6. Life goals	16.9 (15)	7.9 (7)	3.32 <sup>†</sup>	2.29
M7. Medication	86.5 (77)	78.7 (70)	1.91	1.71
E1. Social network	65.2 (58)	64.0 (57)	.03	1.05
E2. Intimate relationship	46.1 (41)	27.0 (24)	7.00**	2.29
E3. Professional care	66.3 (59)	68.5 (61)	.10	0.90
E4. Living circumstances	85.4 (76)	86.5 (77)	.05	0.91
E5. External control	76.4 (68)	66.3 (59)	2.23	1.63

*Note.* Items prefixed by V denote Violence Risk Appraisal Guide (VRAG) items. Items prefixed by H, C, or R denote Historical Clinical Risk Management-20 (HCR-20) items in the Historical, Clinical, or Risk Management domains. Items prefixed by P denote Psychopathy Checklist-Revised (PCL-R) items. Items prefixed by I, M, or E denote Structured Assessment of Protective Factors for violence risk (SAPROF) items in the Internal, Motivational, or External domains. OR = odds ratio. N/A = not applicable.

<sup>1-4</sup> denotes the PCL-R facet the item belongs to.

<sup>a</sup> Assumption of Pearson's chi-square test that the expected value of each cell exceeds 5 was violated. Fisher's Exact was interpreted to correct for this.

<sup>†</sup>  $p < .10$ ,  $*p < .05$ ,  $**p < .01$ ,  $***p < .001$ .

problems, personality disorder, negative attitudes, active symptoms of a major mental illness, impulsivity), and psychopathy (VRAG, Psychopathy Checklist score; HCR-20, psychopathy), particularly the affective features of psychopathy (e.g., lack of remorse or guilt, callous/lack of empathy). Although no significant differences were identified in the opposing direction (i.e., risk factors noted more frequently by the RB), several trends were identified ( $p < .10$ ) for items contained within the HCR-20 Risk Management scale (i.e., plans lack feasibility, noncompliance with remediation attempts).

Given that a large proportion of risk factors were more likely to be discussed by experts, (and hence, not frequently identified by the RB as factors influencing their decisions), it was questioned as to whether this disagreement may be due to the fact that these risk factors were not being appropriately *conveyed* as relevant risk factors. For example, just because a patient is described as having a history of substance use problems, does not necessarily mean that the RB will perceive this factor to be relevant to the patient's current risk for future violence. However, if this risk factor was also noted within the risk assessment portion of the expert's report, one could conclude that its saliency as a relevant risk factor was conveyed. Therefore, in an effort to analyze the role of salient risk factors, several sets of analyses were conducted. First, the frequency of risk factors noted within the entire expert's report was compared to risk factors noted within the context of the risk assessment. This was done in an effort to identify any differences between what risk factors are being discussed versus what factors are actually being conveyed as risk factors within these reports. As a second line of analyses, risk factors noted within the expert's risk assessment were then compared to those discussed within the RB's rationale. This was done in order to determine if those factors conveyed as risk factors more closely aligned to those being cited by the RB as influencing their decision, due to their saliency.

First, risk factors noted within the entire expert's report were compared to risk factors noted within the expert's risk assessment through chi-square analyses. ORs greater than 1 denote items that were noted more frequently within other areas of the report while ORs close to 1 (with non-significant results from chi-square analyses) denote items discussed at a similar frequency. This may be interpreted as risk factors that were both identified *and* conveyed as a risk factor (e.g., patient was identified as impulsive and impulsivity was identified as a relevant risk factor within the risk assessment section). Conversely, given that there is overlap (i.e., the entirety of the report contains the risk assessment), a non-significant result may also demonstrate that a particular risk factor was only likely to be discussed in the context of the risk assessment (e.g., PCL-R score).

Overall, the results presented in Table 7 demonstrate that the majority of risk factors were more likely to be mentioned in other areas of the expert's report and were not typically conveyed as a relevant risk factor within the risk assessment itself. The only items that did show continuity between being both mentioned and conveyed as relevant were several Clinical risk factors (HCR-20, negative attitudes, impulsivity), Risk Management factors (HCR-20, exposure to destabilizers, stress), and psychopathy (VRAG, Psychopathy Checklist score; HCR-20, Psychopathy). Although no differences were found for age at index offence (VRAG), young age at first violent incident (HCR-20), secure attachment in childhood (SAPROF), and empathy (SAPROF), this is likely more attributable to the fact that these items were rarely, if ever, mentioned at all. Lastly, given that the frequency of risk factors discussed within the expert's report did not appear to align with the factors noted within the RB's rationale, there was question as to whether the RB may only be attending to factors that were more saliently emphasized as

Table 7

*Frequency of risk factors discussed in the entirety of the expert's report compared to the "Risk Assessment" section*

Risk Factor	Whole Report [% (n)]	Risk Assessment Section [% (n)]	$\chi^2$	OR
<b><i>VRAG items</i></b>				
V1. Lived with both biological parents to age 16	42.7 (38)	1.1 (1)	44.95***	44.11
V2. Elementary school maladjustment	30.3 (27)	1.1 (1)	28.65***	25.96
V3. History of alcohol problems	86.5 (77)	27.0 (24)	64.29***	16.58
V4. Marital status	61.8 (55)	1.1 (1)	75.97***	94.91
V5. Criminal history score for nonviolent offenses prior to the index offense	70.8 (63)	5.6 (5)	80.05***	36.81
V6. Failure on prior conditional release	32.6 (29)	2.2 (2)	28.46***	17.07
V7. Age at index offence <sup>a</sup>	3.4 (3)	0.0 (0)	3.05	7.25
V8. Victim injury	25.8 (23)	1.1 (1)	23.31***	20.85
V9. Any female victim (for index offence)	48.3 (43)	4.5 (4)	43.97***	17.77
V10. Meets DSM criteria for any personality disorder	67.4 (60)	7.9 (7)	67.23***	22.56
V11. Meets DSM criteria for schizophrenia	68.5 (61)	29.2 (26)	27.54***	5.17
V12. Psychopathy Checklist score	25.8 (23)	19.1 (17)	1.16	1.46
<b><i>HCR-20 items</i></b>				
H1. Previous violence	88.8 (79)	42.7 (38)	41.93***	10.13
H2. Young age at first violent incident	14.6 (13)	9.0 (8)	1.35	1.69
H3. Relationship instability	40.4 (36)	11.2 (10)	19.82***	5.17
H4. Employment problems	46.1 (41)	15.7 (14)	19.81***	4.46
H5. Substance use problems	96.6 (86)	60.7 (54)	34.62***	16.10
H6. Major mental illness	98.9 (88)	76.4 (68)	20.75***	18.52

H7. Psychopathy	39.2 (26)	23.6 (21)	.72	1.33
H8. Early maladjustment	74.2 (66)	6.7 (6)	82.96***	36.35
H9. Personality disorder	86.5 (77)	15.7 (14)	89.24***	32.28
H10. Prior supervision failure	75.3 (67)	41.6 (37)	20.82***	4.20
C1. Lack of insight	87.6 (78)	62.9 (56)	14.61***	4.05
C2. Negative attitudes	23.6 (21)	15.7 (14)	1.74	1.63
C3. Active symptoms of a major mental illness	89.9 (80)	47.2 (42)	37.62***	9.47
C4. Impulsivity	31.5 (28)	22.5 (20)	1.83	1.57
C5. Unresponsive to treatment	89.9 (80)	61.8 (55)	19.17***	5.27
R1. Plans lack feasibility	28.1 (25)	16.9 (15)	3.23 <sup>†</sup>	1.90
R2. Exposure to destabilizers	32.6 (29)	32.6 (29)	N/A	1.00
R3. Lack of personal support	62.9 (56)	43.8 (39)	6.52*	2.16
R4. Noncompliance with remediation attempts	53.9 (48)	40.4 (36)	3.25 <sup>†</sup>	1.71
R5. Stress	36.0 (32)	27.0 (24)	1.67	1.51
<b><i>SAPROF items</i></b>				
I1. Intelligence	14.6 (13)	2.2 (2)	8.81**	6.18
I2. Secure attachment in childhood	1.1 (1)	0.0 (0)	1.01	3.03
I3. Empathy <sup>a</sup>	2.2 (2)	0.0 (0)	2.02	5.11
I4. Coping	30.3 (27)	13.5 (12)	7.39**	2.73
I5. Self-control	75.3 (67)	30.3 (27)	36.07***	6.82
M1. Work	62.9 (56)	10.1 (9)	53.53***	2.47
M2. Leisure activities	27.0 (24)	0.0 (0)	27.74***	66.95
M3. Financial Management	29.2 (26)	2.2 (2)	24.41***	14.60
M4. Motivation for treatment	65.2 (58)	25.8 (23)	27.75***	5.26
M5. Attitude towards authority	78.7 (70)	33.7 (30)	36.51***	7.05
M6. Life goals	16.9 (15)	2.2 (2)	10.99**	7.28
M7. Medication	86.5 (77)	43.8 (39)	35.74***	7.93

E1. Social network	65.2 (58)	34.8 (31)	16.38***	3.45
E2. Intimate relationship	46.1 (41)	4.5 (4)	40.72***	16.26
E3. Professional care	66.3 (59)	14.6 (13)	49.35***	11.05
E4. Living circumstances	85.4 (76)	14.6 (13)	89.19***	32.11
E5. External control	76.4 (68)	10.1 (9)	79.67***	27.00

*Note.* Items prefixed by V denote Violence Risk Appraisal Guide (VRAG) items. Items prefixed by H, C, or R denote Historical Clinical Risk Management-20 (HCR-20) items in the Historical, Clinical, or Risk Management domains. Items prefixed by I, M, or E denote Structured Assessment of Protective Factors for violence risk (SAPROF) items in the Internal, Motivational, or External domains. OR = odds ratio. N/A = not applicable.

<sup>a</sup> Assumption of Pearson's chi-square test that the expected value of each cell exceeds 5 was violated. Fisher's Exact was interpreted to correct for this.

<sup>†</sup>  $p < .10$ ,  $*p < .05$ ,  $**p < .01$ ,  $***p < .001$ .

relevant risk factors within the context of the risk assessment. Simply put, were RBs merely attending to the risk assessment portion of the document when evaluating expert reports? To evaluate this, the frequency of risk factors discussed within the risk assessment was compared to the RB's rationale through chi-square analyses and corresponding ORs. ORs greater than 1 denote items that were noted more frequently within the RB's rationale while ORs less than 1 denote items noted more frequently within the risk assessment portion of the expert's report. Non-significant results of chi-square analyses (with ORs close to 1) can be interpreted as the risk factor being noted relatively to the same extent, such that the item outlined within the expert's risk assessment was also cited as a factor contributing to the RB's decision. As Table 8 demonstrates, the RB's rationales noted a greater number of risk factors in comparison to the experts' risk assessments. However, several items were identified as showing similarity, meaning that if the item was mentioned within the context of the risk assessment, RBs were just as likely to mention it within their rationale. This included: VRAG, meets DSM criteria for a personality disorder; and HCR-20, relationship instability, employment problems, impulsivity, exposure to destabilizers, and stress. Although no differences were found for age at index offence (VRAG), young age at first violent incident (HCR-20), intelligence, secure attachment in childhood, empathy, and life goals (SAPROF), this again is likely more attributable to the fact that these items were rarely, if ever, mentioned in either report. Interestingly, three risk factors were mentioned significantly more often within the expert's risk assessment and yet neglected within the RB's rationale. This included the PCL-R score (VRAG), psychopathy (HCR-20), and negative attitudes (HCR-20). Overall, given that the RB's rationale appeared to mention more risk factors in comparison to those noted in the expert's risk assessment, this was taken to mean



Table 8

*Frequency of risk factors discussed in the context of the "Risk Assessment" versus the RB's rationale*

Risk Factor	Risk Assessment Section [% (n)]	RB's rationale [% (n)]	$\chi^2$	OR
<b><i>VRAG items</i></b>				
V1. Lived with both biological parents to age 16	1.1 (1)	29.2 (26)	27.29***	24.62
V2. Elementary school maladjustment	1.1 (1)	12.4 (11)	8.94**	8.64
V3. History of alcohol problems	27.0 (24)	49.4 (44)	9.52**	2.80
V4. Marital status	1.1 (1)	32.6 (29)	31.43***	28.77
V5. Criminal history score for nonviolent offenses prior to the index offense	5.6 (5)	80.9 (72)	102.74***	63.65
V6. Failure on prior conditional release	2.2 (2)	25.8 (23)	20.52***	12.37
V7. Age at index offence	0.0 (0)	0.0 (0)	N/A	N/A
V8. Victim injury	1.1 (1)	29.2 (26)	27.29***	24.62
V9. Any female victim (for index offence)	4.5 (4)	38.2 (34)	30.11***	11.81
V10. Meets DSM criteria for any personality disorder	7.9 (7)	13.5 (12)	1.47	1.77
V11. Meets DSM criteria for schizophrenia	29.2 (26)	60.7 (54)	17.80***	3.68
V12. Psychopathy Checklist score	19.1 (17)	7.9 (7)	4.82*	0.38
<b><i>HCR-20 items</i></b>				
H1. Previous violence	42.7 (38)	88.8 (79)	41.93***	10.13
H2. Young age at first violent incident	9.0 (8)	3.4 (3)	2.42	0.39
H3. Relationship instability	11.2 (10)	14.6 (13)	.50	1.34
H4. Employment problems	15.7 (14)	14.6 (13)	.04	0.92
H5. Substance use problems	60.7 (54)	80.9 (72)	8.80**	2.70
H6. Major mental illness	76.4 (68)	97.8 (87)	18.03***	10.99

H7. Psychopathy	23.6 (21)	9.0 (8)	6.96**	0.33
H8. Early maladjustment	6.7 (6)	36.0 (32)	22.62***	7.26
H9. Personality disorder	15.7 (14)	33.7 (30)	7.73**	2.67
H10. Prior supervision failure	41.6 (37)	67.4 (60)	11.98**	2.87
C1. Lack of insight	62.9 (56)	91.0 (81)	19.81***	5.69
C2. Negative attitudes	15.7 (14)	6.7 (6)	3.61 <sup>†</sup>	0.41
C3. Active symptoms of a major mental illness	47.2 (42)	68.5 (61)	8.32**	2.41
C4. Impulsivity	22.5 (20)	14.6 (13)	1.82	0.60
C5. Unresponsive to treatment	61.8 (55)	85.4 (76)	12.75***	3.52
R1. Plans lack feasibility	16.9 (15)	41.6 (37)	13.15***	3.43
R2. Exposure to destabilizers	32.6 (29)	39.3 (35)	.88	1.34
R3. Lack of personal support	43.8 (39)	64.0 (57)	7.33**	2.26
R4. Noncompliance with remediation attempts	40.4 (36)	66.3 (59)	11.94**	2.86
R5. Stress	27.0 (24)	21.3 (19)	.77	0.74
<b><i>SAPROF items</i></b>				
I1. Intelligence <sup>a</sup>	2.2 (2)	5.6 (5)	1.34	2.28
I2. Secure attachment in childhood	0.0 (0)	0.0 (0)	N/A	N/A
I3. Empathy <sup>a</sup>	0.0 (0)	2.2 (2)	2.02	5.11
I4. Coping	13.5 (12)	28.1 (25)	5.77*	2.45
I5. Self-control	30.3 (27)	70.8 (63)	29.13***	5.45
M1. Work	10.1 (9)	55.1 (49)	40.92***	10.36
M2. Leisure activities <sup>a</sup>	0.0 (0)	10.1 (9)	9.48**	21.12
M3. Financial Management	2.2 (2)	10.1 (9)	4.75*	4.13
M4. Motivation for treatment	25.8 (23)	59.6 (53)	20.67***	4.15
M5. Attitude towards authority	33.7 (30)	80.9 (72)	40.51***	8.08
M6. Life goals <sup>a</sup>	2.2 (2)	7.9 (7)	2.93	3.18
M7. Medication	43.8 (39)	78.7 (70)	22.74***	4.62

E1. Social network	34.8 (31)	64.0 (57)	15.19***	3.29
E2. Intimate relationship	4.5 (4)	27.0 (24)	16.95***	7.11
E3. Professional care	14.6 (13)	68.5 (61)	53.29***	12.23
E4. Living circumstances	14.6 (13)	86.5 (77)	92.06***	35.13
E5. External control	10.1 (9)	66.3 (59)	59.49***	16.53

*Note.* Items prefixed by V denote Violence Risk Appraisal Guide (VRAG) items. Items prefixed by H, C, or R denote Historical Clinical Risk Management-20 (HCR-20) items in the Historical, Clinical, or Risk Management domains. Items prefixed by I, M, or E denote Structured Assessment of Protective Factors for violence risk (SAPROF) items in the Internal, Motivational, or External domains. OR = odds ratio. N/A = not applicable.

<sup>a</sup> Assumption of Pearson's chi-square test that the expected value of each cell exceeds 5 was violated. Fisher's Exact was interpreted to correct for this.

<sup>†</sup>  $p < .10$ ,  $*p < .05$ ,  $**p < .01$ ,  $***p < .001$ .

that the RB was in fact attending to factors noted throughout the entirety of the report. Therefore, subsequent analyses utilized information contained throughout the entirety of the expert's report.

**Research Question 3: What factors differentiate between those receiving each type of disposition?**

To determine if there were any group differences on patient characteristic, clinical data, and patient history variables, disposition groups were dichotomized (i.e., detained/discharged). Analyses were conducted on disposition groups based on both clinical recommendations and RB decisions and the results were essentially indistinguishable. Therefore, only RB decision group differences will be displayed. Table 9 displays the means or percentages for both groups on each variable. Overall, the only variables that significantly differed between groups was attractiveness,  $t(59) = 2.82, p = .007, d = .76$ , and diagnosis,  $\chi^2(1, N = 89) = 5.95, p = .015$ , Cramer's  $V = .26$ . This was such that individuals who were ultimately detained were more likely to have lower ratings of attractiveness and to have been diagnosed with a psychotic spectrum disorder (e.g., schizophrenia). Additionally, groups were compared on several general report variables such as whether a structured risk assessment was noted/used, the length of the expert's report, and the length of the expert's risk assessment, however, no significant between group differences were identified.

Next, in order to determine if the number and/or type of risk factors being discussed was related to the disposition being recommended/rendered, a series of one-way ANOVAs were conducted across disposition groupings (i.e., detained, conditional discharge, absolute discharge). First, the mean percentage of items mentioned within the experts' reports were compared across clinical recommendation disposition groups to determine whether the number or type of risk factors discussed by experts differed as a function of the clinical recommendation being given

Table 9

*Patient demographic, clinical, criminal and general report information across detained and discharged groups*

	Detain [ <i>M (SD)</i> ]/ %]	Discharge [ <i>M (SD)</i> ]/ %]	<i>p</i>	<i>d</i> / [Cramer's <i>V</i> ]
<i>Patient Characteristics</i>				
Age at hearing	36.29 (11.23)	40.39 (12.08)	.10	.36
Race (% non-white) ( <i>n</i> = 86) <sup>a</sup>	39.6	34.1	.87	[.06]
Attractiveness ( <i>n</i> = 61)	4.00 (1.63)	5.22 (1.65)	.007	.76
<i>Clinical Data</i>				
Diagnosis (% psychotic spectrum)	87.5	65.9	.02	[.26]
Secondary diagnosis (% substance use)	60.4	48.8	.27	[.12]
Time since index verdict (days)	637.25 (1013.08)	1039.05 (1212.05)	.09	.37
Presence of psychiatric history	75.0	65.9	.34	[.10]
<i>Patient History</i>				
Index offence score	8.60 (5.98)	6.95 (6.20)	.20	.34
Nonviolent score	4.38 (4.42)	3.29 (3.52)	.21	.27
Violent score	4.23 (4.76)	3.66 (5.53)	.60	.14
Pre-index criminal history score	10.85 (19.46)	12.88 (22.07)	.65	.12
Nonviolent score <sup>b</sup>	5.81 (10.64)	9.22 (18.62)	.28	.29
Violent score	5.04 (13.27)	3.66 (7.71)	.56	.16
<i>General Report Information (Hospital's report)</i>				
Any structured risk assessment noted	50.0	65.9	.13	[.16]
Length of report (pages)	18.02 (9.21)	15.68 (6.83)	.18	.36
Length of risk assessment portion (words)	218.46 (139.46)	189.88 (114.59)	.30	.28

*Note.* Attractiveness based on ratings from detained (*n*= 38), discharged (*n*= 23). Race based on detained (*n*= 46), discharged (*n*=39). *d* = strength of the association between continuous variables; Cramer's *V* = strength of the association between nominal variables.

<sup>a</sup> Pearson's chi-square assumption that expected value of each cell exceeds 5 was violated. Fisher's Exact was interpreted. <sup>b</sup> Levene's test of homogeneity of variance was violated.

(see Table 10). Next, the same analyses were then repeated, this time looking at items mentioned within the RB's rationale compared across RB disposition outcome groups to determine if the number or type of risk factors discussed by the RB differed as a function of the decision they are rendering (see Table 11). Lastly, due to the influence of expert noted risk factors on RB decisions, analyses were repeated using the mean percentage of items mentioned within the experts' reports compared across RB disposition outcome (see Table 12).

Table 10 displays the results of expert mentioned items across expert recommended disposition groups. Overall, a higher percentage of risk factors were discussed for patients recommended for detainment ( $M = 45.8$ ,  $SD = 11.00$ ) compared with both discharge groups (Conditional:  $M = 39.9$ ,  $SD = 10.09$ ; Absolute:  $M = 39.0$ ,  $SD = 7.24$ ),  $F(2, 86) = 4.39$ ,  $p = .015$ ,  $d = 1.30$ ). When analyzing the specific risk measures of interest, those recommended for detainment had a higher percentage of risk factors discussed in comparison to both discharge groups when looking at factors contained within the VRAG (Detained:  $M = 50.5$ ,  $SD = 16.03$ ; Conditional:  $M = 41.2$ ,  $SD = 13.64$ ; Absolute:  $M = 42.5$ ,  $SD = 9.72$ ),  $F(2, 86) = 3.88$ ,  $p = .024$ ,  $d = 1.60$ , as well as the HCR-20 (Detained:  $M = 63.0$ ,  $SD = 15.94$ ; Conditional:  $M = 53.5$ ,  $SD = 15.18$ ; Absolute:  $M = 54.0$ ,  $SD = 12.52$ ),  $F(2, 86) = 4.01$ ,  $p = .022$ ,  $d = 1.26$ . There were no differences between the groups on total PCL-R items or SAPROF items discussed.

Analyses were also conducted on the scale level to determine if the specific type of risk factors discussed by experts (e.g., historical, clinical, etc.) was related to the disposition being recommended. Several significant differences were noted. Overall, those recommended for detainment had a higher percentage of Clinical risk factors discussed from the HCR-20 ( $M = 70.8$ ,  $SD = 17.92$ ) compared to those recommended for a conditional discharge ( $M = 49.4$ ,  $SD = 27.49$ ) but not an absolute discharge ( $M = 60.0$ ,  $SD = 20.52$ ),  $F(2, 30.99) = 5.64$ ,  $p = .008$ ,  $d =$

Table 10

*Mean percentage of items mentioned in expert reports across all disposition recommendations*

	Detain [ <i>M (SD)</i> ]	Conditional Discharge [ <i>M (SD)</i> ]	Absolute Discharge [ <i>M (SD)</i> ]	<i>p</i>	<i>d</i> /[ $\eta^2$ ]
Total risk factors	45.8 (11.00) <sub>ab</sub>	39.9 (10.09) <sub>a</sub>	39.0 (7.24) <sub>b</sub>	.02	1.30
VRAG	50.5 (16.03) <sub>ab</sub>	41.2 (13.64) <sub>a</sub>	42.5 (9.72) <sub>b</sub>	.02	1.60
HCR-20	63.0 (15.94) <sub>ab</sub>	53.5 (15.18) <sub>a</sub>	54.0 (12.52) <sub>b</sub>	.02	1.26
Historical Scale	67.5 (16.43)	62.9 (12.63)	60.5 (13.95)	.19	1.39
Clinical Scale <sup>c</sup>	70.8 (17.92) <sub>a</sub>	49.4 (27.49) <sub>a</sub>	60.0 (20.52)	.008	1.41
Risk Management Scale	46.2 (27.88)	38.8 (21.76)	37.0 (18.67)	.30	1.34
PCL-R	22.8 (12.22)	19.1 (11.35)	16.0 (11.19)	.09	1.41
Factor 1	21.6 (18.87)	18.4 (19.32)	14.4 (13.00)	.30	1.41
Factor 2 <sup>d</sup>	22.3 (13.52) <sub>b</sub>	17.1 (13.12)	14.0 (12.73) <sub>b</sub>	.03	[0.08]
Interpersonal facet <sup>d</sup>	13.9 (17.44)	7.4 (14.70)	7.5 (11.75)	.15	[0.04]
Affective facet <sup>d</sup>	28.9 (29.45)	30.9 (31.29)	21.3 (26.00)	.52	[0.01]
Lifestyle facet	15.0 (14.21)	12.9 (17.24)	9.0 (16.51)	.33	1.39
Antisocial facet <sup>d</sup>	29.2 (19.88)	20.0 (15.81)	19.0 (17.74)	.09	[0.05]
SAPROF	49.4 (16.70)	47.4 (13.70)	45.9 (11.53)	.66	1.73
Internal Scale	23.8 (14.84)	29.4 (14.35)	23.0 (14.90)	.34	1.30
Motivational Scale	50.8 (24.96)	52.9 (20.04)	49.1 (20.18)	.88	1.41
External Scale <sup>c</sup>	72.7 (24.74)	57.6 (29.05)	61.0 (18.89)	.05	1.30

*Note.* VRAG= Violence Risk Appraisal Guide; HCR-20= Historical Clinical Risk Management-20; PCL-R= Psychopathy Checklist-Revised; SAPROF= Structured Assessment of Protective Factors for violence risk. *d*-  $\eta^2$  = strength of the association between continuous variables.

<sub>a-b</sub> Means sharing a common subscript are statistically different at  $\alpha = .05$ . <sup>c</sup> Levene's test of homogeneity of variance was violated. Welch's *F* was interpreted with *Dunnett's T3* as a post hoc test. <sup>d</sup> Normality assumption violated. Kruskal Wallis test interpreted with Mann Whitney U Test with Bonferroni correction as a post hoc test. Means and standard deviations presented for interpretability.

1.41. Additionally, those recommended for detainment had a higher percentage of F2 items discussed from the PCL-R (Mean rank = 50.62) compared to those recommended for an absolute discharge (Mean rank = 34.10) but not a conditional discharge (Mean rank = 40.65),  $\chi^2(2) = 6.87, p = .032, \eta^2 = .08$ . No significant differences were identified between groups on mention of items from the HCR-20 Historical or Risk Management scale; PCL-R F1, or any of its facets; or the SAPROF scales. However, it should be noted that the SAPROF's External scale approached significance, although after correcting for homogeneity of variance violations, no significant differences were identified,  $F(2, 35.74) = 3.20, p = .056, d = 1.30$ .

Next, percentage of risk factors contained within the RB's rationale were compared across RB disposition outcome groups to determine if the number or type of risk factors discussed by RBs differed as a function of the decisions rendered. As Table 11 demonstrates, no significant differences in the type and/or frequency of risk factors discussed by the RB were identified, except for items contained within the Motivational scale of the SAPROF. Here we see that RBs were more likely to discuss a greater number of protective factors pertaining to Motivational items when rendering a verdict of a conditional discharge ( $M = 50.8, SD = 14.86$ ) in comparison to those ordered to be detained ( $M = 37.8, SD = 19.42$ ), but not those given an absolute discharge ( $M = 45.8, SD = 22.12$ ),  $F(2, 86) = 3.40, p = .038, d = 1.40$ .

Finally, analyses were conducted on the mean percentage of items mentioned within the expert's report across RB disposition outcome groups to determine if the number or type of risk factors discussed by experts was related to the RB dispositions rendered. As Table 12 demonstrates, overall, patients ordered to be detained had a higher percentage of risk factors discussed within the expert's report ( $M = 46.0, SD = 11.27$ ) compared to those given an absolute discharge ( $M = 39.1, SD = 7.34$ ) but not a conditional discharge ( $M = 40.8, SD = 9.97$ ),  $F(2,$



Table 11

*Mean percentage of items mentioned in the RB's rationale across all RB disposition outcomes*

	Detain [ <i>M (SD)</i> ]	Conditional Discharge [ <i>M (SD)</i> ]	Absolute Discharge [ <i>M (SD)</i> ]	<i>p</i>	<i>d</i> /[ $\eta^2$ ]
Total risk factors	31.8 (7.19)	34.4 (6.64)	29.8 (5.89)	.11	1.42
VRAG	33.0 (14.68)	31.5 (12.64)	27.9 (13.90)	.37	1.68
HCR-20	48.0 (12.62)	50.6 (10.13)	43.5 (9.70)	.13	1.71
Historical Scale	45.8 (14.27)	47.8 (14.37)	40.0 (13.14)	.16	1.36
Clinical Scale	55.0 (19.57)	55.6 (16.17)	47.8 (16.76)	.26	1.27
Risk Management Scale	45.4 (25.68)	51.1 (18.44)	46.1 (21.26)	.67	1.59
PCL-R <sup>a</sup>	7.8 (6.27)	8.3 (8.57)	6.3 (5.88)	.63	[0.01]
Factor 1 <sup>a</sup>	4.4 (7.94)	5.6 (9.80)	4.3 (7.16)	.97	[0.001]
Factor 2 <sup>a</sup>	10.0 (9.00)	8.9 (10.23)	5.7 (7.28)	.10	[0.05]
Interpersonal facet <sup>a</sup>	5.2 (11.48)	4.2 (9.59)	1.1 (5.21)	.28	[0.03]
Affective facet <sup>a</sup>	3.5 (10.10)	6.9 (14.36)	8.7 (14.31)	.25	[0.04]
Lifestyle facet <sup>a</sup>	5.4 (8.98)	5.6 (9.22)	4.6 (8.91)	.92	[0.002]
Antisocial facet <sup>a</sup>	14.4 (16.36)	13.3 (16.80)	7.8 (11.66)	.24	[0.03]
SAPROF	39.7 (12.41)	47.5 (9.60)	42.4 (12.50)	.06	1.39
Internal Scale	18.8 (14.53)	26.7 (11.88)	22.6 (15.17)	.12	1.41
Motivational Scale	37.8 (19.42) <sub>b</sub>	50.8 (14.86) <sub>b</sub>	45.8 (22.12)	.04	1.40
External Scale	64.2 (18.89)	65.6 (20.36)	54.8 (20.20)	.12	1.30

*Note.* VRAG= Violence Risk Appraisal Guide; HCR-20= Historical Clinical Risk Management-20; PCL-R= Psychopathy Checklist-Revised; SAPROF= Structured Assessment of Protective Factors for violence risk. *d*-  $\eta^2$  = strength of the association between continuous variables.

<sup>a</sup> Normality assumption violated. Kruskal Wallis test interpreted. Means and standard deviations presented for interpretability. <sub>b</sub> Means sharing a common subscript are statistically different at  $\alpha = .05$ .

86)= 4.12,  $p = .020$ ,  $d = 1.37$ . When analyzing the specific risk measures of interest, those ordered to be detained had a higher percentage of risk factors contained within the VRAG mentioned by the expert ( $M = 50.5$ ,  $SD = 15.97$ ) in comparison to those who were given an absolute discharge ( $M = 41.3$ ,  $SD = 11.92$ ) but not a conditional discharge ( $M = 44.4$ ,  $SD = 13.09$ ),  $F(2, 86) = 3.48$ ,  $p = .035$ ,  $d = 1.39$ . No differences between groups were identified for the total number of risk factors mentioned from the HCR-20, PCL-R, or the SAPROF.

Analyses conducted on the scale level also identified several significant differences between groups. First, those ordered to be detained were found to have had a higher percentage of Clinical risk factors discussed within the expert's report from the HCR-20 ( $M = 70.4$ ,  $SD = 19.78$ ) compared to both discharge groups (Conditional:  $M = 54.4$ ,  $SD = 25.49$ ; Absolute:  $M = 59.1$ ,  $SD = 20.43$ ),  $F(2, 86) = 4.63$ ,  $p = .012$ ,  $d = 1.38$ . No differences were identified for the HCR-20's Historical or Risk Management items. With regards to the PCL-R, those ordered to be detained were found to have had a higher percentage of F2 items mentioned in the expert's report (Mean rank= 50.51), in comparison to those who were given an absolute discharge (Mean rank= 34.13), but not a conditional discharge (Mean rank= 44.19),  $\chi^2(2) = 6.62$ ,  $p = .036$ ,  $\eta^2 = .08$ . Additionally, those ordered to be detained were found to have had a higher percentage of Facet 1 (Interpersonal) items mentioned (Mean rank= 49.35), in comparison to those who were given an absolute discharge (Mean rank= 35.63) but not a conditional discharge (Mean rank= 45.36),  $\chi^2(2) = 6.05$ ,  $p = .048$ ,  $\eta^2 = .07$ . However, no differences were identified for F1 items or facets 2-4. Lastly, in terms of the SAPROF scales, those ordered to be detained were found to have had a higher percentage of External protective factors discussed within the expert's report ( $M = 75.4$ ,  $SD = 23.79$ ) compared to both discharge groups (Conditional:  $M = 52.2$ ,  $SD = 26.69$ ;

Table 12

*Mean percentage of items mentioned in the expert's report across all RB disposition outcome groups*

	Detain [ <i>M (SD)</i> ]	Conditional Discharge [ <i>M (SD)</i> ]	Absolute Discharge [ <i>M (SD)</i> ]	<i>p</i>	<i>d/ [η<sup>2</sup>]</i>
Total risk factors	46.0 (11.27) <sub>a</sub>	40.8 (9.97)	39.1 (7.34) <sub>a</sub>	.02	1.37
VRAG	50.5 (15.97) <sub>a</sub>	44.4 (13.09)	41.3 (11.92) <sub>a</sub>	.04	1.39
HCR-20	62.8 (16.63)	55.0 (14.85)	54.8 (12.29)	.06	1.24
Historical Scale	66.9 (16.39)	64.4 (16.39)	61.7 (14.35)	.42	1.43
Clinical Scale	70.4 (19.78) <sub>ab</sub>	54.4 (25.49) <sub>a</sub>	59.1 (20.43) <sub>b</sub>	.01	1.38
Risk Management Scale	47.1 (27.83)	37.8 (21.57)	37.4 (20.27)	.20	1.25
PCL-R	22.6 (12.04)	20.0 (11.85)	16.7 (11.64)	.15	1.42
Factor 1 <sup>c</sup>	21.9 (19.55)	18.8 (18.81)	14.7 (12.30)	.18	1.41
Factor 2 <sup>d</sup>	21.7 (11.73)	19.4 (14.34)	14.8 (15.92)	.04	[0.08]
Interpersonal facet <sup>d</sup>	14.6 (17.74) <sub>b</sub>	11.1 (15.39)	4.3 (9.69) <sub>b</sub>	.04	[0.07]
Affective facet <sup>d</sup>	28.6 (30.51)	27.8 (31.96)	25.0 (23.84)	.98	[0.001]
Lifestyle facet	13.8 (12.48)	15.6 (17.56)	10.4 (18.94)	.55	1.42
Antisocial facet <sup>d</sup>	29.3 (20.16)	22.2 (18.01)	19.1 (19.52)	.10	[0.05]
SAPROF	50.3 (16.69)	46.0 (13.84)	45.5 (11.92)	.37	1.29
Internal Scale	23.3 (15.62)	30.0 (14.14)	23.5 (13.01)	.24	1.24
Motivational Scale	51.4 (25.72)	53.2 (18.84)	47.7 (19.77)	.73	1.39
External Scale	75.4 (23.79) <sub>ab</sub>	52.2 (26.69) <sub>a</sub>	61.7 (19.92) <sub>b</sub>	.001	1.41

*Note.* VRAG= Violence Risk Appraisal Guide; HCR-20= Historical Clinical Risk Management-20; PCL-R= Psychopathy Checklist-Revised; SAPROF= Structured Assessment of Protective Factors for violence risk. *d*-  $\eta^2$  = strength of the association between continuous variables.

<sub>a-b</sub> Means sharing a common subscript are statistically different at  $\alpha = .05$ . <sup>c</sup> Levene's test of homogeneity of variance violated.

Welch's *F* interpreted with *Dunnett's T3* as a post hoc test. <sup>d</sup> Normality assumption violated. Kruskal Wallis test interpreted with Mann Whitney U Test with a Bonferroni correction as a post hoc test. Means and standard deviations presented for interpretability.

Absolute:  $M = 61.7$ ,  $SD = 19.92$ ),  $F(2, 86) = 7.22$ ,  $p = .001$ ,  $d = 1.41$ . However, no differences were identified for the Internal or Motivational scale items between groups.

**Research Question 4: What factors have the greatest influence in predicting clinical recommendations and Review Board decisions to detain patients?**

The last set of analyses have so far presented information from three separate sources that have the potential to influence disposition decisions: patient variables (i.e., patient characteristics), risk factors discussed by experts, and risk factors discussed by RBs. Given the information provided thus far, it is now possible to examine what variables are most predictive of both clinical recommendations and RB decisions. Therefore, several stepwise binary logistic regressions were run to determine what factors have the greatest influence on predicting detainment for both (1) clinical recommendations made by the expert, and (2) RB decisions. Variables were chosen if they represented statistically significant differences between disposition groups. Those with borderline results ( $p < .06$ ) were also entered given that they may have been a product of low power. Given the anticipated correlations between the overall total number of risk/protective factors mentioned and the total number of risk factors mentioned from each of the measures, the former was excluded from these analyses in order to investigate the influence of the individual measures. Similarly, when the total number of items noted from an individual measure (e.g., HCR-20), in addition to one or more of its individual scales (e.g., HCR-20 Clinical scale) were found to be significant, only the scale scores were entered into the model to avoid multicollinearity. The following patient variables were taken from Table 9: attractiveness ratings and psychotic spectrum diagnosis. The following variables were taken from Table 10 (representing items mentioned within the expert's report): VRAG total, HCR-20 Clinical scale, PCL-R F2, and SAPROF External scale. The following variables were taken from Table 11

(representing items mentioned within the RB's rationale): SAPROF Motivational scale. And finally, the following variables were taken from Table 12 (representing expert mentioned items influencing RB decisions): VRAG total, HCR-20 Clinical scale, PCL-R F2, PCL-R Facet 1, and SAPROF External scale. Variables were paired based on their demonstrated relationship to the outcome variable (e.g., all variables demonstrating differences among expert recommended disposition groups were entered together). For all regression analyses, the backward selection method was used (LR method; analyses restricted to cases with information on all variables entered into the model). Results can be found in Table 13.

All variables identified from Table 9 and Table 10 were entered to determine what factors are most predictive of clinical recommendations to detain. The overall final model was significant,  $\chi^2(4) = 25.21, p < .0001$  (Nagelkerke  $R^2 = .47$ ), and the Hosmer and Lemeshow test revealed a good fit between the observed data and the model,  $\chi^2(8) = 8.00, p = .43$ . After controlling for the effects of all variables in the model, items that were found to add incrementally to the prediction of a recommendation for detainment included: having a psychotic spectrum disorder and a greater number of items discussed from the SAPROF's External scale. However, lower attractiveness ratings, and a greater number of items noted from the HCR-20 Clinical scale approached statistical significance for incremental predictive validity.

Next, a separate stepwise logistic regression was run to determine what factors have the greatest influence on RB decisions to detain. All variables identified from Table 9, Table 11, and Table 12 were entered. Overall, the final model was significant,  $\chi^2(4) = 36.48, p < .0001$  (Nagelkerke  $R^2 = .61$ ), and the Hosmer and Lemeshow test revealed a good fit between the observed data and the model,  $\chi^2(8) = 5.92, p = .656$ . After controlling for the effects of all variables in the model, items that were found to add incrementally to the prediction of RB

Table 13

*Logistic regression results for predicting a disposition of detainment (compared to discharge)*

Variable	<i>B</i>	<i>SE</i>	Wald	<i>p</i>	Exp( <i>B</i> )	95% CI	
						Lower	Higher
Clinical recommendations <sup>a</sup>							
Attractiveness	-.411	0.22	3.40	0.065	0.66	0.43	1.03
Psychotic Spectrum Diagnosis	2.578	0.93	7.65	0.006	13.17	2.12	81.81
HCR-20 Clinical Scale	.618	0.36	3.03	0.082	1.86	0.93	3.72
SAPROF External Scale	.550	0.28	3.90	0.048	1.43	1.00	2.99
Review Board decisions <sup>b</sup>							
Attractiveness	-.522	0.26	4.03	0.045	0.59	0.36	0.99
Psychotic Spectrum Diagnosis	2.571	1.17	4.88	0.027	13.08	1.36	128.20
SAPROF External Scale	1.401	0.40	12.05	0.001	4.06	1.84	8.96
SAPROF Motivational Scale <sup>c</sup>	-.547	0.31	3.16	0.075	0.58	0.32	1.06

*Note:* HCR-20= Historical Clinical Risk Management-20; SAPROF= Structured Assessment of Protective Factors for violence risk.

<sup>a</sup> Variables not included in the final model: VRAG total and PCL-R F2. <sup>b</sup> Variables not included in the final model: HCR-20 Clinical Scale, PCL-R Facet 1, and VRAG total <sup>c</sup> Mentioned in RB rationale.

decisions to detain included: lower attractiveness ratings, having a psychotic spectrum disorder, and a higher number of External items (SAPROF) noted in the expert's report, although fewer Motivational items discussed in the RB's rationale approached statistical significance for incremental predictive validity. Given the wealth of evidence demonstrating the predictive influence of clinical recommendations on RB decisions, dichotomous recommendations were initially also entered into the model. However, this resulted in a perfect prediction meaning that slopes for the variables could not be calculated (Field, 2010); and therefore could not be assessed. Taking into consideration the expert's recommendation for disposition accounted for all of the variability in the final disposition outcome (Nagelkerke  $R^2 = 1.00$ ). This is not surprising given that that prior research has characterized RB decisions as essentially rubber stamping expert recommendations.

### **Discussion**

The goal of this study was to expand our knowledge on forensic mental health decision-making through evaluating the extent to which empirically validated risk and protective factors are being discussed when making disposition decisions in recent years and to what degree they influence decisions. Overall, the results demonstrate that clinicians noted the use of a structured risk assessment in over half of the hearings analyzed and this appears to be increasing over time. However, given that almost 43% of hearings neglected to mention the use such a tool, it is evident that there is still a significant gap between research on the efficacy of these measures and their implementation into clinical practice that needs to be addressed. Despite this large percentage of cases that did not appear to administer a validated risk assessment, the results do show that empirically supported risk and protective factors are being discussed, and that both clinicians and RBs are focusing on factors relevant to each of the legal criteria put before them in

the Criminal Code. Furthermore, the results also show that protective factors play a significant role in decision-making, with both clinicians and RBs discussing and utilizing them to inform their decisions. Although these findings may suggest that decision-making is guided by the literature and is therefore evidence-based, one must be cautiously optimistic as the results also demonstrate that decision-making is still unduly influenced by the same extraneous factor, patient attractiveness, identified twenty years ago.

The findings of the current study are consistent with previous research in many regards. On average, about half of the risk factors contained within several of the most empirically supported violence risk assessment measures, the HCR-20 (Webster et al., 1997b) and the VRAG (Harris et al., 1993) were mentioned within expert reports and the RB's reasons for decisions, which supports similar investigations into the application of violence risk research in practice conducted almost a decade ago (e.g., Crocker et al., 2014, Wilson et al., 2015). Additionally, looking at the specific risk factors contained within these measures, those that appear to be of primary focus when writing reports used to adjudicate disposition decisions are still highly concordant between both experts and RBs, with items pertaining to mental health, treatment, and criminal history maintaining priority as prior research has suggested (e.g., Wilson et al., 2015). Contrary to prior research however, the use of structured risk assessments in practice appears to be more prominent, with a majority of expert reports noting use of such instruments. Additionally, although a trend towards their increase in use was apparent through a review of the literature, this study, through its sampling of hearings over a 7 year timeframe, was able to assess this pattern and provide empirical support to this positive progression. This was also the first study to analyze the use of psychopathic traits and protective factors in the decision-making process, and demonstrates that utilizing a particular assessment (e.g., PCL-R) doesn't



necessarily imply that the items contained within it will come to bear influence on the decisional process. Furthermore, the results also demonstrate that failure to use a particular instrument (e.g., SAPROF) does not preclude the use of its items when making decisions.

### **The Use of Structured Risk Assessment in Practice**

As anticipated, a structured risk assessment was noted within the majority of expert reports (57%), however, only about one quarter of the RB's reasons for decisions. This is in contrast to prior research which found that clinicians noted the use of such instruments in just 17% of cases (Crocker et al., 2014). It is possible that this 40% increase observed over the last eight years may in part be a product of the differences in samples analyzed between studies. Given the large magnitude of hearings analyzed by the NTP in their interprovincial study in comparison to this modest sample analysed from an individual institution, one might explain such differences as a product of regional differences that were simply attenuated when averaged out across their nearly 7,000 hearings sampled across dozens of Canadian institutions. However, investigation in the influence of time on the noted use of a risk measure offers a plausible alternative explanation.

Given the collective evidence from prior investigations demonstrating an apparent improvement over time toward the incorporation of risk assessment in practice, I hypothesized that due to the amount of time that had elapsed from prior investigations, the majority of reports would now cite the use of these empirically validated instruments. This was due to the belief that time would allow for the field to adjust and apply evidence-based practice, and essentially catch up to our current understanding of their utility. Now that their increased frequency of use was confirmed, it was important to investigate whether this increase may be related to the passage of time. Analyses confirmed that time was in fact a significant predictor of using a structured risk

assessment. This was such that the odds of the expert noting use of structured risk assessment increased 54% each year, suggesting that the differences observed in the current study are likely to be a product of the improvements made over the last eight years, and consequently, a better representation of the current state of forensic decision-making practices.

When looking at the specific prevalence of use of some of the most prominently endorsed measures in violence risk assessment we see that, as anticipated, the HCR-20 continues to be the most popular; with experts mentioning its use in just over 40% of hearings. Its prominence in a psychiatric setting is not surprising given that this measure was originally developed for use in populations with a high prevalence of substance abuse, major mental illness, and personality disorder, and furthermore, that it allows for the assessment of dynamic risk factors that may be targeted through treatment (Webster et al., 1997b). Nevertheless, this is a substantive increase from prior research which reported its use in only 8% of hearings (Wilson et al., 2015). Although this bias towards use of the HCR-20 provides some justification to the literature's previous overreliance on this measure (e.g., Côté et al., 2012, Crocker et al., 2011; Crocker et al., 2014), the results of the current study also identified that approximately 23% of expert reports cited use of the PCL-R, and just over 10% noted use of another structured risk assessment, such as the VRAG (5.6%), START (1%), LSI-R (1%), or STATIC 99 (1%; Hanson & Thornton, 1999). Therefore, it is possible that the results presented in prior investigations may fail to capture the use of structured risk assessment more generally, and are instead only capturing the use of a specific subset of empirically supported risk factors. Although there is undoubtedly an overlap between various risk measures in the types of factors (e.g., static and dynamic) and specific items being assessed (e.g., impulsivity), these face value similarities are often differentiated upon further analysis into how each measure chooses to operationalize it. Therefore, it is pertinent to

examine the role and utility of multiple risk assessments in order to obtain an accurate portrayal of their inclusion in the decision-making process.

The fact that the PCL-R was noted in over 20% of the hearings analyzed was an unexpected finding but is concordant with prior research. Although previous research has never investigated the actual use of the PCL-R, often studying its influence through investigator scored evaluations, research has evaluated its use indirectly: through the coding of risk factors contained within the VRAG and HCR-20. Based on these findings (e.g., Wilson et al., 2015), psychopathy as measured by the PCL-R was one of the least frequently mentioned risk factors, appearing in approximately 14-18% of hearings. Although the current results (22.5%) suggest there has been a modest increase in its use over the last 8 years, the fact remains that over three quarters of the hearings analyzed seemingly failed to assess the potential role of psychopathy, in spite of its implications for violent recidivism and public safety. However, what was further surprising was that the VRAG was only found to be reported in less than 6% of cases, which was actually less than that reported by Wilson and colleagues based on hearings held between 2002-2005 (9%; Wilson et al., 2015). Overall, despite the apparent increase in the use of structured risk assessment in practice, these results suggest that the VRAG may not be a preferred method of violence risk assessment by those working in the applied fields.

Lastly, given the relatively recent introduction of protective factors into the field of risk assessment, I hypothesized that assessments employing their use would be rarely, if ever, mentioned. This was supported by the current results with only one report mentioning the use of a structured assessment geared at assessing factors that might mitigate risk (i.e., START; Webster et al., 2004). Nevertheless, despite this apparent disregard for use of a protective

measure, the results of the current study demonstrate that this far from precludes the use of such items in the decision-making process, which will be discussed further in the subsequent section.

When looking at differences between the expert reports and RB rationales, it was apparent that in almost all cases experts were more likely to mention a structured risk assessment. This is not surprising given that discussion of such assessments by the RB is solely reliant on its use by the expert. However, analysis of its use by both parties was important for several reasons. First, given that it cannot be definitively inferred from the expert's report alone as to whether or not a structured risk assessment was used (e.g., it is possible it may have been assessed without being reported), one would at least expect this evidence to be put forth during the hearing, and hence, noted in the RB's reasons for decisions. Additionally, capturing how frequently structured risk assessment evidence is noted by the RB in part sheds light on how they are utilizing this information presented to them. It was hoped that such evidence would bear weight on the decision-making process and therefore warrant mention within the RB's reasons for decision. Based on the results of the current study, only one quarter of RB rationales cited a structured risk assessment in their reasons for decision, which is less than half of the hearings for which an expert discussed using one. This demonstrates that even in cases for which structured risk assessment results were put forth, the RB only actually cited these assessments as bearing influence on their decisions in less than half of those cases. Additionally, there were no instances in which the RB noted a structured risk assessment in the absence of one being reported in the expert's report. This goes to show that the expert's report is good indication of whether or not a risk assessment was used or conversely may be interpreted as that when assessments are not formally discussed within the context of the report, they have little influence on RB decisions.

When looking more specifically at differences between experts and RBs on the risk measures of interest, it appears that what measure is being reported on has little effect on whether the RB will place importance on this information. However this was not the case for the VRAG, which was interestingly cited by the RB in their rationale in almost every instance in which it was noted by the expert. Although this only occurred in a small proportion of cases (~5%), future research should seek to replicate these findings to determine whether these findings were merely coincidental or conversely, shed light on the weight that RBs place on such evidence.

Taken together, although these results point to the fact that structured risk assessments appear to becoming more prominent in practice in recent years, more than one third of expert reports made no mention of using any empirically validated instrument to aid in their assessment and recommendations. Therefore, it is apparent that a gap still exists between research and practice and that unstructured clinical judgment still prevails in the field today. However, as demonstrated by the prominent use of empirically validated risk factors, it seems that unstructured clinical judgments may not be as uninformed as once believed.

### **Risk Factors and Legal Criteria**

Despite the fact that many reports failed to acknowledge the use of a structured risk assessment, discussion of the risk factors contained within these measures was quite prominent. This was such that, on average, experts' reports touched on almost half of the risk factors analyzed with the RB reaching almost one third. Although it was anticipated that the items most frequently discussed would center on historical risk factors as prior research has suggested for hearings conducted in Ontario (i.e., Wilson et al., 2014), the results suggest that dynamic factors were equally as prominent. Overall, the risk factors most frequently mentioned across expert

reports and RB rationales tended to fall into four categories: mental health (e.g., major mental illness, active symptoms, lack of insight, personality disorder, substance use problems), treatment (e.g., unresponsive to treatment, prior supervision failure, medication), criminal history (e.g., previous violence, criminal history score for nonviolent offences), and reintegration/risk management (e.g., attitude towards authority, self control, external control, living circumstances). Risk factors within these four domains were discussed in the majority of reports, demonstrating that despite the inconsistent reported use of structured risk assessments, empirically validated risk factors contained within these measures are consistently taken into consideration (albeit to vary degrees). Furthermore, the focus on these four broad areas of risk and need suggests that forensic decision makers are considering risk factors relevant to the legal criteria outlined within current legislation. To reiterate, when making disposition decisions the RB must consider "the need to protect the public from dangerous persons, the mental condition of the accused, the reintegration of the accused into society, and the other needs of the accused" (Criminal Code, s.672.54). Risk factors noted pertaining to mental health are directly relevant to the mental condition of the accused. Moreover, factors related to treatment are relevant to the other needs of the accused. Furthermore, all of these risk factors identified have been shown to be associated with prognostic risk for violence and are therefore relevant to public safety, including criminal history risk factors. Finally, factors tapping into reintegration and risk management directly relate to the last criterion that RBs must consider- reintegration of the accused into society. This last point is especially informative as prior research in this area has reported that these particular risk factors have been relatively neglected in forensic decision-making in Canada (e.g., Wilson et al., 2015). Based upon their analysis of the HCR-20, Wilson and colleagues (2015) reported that only 10-14% of cases made any reference to Risk

Management factors (save for Noncompliance with remediation attempts which appeared in 25-34% of reports), which led them to conclude that factors relevant to reintegration were rarely discussed. The current findings suggest that this is no longer the case, with both experts and RBs noting several Risk Management factors (i.e., Lack of personal support, Noncompliance with remediation attempts) in the majority of reports (i.e., 53-67%), with the remaining Risk Management items still appearing in 21-42% of reports.

Other factors relevant to reintegration were identified through analysis of items contained within the SAPROF. When considering reintegration into the community, factors such as the patient's ability to demonstrate self control, the availability of professional care, the presence or absence of external control (e.g., mandatory contact), and living circumstances all weigh heavily on the success or failure an offender may experience upon returning to the community (Casper & Clark, 2004; Cooper, Eslinger, & Stolley, 2006; Leuw, 1999; Pratt & Cullen, 2000). However, the HCR-20 overlooks many of these factors within its Risk Management scale, and therefore previous research focusing solely on the use of the HCR-20 may have failed to capture these reintegration relevant items. Overall, SAPROF items relating to attitude towards authority, self control, external control, professional care, work, and living circumstances were noted in the majority of both reports, demonstrating that decision makers are currently attending to factors related to the reintegration of the accused. Furthermore, although it was anticipated that External factors may be noted most frequently due to the ease with which they could be identified, the results show that the inclusion of protective factors extended beyond this with both Internal (e.g., self control) and Motivational items (e.g., work) appearing in the majority of reports. Taken together, the results demonstrate that experts and RBs are attending to both empirically

supported risk and protective factors and appear to be doing a good job of attending to each of the legal criteria put before them in the Criminal Code of Canada.

### **Disagreement on Risk Factor Relevancy**

The results demonstrate that the types of risk factors discussed by both experts and the RB focus on many of the same areas of patient risk and need. However, I also investigated whether there may be disagreement between reports as to the relevancy of particular risk factors in adjudicating disposition decisions. Comparisons conducted between reports allowed for identification of discordance between parties and the results demonstrate that there were in fact several areas in which risk factors identified within the expert's report appear to have been overlooked by the RB. Overall, expert reports were more likely to mention multiple types of risk factors that the RB failed to include in their reasons for decision, such as items pertaining to childhood/adolescence (e.g., elementary school maladjustment, early behavioural problems), relationships (e.g., marital status; relationship instability), psychiatric history and symptomatology (e.g., substance use problems, personality disorder, active symptoms, impulsivity), and psychopathy. This disconnect can be interpreted in several ways. First, it is possible that the RB failed to pick up on these risk factors as they were not appropriately conveyed as relevant risk factors. When looking at the frequency of items discussed within the context of the expert's risk assessment in comparison the entire report, it is apparent that this hypothesis may in fact be plausible for items related to childhood/adolescence risk factors or relationship risk factors (which were less frequently discussed in the context of the risk assessment). However, this explanation seems less plausible for items related to some of the psychiatric symptoms (e.g., negative attitudes, impulsivity) or psychopathy, which appear to have been noted more consistently within the context of the expert's risk assessment. Given that



items discussed within the context of a risk assessment leaves little ambiguity as to their relevancy, a second explanation of these findings is that the RB may disagree with experts as to their relevancy when adjudicating dispositions or are simply not putting much weight on these particular risk factors. Given the wealth of literature demonstrating the importance of both these dynamic clinical risk factors as well as psychopathy in the prediction of future violent recidivism, this disconnect from evidence based practice is one that needs to be addressed. Future research should seek to investigate what information RBs are looking for when making their decisions, similar to the work conducted on correctional decision-making (see Gobeil & Serin, 2009), as well as the weight they place on such evidence.

### **Factors Influencing Decisions**

One of the goals of the current study was to determine how discussion of these risk and protective factors may be influencing clinical recommendations and RB decisions. Additionally, information collected on patient characteristics, clinical data, and patient history allowed for analysis of how these variables also related to decisions. In this study these latter variables were found to demonstrate a similar influence on both expert recommendations and RB decisions, permitting a more general discussion of the influence of these factors.

When looking at the patient characteristics, clinical data, and patient history information, several hypotheses were made in terms of how they would relate to decision-making. Based on previous research demonstrating that those with prior psychiatric admissions, longer stays in hospital, and more extensive criminal histories would be associated with more restrictive recommendations/dispositions (e.g., Crocker et al., 2014; Hilton & Simmons, 2001; McKee et al., 2007), I anticipated that these factors would continue to be associated with more restrictive decisions. However, I found that none of these factors differentiated between expert

recommended or RB outcome groups, suggesting that they had no influence on whether experts or the RB chose to detain or discharge patients. The fact that a patient's criminal history was not related to dispositions was of particular concern. Criminal history factors have long been established as static predictors of future violent recidivism in both correctional samples (e.g., Walters & Crawford, 2014) and mentally disordered offenders (e.g., Bonta et al., 1998), and therefore forensic decision-makers would be expected to attend to such variables when making decisions surrounding public safety. Although these findings contradict prior research supporting their use (e.g., Hilton & Simmons, 2001), this does replicate more recent findings suggesting that prior offence history bore no influence on disposition decisions (e.g., Crocker et al., 2011).

Additionally, based on consistent findings demonstrating that decisions are often influenced by unsupported prognostic factors such as severity of index offense and attractiveness, it was hypothesized that these factors would continue to pervade decision-making. However, the results of the current study demonstrate that severity of index offence bore no influence on decisions, such that no differences were identified between those who were detained versus discharged in their total, nonviolent, or violent index offence severity scores. Although this coincides with the results found by McKee and colleagues (2007) in their sample of hearings held in Ontario between 2000 and 2003, this runs contrary to evidence reported by Crocker and colleagues (2011, 2014) based on hearings held between 2000 and 2006. It is possible that these results may allude to a shift in the field away from this invalid prognostic indicator of violence. However, it is also possible that differential findings were influenced by differences in the measures used to assess index severity, with the Cormier–Lang system for quantifying criminal history utilized by the current study, similar to McKee and colleagues (2007), and the Crime Severity Index (Wallace, Turner, Matarazzo, & Babyak, 2009) utilized by Crocker and

colleagues (2014). Future research should consider utilizing both methods to assess for convergent validity and to determine whether the null findings can be replicated in more recent disposition hearings.

With regards to attractiveness, as hypothesized, patients scoring lower on attractiveness ratings were more likely to have been detained. Contrary to prior research on disposition decision-making (i.e., Hilton & Simmons, 2001; McKee et al., 2007), attractiveness was not related to prior psychiatric hospitalizations, criminal history, or severity of index offence. Additionally, prior research had found attractiveness to be correlated with psychotic symptoms (e.g., Hilton & Simmons, 2001). Although the presence of psychotic symptoms was not assessed in the current study, attractiveness was not found to be correlated with mention of active symptoms of a major mental illness (HCR-20) in the expert's report. It is possible that less attractive patients were simply those whose psychotic disturbance rendered them more unruly and less likely to be mindful of their personal hygiene and appearance and that this disruptive behavior led to more restrictive recommendations (Hilton & Simmons, 2001). This may in part be supported by the finding that those with a psychotic spectrum disorder diagnosis were also more likely to be detained. However, the presence of a psychotic disorder does not shed light on the presence or severity of active psychotic symptoms at the time of the hearing. Therefore it is important that future research seeks to assess the presence of active psychotic symptoms in order to determine if it may help to explain the relationship between attractiveness and decision-making. It is important to note that the current findings do coincide with a wealth of past research on forensic decision-making, demonstrating that less attractive people are more likely to be detained (Hilton & Simmons, 2001; McKee et al., 2007), convicted of criminal charges (Castellow et al., 1990; Macoun, 1990; Mazzella & Feingold, 1994), given shorter sentences

(Downs & Lyons, 1991), and judged as meeting criteria for dangerousness (Esses & Webster, 1988). Although this is the first study to evaluate its influence on disposition decision-making in almost 12 years and will need further replication, the current findings suggest that this unsupported factor is still bearing influence on forensic decisions.

Next, in terms of the relationship between the empirically validated risk factors analysed and disposition decisions, I hypothesized that overall a greater number of risk factors would be discussed when making more restrictive decisions, in keeping with prior findings (e.g., Wilson et al., 2014). This effect was anticipated to be generalized across the VRAG, HCR-20, and PCL-R. Conversely, given that the SAPROF focuses solely on factors which mitigate risk, I hypothesized that a greater proportion of protective factors would be noted for those receiving less restrictive dispositions. These hypotheses were anticipated to be true of both clinical recommendations made in the expert's report as well as RB decisions. However, given the differential findings identified between these groups, discussion of how these hypotheses aligned with the current findings will be examined separately.

**Clinical Recommendations.** When looking at the relationship between risk factors discussed by experts and their clinical recommendations for disposition, the results of the current study supported these hypotheses such that the total number of risk factors mentioned was higher for those being recommended for detainment in comparison to both discharge groups. This is a positive finding given that this more closely coincides with the principles of the RNR model, which states that individuals at higher risk require more intense supervision and monitoring (Bonta & Andrews, 2007). However, as prior research has suggested (i.e., Wilson et al, 2014), it is also possible that when recommending a more restrictive disposition, experts may be citing more risk factors to justify their decisions.

In terms of the specific risk measures analyzed, this current findings suggest that although a greater number of risk factors noted from the VRAG and the HCR-20 were found to differentiate clinical recommendations as hypothesized (i.e., with a greater number being associated with a recommendation for detainment), this was not found to be true for the PCL-R (although a small trend in this direction was apparent). Additionally, the expectation that less restrictive dispositions would be associated with discussion of more protective factors contained within the SAPROF was also not supported by the results of the current study. Taken together it would appear that experts are focusing more on the presence or absence of risk factors when making their decisions and put less weight on the presence of psychopathic traits or factors which might mitigate violence risk. However, analysis into the individual scales contained within these risk assessments demonstrates that these measures may in part have some influence on clinical recommendations.

With regards to differences in the specific type of risk factors noted, prior research has shown that Clinical risk factors contained within the HCR-20 were the strongest predictors of experts' decisions to detain (Crocker et al., 2011). Therefore, I hypothesized that those with a greater proportion of Clinical risk factors mentioned would receive more restrictive dispositions and this was supported by the current findings. Although dynamic variables, such as those contained within the Clinical scale of the HCR-20 were at once less established in the literature, over time research has emerged demonstrating their predictive accuracy to surpass that of static risk factors (e.g., Campbell et al., 2009). Additionally, given their ability to predict short term changes in violence risk (Braithwaite et al., 2010; Quinsey, Jones, Book, & Barr, 2006; Webster et al., 2004), it would appear that dynamic variables would seem appropriate for experts to consider given NCRMD legislation.

Although psychopathy, as measured by the total number of PCL-R items discussed in reports, was not found to differ between clinical recommendations, further analysis into its 2-factor and 4-factor model suggests that expert's may be attending to particular subsets of psychopathic features. I predicted that a greater number of items from F2 (Lifestyle/Antisocial) and particularly Facet 4 (Antisocial facet) would be associated with more restrictive dispositions due to the widespread validation they have received in the prediction of violence. As anticipated, the number of F2 items mentioned was found to differentiate groups such that a greater number of F2 items were discussed when recommending more restrictive dispositions. Although items within Facet 4 specifically were not found to significantly differ between groups, a small trend in this direction was apparent suggesting that this may have been an issue of power and that with a larger sample this difference may have become more prominent. Nevertheless, these results demonstrate that clinical recommendations may be coming in line with the abundance of research on the utility of the behavioural traits of psychopathy in the prediction of violence.

Finally, although the discussion of protective factors contained within the SAPROF was not found to bear influence on expert recommended dispositions, the current results suggested a trend toward the use of External protective factors. However, this was found to be in the opposing direction such that a greater number of External protective factors were noted in reports for those being recommended for detainment. Given that the coding methodology employed for this study coded risk/protective factors as mentioned even when they were noted as being absent (e.g., "patient lacks motivation to continue in treatment"), it is possible that this finding may be explained by the fact that experts were more likely to mention the absence of these mitigating factors to support their decisions to detain.

**Review Board Decisions.** When looking at the factors related to RB decisions, two sources of information were analyzed. First, the RB's rationale was analyzed to determine if any differences existed in the type of risk factors they cited to justify their decisions. Secondly, due to the perceived potential of expert noted risk factors to influence RB decisions, expert reports were also assessed across RB outcome groups.

Contrary to expectations that RB decisions would show the same patterns of results as expert recommendations, the number or type of risk factors cited by RBs in their rationale provided little information as to the type of disposition they would ultimately render. The only significant difference identified was in the number of protective factors discussed, specifically Motivational risk factors (e.g., attitude towards authority, motivation for treatment). The RB tended to discuss a greater number of Motivational factors when rendering a verdict of conditional release in comparison to those ordered to be detained. Although at face value this seems to be a relatively positive finding, given that protective factors (in part) appear to be utilized in making less restrictive decisions, understanding how these dispositions compare to one another may help to further elucidate how encouraging this finding is.

When a conditional discharge is rendered, this enables the accused to live in the community, subject to the conditions set out in the disposition (e.g., reporting to hospital, abstaining from alcohol or drug use). Although detainment is often considered to be a much more restrictive verdict, often accompanied by detention in hospital with conditions specifying the level of security, as well as the patients' privileges for access to the community (e.g., supervised grounds privileges), it is also the case for patients demonstrating improvement to be granted the ability to live within the community in an accommodation approved by the hospital (Ontario Review Board, 2011). In these circumstances, little differences lie between a

conditional discharge and detainment in the restrictions placed on the accused. However, one differentiating characteristic lies within the hospital's authority. For those ordered to be detained with provisional access to live within the community, the Board generally delegates authority to the hospital to implement conditions at their own discretion, including the ability to easily return the accused to hospital, should they see fit. Given this important differentiating factor, it would seem that in cases where patients seem capable of residing in the community, decisions to detain or grant a conditional discharge should be driven by factors that may allude to the patient's ability to succeed within a community setting (and avoid the need for readmittance). Research analyzing factors associated with successful reintegration (i.e., nonrecidivists) have identified factors such as employment (Nally, Lockwood, Ho, & Knutson, 2014), motivation for treatment (Melnick, De Leon, Thomas, Kressel, & Wexler, 2001), and attitude towards authority (Hanson, & Morton-Bourgon, 2004) to be important predictors, all of which are assessed within the Motivational scale of the SAPROF. Therefore, although the RB does not appear to be citing any specific types of risk factors that would differentiate between their decisions, the findings from the current study suggest that they are utilizing appropriate protective factors when making determinations of whether to detain or discharge patients.

Since the RB's rationale did not appear to display much information regarding what risk factors differentiate between the type of disposition they would render, risk factors discussed within the experts' reports were also assessed to determine if they bore any influence on RB decisions. Overall, both the number and type of risk factors mentioned within the expert's report did appear to influence RB decisions. This is unsurprising given that much of the past literature in this area has reported on the robust effect that clinical recommendations have on RB decisions (e.g., Hilton & Simmons, 2001; McKee et al., 2007) and furthermore, that clinical



recommendations made in the current study were highly concordant with RB decisions (i.e., in agreement for 88.8% of hearings). Consequently, many of the types of risk factors found to influence clinical recommendations were also found to significantly influence RB decisions.

Similar to clinical recommendations, a greater number of risk factors mentioned within the expert's report was associated with more restrictive dispositions, again providing support to the idea that disposition decisions appear to be coinciding with the principles of the RNR model (Bonta & Andrews, 2007). However, it is still possible that experts may be discussing more risk factors to simply justify their recommendations. Therefore, further research is warranted to definitively conclude upon the true relevancy (i.e., presence vs. absence) of these risk factors to each case. In terms of the specific risk measures analyzed, again the results demonstrate that a greater number of risk factors were noted from the VRAG for hearings in which the RB chose to detain the accused but no influence was found for the total number of PCL-R or SAPROF items noted by the expert. However, contrary to clinical recommendations, the total number of HCR-20 risk factors noted within the expert's reports did not appear to significantly influence RB decisions, although there was a trend in this direction.

With regards to the specific scales contained within these measures, similar to clinical recommendations, RB decisions were also influenced by Clinical risk factors (HCR-20), Lifestyle/Antisocial traits of psychopathy (PCL-R F2), and External protective factors (SAPROF). However, contrary to clinical recommendations, RB decisions appear to also have been influenced by the discussion of interpersonal psychopathic traits, such that when experts discussed a greater number of interpersonal traits contained within Facet 1 (e.g., conning/manipulative, grandiosity), the RB tended to render a more restrictive verdict. Although prior research had reported a trend toward the influence of the PCL-R's F1 items (which is

comprised of Facet 1 and 2) in predicting decisions to detain (Crocker et al., 2011), this appeared to be particularly driven by the presence of Facet 2 traits (Affective). However, such comparisons are difficult to make given that past research has only evaluated the relationship between retrospectively coded psychopathy scores and disposition decisions, while failing to analyze the impact of reported psychopathy traits. It is quite possible that these two lines of inquiry may yield contradictory findings. For example, the interpersonal features of psychopathy make psychopaths adept at deception, through feigning remorse and normal emotion (e.g., Book et al., 2015; Porter, ten Brinke, Baker, & Wallace, 2011), what Cleckley referred to as the "convincing mask of sanity" (Cleckley, 1941). It is this deceptive nature that have led some in the field to posit that psychopaths would be more successful at fooling decision-makers into believing their sincerity (e.g. Porter, ten Brinke, & Wilson, 2009; Seto & Barbaree, 1999), especially given that many professionals in the field (e.g., police officers, parole officers, etc.) are quite poor at identifying deception (Vrij, 2008; Porter, Woodworth, & Birt, 2000). In light of this evidence, it is possible that while patients who are explicitly identified and described as being manipulative, superficial, and pathological liars are more likely to be detained (as supported by the results of the current study), there may be a larger proportion of cases where these traits were not picked up on and identified by experts. In these cases, through evaluation of the relationship between their actual Facet 1 scores and decision-making we may come to find the opposite: those with more interpersonal features may be more successful in obtaining release. Overall, further research is needed to assess for differences in the number of Facet 1 traits reported by experts and their true presence in each case in order to gain a better understanding of the relationship between the interpersonal features of psychopathy and disposition decision-making.

### **Predicting Outcomes**

Given that the current findings had identified what risk factors emerged as being differentially related to disposition decisions, an investigation into what factors had the *greatest* influence on decisions to detain or discharge patients was undertaken. To assess this, variables were collected from several sources to be included in two prediction models; one predicting clinical recommendations to detain and one predicting RB decisions to detain. Based on results identifying the influence of patient attractiveness and the presence of a psychotic spectrum disorder on both clinical recommendations and RB decisions, these variables were entered into both prediction models.

First, analyses were conducted to determine which risk factors are most predictive of clinical recommendations. Variables entered into the model included patient attractiveness, psychotic spectrum disorder diagnosis, and all risk factors discussed in the experts' reports that were found to significantly differ across clinical recommendation disposition groups. Factors that were found to be the strongest predictors of recommendations to detain included: having a psychotic spectrum disorder, a greater number of items discussed from the SAPROF's External scale, lower attractiveness ratings, and a greater number of Clinical items (HCR-20). Overall, these variables accounted for approximately 47% of the total variability in predicting disposition recommendations. The results from the prediction model are consistent with prior findings in that the presence of a psychotic spectrum disorder diagnosis decreases the likelihood of being discharged (e.g., Crocker et al., 2014). Furthermore, the current results are also consistent with prior findings demonstrating experts rely heavily on clinical risk factors when making their recommendations (e.g., Crocker et al., 2011) and that patient attractiveness appears to negatively influence clinical recommendations (e.g., Hilton & Simmons, 2001). However, the remaining

variable represents a novel insight into the factors influencing clinical decisions. The number of External protective factors discussed was found to be one of the strongest predictors of decisions, with a greater number of items discussed being associated with detainment, thus demonstrating a counterintuitive relationship to decision-making. As touched on earlier, it is possible that this may be explained by the fact that risk factors were coded as mentioned, even when they were noted as being absent. Therefore, these results may allude to the fact that more External protective factors were noted as being absent for those recommended for detainment. Regardless of the reasoning behind these findings, the current results show that empirically supported risk and protective factors are being discussed in practice and appear to be influencing clinical recommendations.

Finally, analyses were conducted to determine which risk factors are most predictive of RB decisions. Variables entered into the model included patient attractiveness, psychotic spectrum disorder diagnosis, and all risk factors discussed in both the RB's rationale and experts' reports that were found to significantly differ across RB disposition groups. Although clinical recommendations regarding disposition were initially entered into the prediction model for RB decisions, a lack of variability meant that this variable could not be assessed. This is not surprising given that the findings of the current study echo that reported by much of the literature (e.g., Hilton & Simmons, 2001; McKee et al., 2007) in finding a very high agreement between clinical recommendations and RB decisions, thereby, resulting in perfect prediction.

The current results show that of all the variables (other than clinical recommendations) entered into the model, the strongest predictors of RB decisions to detain were lower attractiveness ratings, having a psychotic spectrum disorder, a greater number of External protective factors noted within the expert's report, and a smaller number of Motivational

protective factors cited in the RB's rationale. Overall, these variables accounted for approximately 61% of the total variability in predicting RB decisions. Although the current findings fall in line with prior research demonstrating that actuarial risk factors do not appear to have a significant influence on RB decisions (Hilton & Simmons, 2001), it contradicts later research reporting a trend toward their influence (i.e., McKee et al., 2007). Additionally, the current study did not find that discussion of HCR-20 risk factors (by the expert or the RB) was a significant predictor of RB decisions, which contradicts earlier findings demonstrating their influence (Crocker et al., 2011; Crocker et al., 2014). This was an unexpected finding and may demonstrate that although RBs are taking them into consideration as past research has shown, other factors (not previously investigated) may be even more influential on RB decisions. For example, these results demonstrate for the first time that RB decisions are being influenced by the discussion of protective factors. Although directionality of this relationship requires further examination (e.g., External factors), the fact that discussion of these items by both experts and RBs appears to be predictive of RB decisions demonstrates that attention is being paid to these empirically validated items. Furthermore, keeping in mind that prior research has often perceived RB decisions to simply formalize clinical recommendations, these results demonstrate that this (at least in part) is instructed by discussion of substantiated factors.

Overall, it appears that both clinical recommendations and RB decisions are influenced by the discussion of empirically supported risk and protective factors. Conversely, one factor that was found to demonstrate its influence on both RB decisions and clinical recommendations is patient attractiveness. In fact, it was due to this robust finding (identified in the current study as well as prior research), that the predictive models were carried out on a smaller sample in order to assess for its influence in relation to other factors. This was due to the fact that attractiveness

ratings were unable to be obtained for almost a third of the sample because their files did not contain a photo. Based on all of the information collected, there was no identifiable reason to conclude that this missing data was associated with the outcome variable. However, sensitivity analyses were conducted with attractiveness removed for both prediction models to test the effect of this change on the observed results. Overall, the results from both clinical recommendation and RB decision prediction models were not found to change. This was such that the predictors retained in the final models remained the same and the coefficients appeared to remain relatively unchanged (i.e., no significant deviations in their betas, standard errors, or significance in the model). Given the consistency of these findings with the primary analysis, it was concluded that attractiveness ratings had no influence or impact on the primary conclusions put forth regarding the predictors of decisions.

As discussed previously, it may be that attractiveness is related to an extraneous variable not captured by the current study (i.e., presence of psychotic symptoms) and therefore future research would be advised to attempt to control for any additional factors related to attractiveness that may help to explain its relationship with decision-making. However, it is also possible that attractiveness in and of itself influenced decision-makers by creating a more favourable impression. This explanation of the influence of attractiveness may be understood in the context of the Dangerous Decisions Theory (DDT) put forth by Porter and ten Brinke (2009). According to DDT, interpersonal evaluations of trustworthiness are made rapidly, often using faulty information derived from the face, such as facial symmetry and attractiveness (Bull, 2006; Bull & Vine, 2003). Because these evaluations occur outside of conscious awareness, this leads the individual to believe that these evaluations are made based on intuition, causing them to disregard new information that is incongruent (Porter & ten Brinke, 2009). Due to this rapid

process of assessing trustworthiness, and its influence on how subsequent information concerning the individual is processed, this often leads to biased (or ‘dangerous’) decisions (Kahneman & Tversky, 1982; Porter & ten Brinke, 2009). Applying this theoretical framework to the current results, it is possible that experts and RBs alike are unknowingly using facial attractiveness to assess the accused's trustworthiness, leading them to have faith in the patient's ability to live in the community and abide by the conditions placed on them. Furthermore, this could also lead them to potentially disregard information that may not be congruent with this assessment (i.e., presence of risk factors), leaving them more likely to believe that the patient does not pose a significant threat to public safety and should therefore be released.

### **Limitations and Strengths**

There are several important limitations of the current study. First, this study was limited by its reliance on archival records, restricting the information analyzed to what had been documented in the files and recorded by the RB in their reasons for disposition. It is quite possible that other risk factors were considered when completing reports or discussed during the process of the hearing that were not ultimately recorded due to their absence or lack of influence in the case at hand. Furthermore, given that risk reports containing the measures assessed for each case are not included in patient files, the conclusions of the study can only be said to describe the reported use of these structured risk assessments as it relates to their documented use within the expert's report and the RB's reasons for decision.

Additionally, given that the focus of the current study was on whether or not a risk factor was mentioned, not whether it was present for an accused or how its presence/absence influenced the ultimate decision, the current results are restricted in what conclusions that can be drawn. Specifically, regarding how these risk measures and the factors contained within them are being

utilized (i.e., the directionality of relationships). With regards to the directionality of relationships, it is also important to note that several of the risk measures analyzed hold opposing views as to how they conceptualize some of their risk factors as relating to future risk. For example, the VRAG's item "Meets DSM criteria for schizophrenia" views this item as being inversely related to future violence risk, however, the HCR-20's "Major mental illness" which also assesses the presence of schizophrenia assumes that its presence would increase risk. Given that the current study is limited by the inability to evaluate the directionality of relationships, it is unable to elucidate how experts and RBs interpreted these items as playing into risk when making their decisions, but rather, merely demonstrates that they played a role in the decision-making process.

Moreover, given that the current study focused on evaluating the number of risk factors discussed by experts and RBs, it is therefore unable to shed light on whether certain risk factors may carry more weight in the decision-making process in comparison to other risk factors. It is possible that in certain cases the presence of just one risk factor (e.g., homicidal ideation) was enough to conclude that the patient was unsuitable for discharge, therefore, making investigation and discussion into the presence of additional risk factors superfluous.

Although the current study sought to overcome some of the limitations of prior research by focusing on a multitude of risk factors contained within numerous structured risk assessment instruments, there are still other empirically validated scales which contain other risk factors (e.g., sexual offending, history of violent attitudes) not captured by the current study. Furthermore, the current study also sought to assess the influence of several non-empirically validated factors (e.g., severity of index offence and attractiveness) due to their identified influence in past research. However, it is possible that additional extraneous factors may



influence decisions that were not captured by the current study (e.g., gender, tribunal composition). With regards to attractiveness ratings, the current study is also limited by the low sample of cases for which attractiveness ratings were obtained.

Finally, as identified by prior research, forensic populations and decision-making processes may differ across different settings and jurisdictions, both within Canada and internationally. Therefore, until there is further replication of the current results, the generalizability of these findings may be restricted geographically to its provincial or regional area, or even the specific institution.

Despite these limitations, there are several important strengths of the current study. First, this study was the first to evaluate the use of structured risk assessments in practice in almost the last decade. Given the demonstrable effect of time identified in the current study on the use of such instruments in practice, the current results provide empirical support to the immense changes that have occurred in practice over this time. Furthermore, this study was also the first to expand the scope of risk factors analyzed in an attempt to make conclusions about the state of risk assessment in practice more generally. This included four structured assessments which have been found to demonstrate strong psychometric properties in the prediction of violence as well as the inclusion of additional non-empirically supported factors.

An additional strength of the current study is that this was the first investigation into how often factors contained within the PCL-R (Hare, 2003) appear to be discussed in reports used to adjudicate dispositions. Therefore, it uniquely contributes to the literature by being the first study to elucidate how often psychopathy traits, and more specifically its core interpersonal and antisocial features, are discussed during the decision making process. Furthermore, the results

add to both the theoretical and empirical literature on the relationship between the discussion of psychopathy traits and release decisions.

Finally, this study was the first to date to investigate the influence of protective factors on disposition decision-making. Despite research identifying the need for these factors to be concurrently assessed with risk factors to get a more cohesive picture of patient risk, prior studies have failed to analyze their influence on forensic decision-making in practice. Therefore the current study adds to the literature by demonstrating the application of these mitigating factors and thus provides a more complete picture of the interplay between risk and protective factors in forensic decision-making.

### **Future Directions**

Future research on structured risk assessment in practice should address the limitations outlined above and expand on the findings of the study. Specifically, future research would be advised to investigate the use of empirically supported risk factors in practice prospectively in order to avoid being limited by documentation practices. This could be accomplished through sitting in on the hearings, interviews with clinicians, and potentially surveying RB members to determine if there were any additional factors influencing their decisions that were not included in their reports, potentially due to their absence in the case at hand. Furthermore, this method of analyses may also help to determine whether certain risk factors may carry more weight in the decision-making process in comparison to other risk factors.

Also, given that the results of the current study evaluating the discussion of risk factors doesn't appear to coincide with some of past research demonstrating links between these variables and decision-making, it is very important that future research investigate how these risk factors are truly being used. Research to date seeking to investigate the use of risk factors in RB

decision-making has employed several methodologies: (1) coding expert reports and disposition decision transcripts to see how frequently various risk factors are mentioned, and, (2) using clinician and/or researcher completed risk assessments and statistically testing for associations and predictors of dispositions. Arguably, these two methodologies may be providing answers to two different questions. The first being, what risk factors are most often *discussed* by experts and RBs when making decisions? And secondly, what risk factors are *influencing* RB decisions? Given the established disconnect between what clinicians do and what they say they do, it is possible that these two methodologies may not yield complementary information. Therefore, future research should build upon the current findings by evaluating these two lines of evidence concurrently. That is, assessing how frequently risk factors are discussed during the process, while also evaluating how scores on these risk assessments (and their individual factors) relates to these decisions. By comparing and contrasting these two methodologies concurrently, we may come to gain a better of understanding of how structured risk assessments are utilized, reported, and applied when making disposition decisions.

Most importantly, given many of the novel findings identified in the current study as they relate to modern forensic decisions, future research should seek to replicate the current findings with larger samples in different forensic populations, different jurisdictions, and within different countries in order to compare and contrast the current findings. Specifically, given the amount of time that has passed from prior investigations assessing the influence of the HCR-20 and the VRAG, future research should seek to replicate the current findings to determine if the trends of use identified here are generalizable to other jurisdictions. Furthermore, given that this was the first study to assess how frequently psychopathic traits and protective factors are discussed in reports used to adjudicate disposition decisions, future research should seek to replicate these

findings so that the variability of their use as it relates to different geographical regions can be estimated. Finally, due to the fact that this is the first time in almost twelve years that the role of attractiveness in disposition decision-making has been evaluated, in addition to the fact that the current study was limited in its sample of ratings, future research should also seek to investigate its influence on decision making and determine if these results can be replicated.

## **Conclusions**

The results of the current study demonstrate the progress has been made over the last decade at implementing the wealth of research on the validity of structured risk assessment into practice; and that this step towards evidenced based practice appears to be improving over time. However, there is still evidence that unstructured clinical judgement prevails in modern day practice. Although further analysis into the factors bearing influence on decisions demonstrates that decision-makers are in fact considering items which address each of the legal criteria laid out in the Criminal Code, the fact remains that this is not true of every case. Therefore due to this lack of standardized practice, both public safety and patient rights are subject to the fallibility of the professionals before them. Consequently, similar to prior research, the current study also speaks to the need for further descriptive research on the implementation and integration of prescriptive risk assessment research to enable the identification of potential pitfalls in decision-making, as well as contribute to the much needed means of communication between researchers and practitioners. It is believed that this type of communication carries immense importance because understanding the process of risk assessment can be used to help shape future assessments and clinical guidelines (Elbogen, 2002). Thus bringing the field one step closer toward bridging the gap between research and practice, and hopefully, negating the implementation of counterproductive legislation which runs contrary to scientific research.

The current findings indicate, that at most, only half of the risk/protective factors analyzed from four well-validated structured measures are being discussed when clinicians and RBs provide their rationale for recommendations and decisions. Furthermore, the results also reveal that decision-making is still biased in that a factor bearing no relation to future violence risk appears to be persistently having a demonstrable influence. Therefore, it would seem that developing policies to ensure greater structure in how risk assessments are implemented into the decision-making process should be of focus moving forward. This could provide clinicians and RBs with the tools necessary to make more effective, empirically supported decisions. Overall, it is essential that a wide spectrum of evidence-based risk and protective factors are taken into consideration and communicated, and most importantly, that this standard of practice is applied to all cases. Such equality is crucial when making these imperative decisions at the intersection between public safety and the rights and freedoms of this vulnerable population.

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## Appendix A

## PCL-R Items and Factor Structure

2- Factor Model (Hare, 1991)		3- Factor Model (Cooke & Michie, 2001)		4-Factor Model (Hare, 2003)	
<b>Factor 1: Selfish, callous, remorseless use of others</b>		<b>Factor 1: Arrogant and deceitful interpersonal style</b>		<b>Factor 1: Interpersonal</b>	
Item	Description	Item	Description	Item	Description
1	Glibness/Superficial Charm	1	Glibness/Superficial Charm	1	Glibness/Superficial Charm
2	Grandiose sense of self worth	2	Grandiose sense of self worth	2	Grandiose sense of self worth
4	Pathological lying	4	Pathological lying	4	Pathological lying
5	Conning/Manipulative	5	Conning/Manipulative	5	Conning/Manipulative
6	Lack of remorse or guilt	<b>Factor 2: Deficient affective experience</b>		<b>Factor 2: Affective</b>	
7	Shallow affect	7	Shallow affect	6	Lack of remorse or guilt
8	Callous/Lack of empathy		Callous/Lack of empathy	7	Shallow affect
16	Failure to accept responsibility for own actions	6	Lack of remorse or guilt	8	Callous/Lack of empathy
		16	Failure to accept responsibility for own actions	16	Failure to accept responsibility for own actions
<b>Factor 2: Chronically unstable, antisocial, and socially deviant lifestyle</b>		<b>Factor 3: Impulsive and irresponsible behavioural style</b>		<b>Factor 3: Lifestyle</b>	
3	Need for stimulation/Proneness to boredom				
9	Parasitic lifestyle	3	Need for stimulation/Proneness to boredom	3	Need for stimulation/Proneness to boredom
10	Poor behavioural controls				
12	Early behavioural problems	15	Irresponsibility	9	Parasitic lifestyle
13	Lack of realistic long-term goals	14	Impulsivity	13	Lack of realistic long-term goals
14	Impulsivity	9	Parasitic lifestyle	14	Impulsivity
15	Irresponsibility	13	Lack of realistic long-term goals	15	Irresponsibility
18	Juvenile delinquency	<b>Factor 4: Antisocial</b>		<b>Factor 4: Antisocial</b>	
19	Revocation of conditional release			10	Poor behavioural controls
				12	Early behavioural problems
				18	Juvenile delinquency
				19	Revocation of conditional release
				20	Criminal versatility

**Appendix B****Coding Manual- Part 1**

Subject ID: \_\_\_\_\_ Date of hearing: \_\_\_\_\_(mm/dd/yyyy)

**A. Patient Characteristics**

1. Age at hearing: \_\_\_\_\_ (verify using date of birth)

2. Race: \_\_\_\_\_ (If not present in file, check here ☐)☐ Caucasian/White (1)☐ Middle Eastern (5)☐ Black/ African Canadian (2)☐ East Indian (6)☐ Asian (3)☐ Hispanic/Latino (7)☐ Aboriginal/Native Canadian/First Nations (4) ☐ Other: \_\_\_\_\_ (8)

3a). FSIQ: \_\_\_\_\_

b) If no definitive IQ score present in chart, is there any information on full scale IQ?  
(e.g., percentile score, range (e.g., 120-129), descriptor such as high/low average, superior, etc.)☐ Yes (1)☐ No (0)

c) If yes, specify: \_\_\_\_\_

4. Physical Attractiveness: \_\_\_\_\_ (If no photo present in file, check here ☐)**Very Unattractive****Average****Very Attractive**

1

2

3

4

5

6

7

8

9

10

**B. Clinical data**5. DSM information (Relevant to the last year/current hearing. If missing, put a Ø)

a) Axis I: \_\_\_\_\_

b) Axis II: \_\_\_\_\_

c) Axis IV: \_\_\_\_\_

d) Axis V: \_\_\_\_\_

6. a) Primary psychiatric diagnosis:

- |  |   |
|--|---|
| <input type="checkbox"/> Psychotic Spectrum Disorder (1) | <input type="checkbox"/> Personality Disorder (4) |
| <input type="checkbox"/> Mood Spectrum Disorder (2)      | <input type="checkbox"/> Other (5)                |
| <input type="checkbox"/> Substance Use Disorder (3)      |   |

b) Secondary psychiatric diagnosis:

- |  |   |
|--|---|
| <input type="checkbox"/> Psychotic Spectrum Disorder (1) | <input type="checkbox"/> Personality Disorder (4) |
| <input type="checkbox"/> Mood Spectrum Disorder (2)      | <input type="checkbox"/> Other (5)                |
| <input type="checkbox"/> Substance Use Disorder (3)      | <input type="checkbox"/> N/A (6)                  |

7a). Date of index: \_\_\_\_\_ (mm/dd/yyyy) *(If multiple dates, choose most recent)*

b) Time since the index verdict: \_\_\_\_\_ (days) \*use day calculator online

8. Prior psychiatric history: \_\_\_\_\_

- |   |       |
|---|-------|
| <input type="checkbox"/> No prior admissions (1)        | _____ |
| <input type="checkbox"/> 1-2 prior admissions (2)       | _____ |
| <input type="checkbox"/> 3 or more prior admissions (3) | _____ |

### C. Patient History

8. Index offence(s): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

9. Cormier-Lang criminal history score for index offence (include all offences accused was found NCR for relevant to the current hearing)

= TOTAL CORMIER – LANG NONVIOLENT SCORE: \_\_\_\_\_

+

TOTAL CORMIER – LANG VIOLENT SCORE: \_\_\_\_\_

= _____
---------

Instructions for coding past crimes using Cormier-Lang:

Include ALL ARRESTS for ALL COUNTS for the following criminal offenses, including juvenile offenses. Write down the # of times the offender has been arrested (or the #of separate counts charged, whichever is highest) for each type of offense. Multiply that number by the weight.

Score past and index offences-- (If no prior criminal record, check here ☐ and code index only)

### 10. CORMIER – LANG CRIMINAL HISTORY SCORES FOR NONVIOLENT OFFENSES

Offence	Arrests/	o	Index
Robbery (bank, store)	X7	=	
Robbery (purse snatching)	X3	=	
Arson and fire setting (church, house, barn)	X5	=	
Arson and fire setting (garbage can)	X1	=	
Threatening with a weapon	X3	=	
Threatening (uttering threats)	X2	=	
Theft over* (incl. car theft, possession stolen prop)	X5	=	
Mischief to public or private property over \$5000	X5	=	
Break and enter and commit indictable offense (burglary)	X2	=	
Theft under *(includes possession stolen goods under)	X1	=	
Mischief to public or private property under \$5000	X1	=	
Break and enter (includes break and enter with intent)	X1	=	
Fraud (extortion, embezzlement)	X5	=	
Fraud (forged check, impersonation)	X1	=	
Possession of a prohibited or restricted weapon	X1	=	
Procuring a person for, or living on the avails of prostitution	X1	=	
Trafficking in narcotics	X1	=	
Dangerous driving, impaired driving (including DWI)	X1	=	
Obstructing peace officer (including resisting arrest)	X1	=	
Causing a disturbance	X1	=	
Wearing a disguise with intent to commit an offence	X1	=	
Indecent exposure	X2	=	
<b>TOTAL CORMIER – LANG NONVIOLENT SCORE</b>			=

Specify any charges or convictions unaccounted for (unable to score) and denote past or index:

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**11. CORMIER – LANG CRIMINAL HISTORY SCORES FOR VIOLENT OFFENSES**

Instructions: Include ALL ARRESTS for ALL COUNTS for the following criminal offenses, including juvenile offenses.

Offenc	Arrests	Weig	Score	Index
Homicide (murder, manslaughter, criminal negligence w/death)		X28	=	
Attempted murder, causing bodily harm with intent to wound		X7	=	
Kidnapping, abduction, and forcible confinement		X6	=	
Aggravated assault, choking, administering a noxious thing		X6	=	
Assault causing bodily harm		X5	=	
Assault with a weapon		X3	=	
Assault, assaulting a police officer		X2	=	
Aggravated sexual assault, sexual assault causing bodily harm		X15	=	
Sexual assault with weapon		X12	=	
Sexual assault, gross indecency (vaginal, anal or oral penetration)		X10	=	
Sexual assault (attempted rape, indecent assault)		X6	=	
Gross indecency (offender fellates or performs cunnilingus on victim)		X6	=	
Sexual assault (sexual interference, invitation to sexual touching)		X2	=	
Armed robbery (bank, store)		X8	=	
Robbery with violence		X5	=	
Armed robbery (not a bank or store)		X4	=	
<b>TOTAL CORMIER – LANG VIOLENT SCORE</b>			=	=

Specify any charges or convictions unaccounted for and denote past or index (unable to score):

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**Coding Manual- Part 2**

Subject ID: \_\_\_\_\_ Date of hearing: \_\_\_\_\_(mm/dd/yyyy)

## 1. Disposition recommendation made by clinical team:

- ☐ Recommendation for absolute discharge (1)  
☐ Recommendation for conditional discharge (2)  
☐ Recommendation for detainment (3)

**A. Clinical Team Recommendation/ Hospital's Report**

## 2. Mentioned use of structured risk assessment:

- |   |  |                                      |
|---|--|--------------------------------------|
| <input type="checkbox"/> No Mention (0) | <input type="checkbox"/> VRS (5)                   | <input type="checkbox"/> RRASOR (9)  |
| <input type="checkbox"/> VRAG (1)       | <input type="checkbox"/> SORAG (6)                 | <input type="checkbox"/> LS/CMI (10) |
| <input type="checkbox"/> HCR-20 (2)     | <input type="checkbox"/> SVR-20 (7)                | <input type="checkbox"/> START (11)  |
| <input type="checkbox"/> PCL-R (3)      | <input type="checkbox"/> STATIC-99/STATIC 2002 (8) | <input type="checkbox"/> HARM (12)   |
| <input type="checkbox"/> LSI-R (4)      |  | <input type="checkbox"/> Other (13)  |
- Specify: \_\_\_\_\_

## 3. Mentioned use of the VRAG, HCR-20, and PCL-R items: (NM= Not Mentioned, M= Mentioned)

For "Noted in Risk Assessment" portion, score only most recent unless it has been linked to a prior evaluation (e.g., "only changes include", "increase/decrease in score [from prior evaluation] because", etc. If linked, code both .

4. Violence Risk Appraisal Guide			Noted in "Risk Assessment"	
Items	NM	M	NM	M
1. Lived with both biological parents to age 16	0	1	0	1
2. Elementary school maladjustment	0	1	0	1
3. History of alcohol problems	0	1	0	1
4. Marital status	0	1	0	1
5. Criminal history score for nonviolent offenses prior to the index offense	0	1	0	1
6. Failure on prior conditional release	0	1	0	1
7. Age at index offence	0	1	0	1
8. Victim injury	0	1	0	1
9. Any female victim (for index offence)	0	1	0	1
10. Meets DSM criteria for any personality disorder	0	1	0	1
11. Meets DSM criteria for schizophrenia	0	1	0	1
12. Psychopathy Checklist score	0	1	0	1

<b>Total Items Mentioned</b>	=	=
<b>Percentage of risk factors mentioned (out of 12)</b>	= %	= %

**VRAG** (If no mention of VRAG, check here ☐ and skip to question 12)

6a). Total scale score mentioned:

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was the total score? \_\_\_\_\_ OR \_\_\_\_\_ percentile

7a). Categorical risk level mentioned:

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was it?

- Categorical risk level:
- ☐ 1 (score of -22 or less) (1)
  - ☐ 2 (score of -21 to -15) (2)
  - ☐ 3 (score of -14 to -8) (3)
  - ☐ 4 (score of -7 to -1) (4)
  - ☐ 5 (score of 0 to +6) (5)
  - ☐ 6 (score of +7 to +13) (6)
  - ☐ 7 (score of +14 to +20) (7)
  - ☐ 8 (score +21 to +27) (8)
  - ☐ 9 (score of +28 or more) (9)

c) Convert to quartile score:

- Quartile score:
- ☐ 1st (-24 to -9) (1)
  - ☐ 2nd (-10 to +5) (2)
  - ☐ 3rd (+6 to +21) (3)
  - ☐ 4th (+22 to +38) (4)

8a). Projected violent recidivism rate for fixed duration of opportunity mentioned:

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was it?

- i) 7 years fixed opportunity: \_\_\_\_\_  
ii) 10 years fixed opportunity: \_\_\_\_\_

9a) Other statement of risk level (e.g., low, moderate, high)?

☐ Yes (1)

☐ No (0)

b) If yes, specify: \_\_\_\_\_

10. Justification for scoring mentioned (listed specific risk factors contributing to scoring):

☐ Yes (1)

☐ No (0)

11. Explanation of measure/score given?

a) purpose of scale

☐ Yes (1)    ☐ No (0)

b) probabilistic risk statement (absolute risk)

☐ Yes (1)    ☐ No (0)

c) relative risk statement

(likelihood that a high risk patient will recidivate compared to a low risk patient)

☐ Yes (1)    ☐ No (0)

d) any other information

(e.g., limitations of measure, CIs, research)

Specify:

☐ Yes (1)    ☐ No (0)

12. Historical Clinical Risk Management-20 <sup>V2</sup>			Noted in "Risk Assessment"	
Items	NM	M	NM	M
<b>Historical Scale</b>				
1. Previous violence	0	1	0	1
2. Young age at first violent incident	0	1	0	1
3. Relationship instability	0	1	0	1
4. Employment problems	0	1	0	1
5. Substance use problems	0	1	0	1
6. Major mental illness	0	1	0	1
7. Psychopathy	0	1	0	1
8. Early maladjustment	0	1	0	1
9. Personality disorder	0	1	0	1
10. Prior supervision failure	0	1	0	1

<b>Clinical Scale</b>				
1. Lack of insight	0	1	0	1
2. Negative attitudes	0	1	0	1
3. Active symptoms of a major mental illness	0	1	0	1
4. Impulsivity	0	1	0	1
5. Unresponsive to treatment	0	1	0	1
<b>Risk Management Scale</b>				
1. Plans lack feasibility	0	1	0	1
2. Exposure to destabilizers	0	1	0	1
3. Lack of personal support	0	1	0	1
4. Noncompliance with remediation attempts	0	1	0	1
5. Stress	0	1	0	1
<b>Total Items Mentioned (/20)</b>	=	%	=	%
Total Historical Items Mentioned (/10)	=	%	=	%
Total Clinical Items Mentioned (/5)	=	%	=	%
Total Risk Management Items Mentioned (/5)	=	%	=	%

**HCR-20** (If no mention of HCR-20, check here ☐ and skip to question 18)

13a). Total scale score mentioned:

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was the total score? \_\_\_\_\_ OR \_\_\_\_\_ percentile

c) Convert to quartile score:

- Quartile score: ☐ 1st (0-9) (1)  
☐ 2nd (10-19) (2)  
☐ 3rd (20 to 29) (3)  
☐ 4th (30 to 40) (4)

14a) . Summary risk rating mentioned (i.e., low, moderate, high \*must be in relation to measure\*):

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was it? \_\_\_\_\_

15a) Scale score mentioned?

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was it?

i) Historical Total: \_\_\_\_\_ ii) Clinical Total: \_\_\_\_\_ iii) Risk Management Total: \_\_\_\_\_

16. Justification for scoring mentioned (listed specific risk factors contributing to scoring):

- ☐ Yes (1)  
☐ No (0)

17. Explanation of measure/score given?

- a) purpose of scale ☐ Yes (1) ☐ No (0)
- b) probabilistic risk statement (absolute risk) ☐ Yes (1) ☐ No (0)
- c) relative risk statement  
 (likelihood that a high risk patient will recidivate compared to a low risk patient) ☐ Yes (1) ☐ No (0)
- d) any other information ☐ Yes (1) ☐ No (0)  
 (e.g., limitations of measure, CIs, research)

Specify:

18. Psychopathy Checklist-Revised		
Items	NM	M
1. Glibness/Superficial Charm <sup>1</sup>	0	1
2. Grandiose Sense of Self-Worth <sup>1</sup>	0	1
3. Need for Stimulation/Proneness to Boredom <sup>3</sup>	0	1
4. Pathological Lying <sup>1</sup>	0	1
5. Conning/Manipulative <sup>1</sup>	0	1
6. Lack of Remorse or Guilt <sup>2</sup>	0	1
7. Shallow Affect <sup>2</sup>	0	1
8. Callous/Lack of Empathy <sup>2</sup>	0	1

9. Parasitic Lifestyle <sup>3</sup>	0	1
10. Poor Behavioural Controls <sup>4</sup>	0	1
11. Promiscuous Sexual Behaviour	0	1
12. Early Behavioural Problems <sup>4</sup>	0	1
13. Lack of Realistic, Long-Term Goals <sup>3</sup>	0	1
14. Impulsivity <sup>3</sup>	0	1
15. Irresponsibility <sup>3</sup>	0	1
16. Failure to Accept Responsibility for Own Actions <sup>2</sup>	0	1
17. Many Short-Term Marital Relationships	0	1
18. Juvenile Delinquency <sup>4</sup>	0	1
19. Revocation of Conditional Release <sup>4</sup>	0	1
20. Criminal Versatility <sup>4</sup>	0	1
<b>Total Items Mentioned (/20)</b>	=	%
<sup>(1+2)</sup> Total Factor 1 Items Mentioned (/8)	=	%
<sup>(3+4)</sup> Total Factor 2 Items Mentioned (/10)	=	%
<sup>1</sup> Total Facet 1 Items Mentioned (/4)	=	%
<sup>2</sup> Total Facet 2 Items Mentioned (/4)	=	%
<sup>3</sup> Total Facet 3 Items Mentioned (/5)	=	%
<sup>4</sup> Total Facet 4 Items Mentioned (/5)	=	%

**PCL-R**

(If **NO** mention of PCL-R **BUT** mentioned psychopathy, check here ☐ and complete q. 23-29)

(If **NO** mention of PCL-R **OR** psychopathy, check here ☐ and skip to qu. 32)

19a). Total scale score mentioned:

☐ Yes (1)

☐ No (0)

b) If yes, what was the total score? \_\_\_\_\_ OR \_\_\_\_\_ percentile OR \_\_\_\_\_ T

c) Convert to quartile score:

☐ 1st (0-9) (1)

☐ 2nd (10-19) (2)

☐ 3rd (20 to 29) (3)

☐ 4th (30 to 40) (4)

20. Did score exceed cutoff of 30 for diagnosis of psychopathy?

- ☐ Yes (1)
- ☐ No (0)

21. Total factor scores mentioned:

a) Factor 1 score:

- ☐ Yes (1)
- ☐ No (0)

b) Factor 2 score:

- ☐ Yes (1)
- ☐ No (0)

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_ percentile

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_ percentile

22. Total facet scores mentioned:

a) Facet 1 score:

- ☐ Yes (1)
- ☐ No (0)

b) Facet 2 score:

- ☐ Yes (1)
- ☐ No (0)

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_ percentile

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_ percentile

c) Facet 3 score:

- ☐ Yes (1)
- ☐ No (0)

d) Facet 4 score:

- ☐ Yes (1)
- ☐ No (0)

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_ percentile

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_ percentile

23. Did report mention whether or not the patient was a psychopath (used actual label “psychopath”)?

- ☐ Yes (1)
- ☐ No (0)

24. Listed ONLY the characteristics of psychopathy and explicitly related them to psychopathy without using the label “psychopath”

- ☐ Yes (1)
- ☐ No (0)

25. Listed characteristics related to psychopathy + used the label “psychopath”

- ☐ Yes (1)  
☐ No (0)

26. Listed the characteristics associated with psychopathy but did not explicitly refer to these characteristics as psychopathy related.

- ☐ Yes (1)  
☐ No (0)

27. Psychopathy evidence explicitly used to make inference about treatability?

- (a) Difficult to treat because of *presence* of psychopathy traits ☐ Yes (1) ☐ No (0)  
(b) More likely to be treated because of the *absence* of psychopathy traits ☐ Yes (1) ☐ No (0)

28. Psychopathy evidence explicitly used to make inference concerning risk for future violence/re-offending?

- (a) Higher risk because of presence of psychopathy traits ☐ Yes (1) ☐ No (0)  
(b) Lower risk because of the absence of psychopathy traits ☐ Yes (1) ☐ No (0)

29a). Other statement of risk level (e.g., low, moderate, high)?

- ☐ Yes (1)  
☐ No (0)

b) If yes, specify: \_\_\_\_\_

30. Justification for scoring mentioned (listed specific risk factors contributing to scoring):

- ☐ Yes (1)  
☐ No (0)

31. Explanation of measure/score given?

- a) purpose of scale ☐ Yes (1) ☐ No (0)  
b) probabilistic risk statement (absolute risk) ☐ Yes (1) ☐ No (0)  
c) relative risk statement ☐ Yes (1) ☐ No (0)  
(likelihood that a high risk patient will recidivate compared to a low risk patient)  
d) any other information ☐ Yes (1) ☐ No (0)  
(e.g., limitations of measure, CIs, research)  
Specify:



32. Structured Assessment of Protective Factors for violence risk			Noted in "Risk Assessment"	
Items	NM	M	NM	M
<b>Internal Factors</b>				
1. Intelligence	0	1	0	1
2. Secure attachment in childhood	0	1	0	1
3. Empathy	0	1	0	1
4. Coping	0	1	0	1
5. Self-control	0	1	0	1
<b>Motivational Factors</b>				
6. Work	0	1	0	1
7. Leisure activities	0	1	0	1
8. Financial Management	0	1	0	1
9. Motivation for treatment	0	1	0	1
10. Attitude towards authority	0	1	0	1
11. Life goals	0	1	0	1
12. Medication	0	1	0	1
<b>External Factors</b>				
13. Social network	0	1	0	1
14. Intimate relationship	0	1	0	1
15. Professional care	0	1	0	1
16. Living circumstances	0	1	0	1
17. External control	0	1	0	1
<b>Total Items Mentioned (/17)</b>	=	%	=	%
Total Internal Items Mentioned (/5)	=	%	=	%
Total Motivational Items Mentioned (/7)	=	%	=	%
Total External Items Mentioned (/5)	=	%	=	%

33. Other Risk Factors Mentioned in "Risk Assessment" portion of report		
Items	NM	M
<b>Patient Characteristics</b>		
1. Severity of index offence (e.g. described as brutal, excessive, egregious, etc.) If uncertain, specify descriptor(s):	0	1

Specify any other factors supporting risk assessment (not included in measures):  
(e.g., aggression/violence against animals)

### **General Report Information**

34. Length of report: \_\_\_\_\_ (pages)

35a). "Risk assessment"/"Assessment of Risk" portion of report included in document?

- ☐ Yes (1)
- ☐ No (0)

**If yes,**

b) how long is the "risk assessment" portion (most recent to hearing)?: \_\_\_\_\_ (word count)

c) is the most recent risk assessment section linked to a prior risk assessment section?

- ☐ Yes (2)
- ☐ No (1)
- ☐ N/A (0) (there is only one risk assessment section)

**If yes,**

d) how long is the prior section it is linked to? \_\_\_\_\_ (word count)

36. Does the author state that the patient is a "significant threat" to public safety (relevant to current hearing)?

- ☐ Yes (3)
- ☐ No (2) (states that the patient is NOT a significant threat)
- ☐ Unclear (1) (does not clearly state whether accused is a significant threat or not e.g., "not in a position to affirmatively say whether John Smith is a significant threat...")
- ☐ Not mentioned (0)

37. Clinical override used? (Structured assessments → "Low" risk but author concludes high risk/significant threat or structured assessment states high risk but author concludes low risk)

- ☐ Yes (2)
- ☐ No (1)
- ☐ N/A (0) (no structured assessment used/noted)

**B. Tribunal's Report**

Subject ID: \_\_\_\_\_ Date of hearing: \_\_\_\_\_(mm/dd/yyyy)

## 1. Disposition outcome:

- ☐ Absolute discharge (1)  
☐ Conditional discharge (2)  
☐ Detainment (3)

## 2. Mentioned use of structured risk assessment:

- |   |  |                                      |
|---|--|--------------------------------------|
| <input type="checkbox"/> No Mention (0) | <input type="checkbox"/> VRS (5)                   | <input type="checkbox"/> RRASOR (9)  |
| <input type="checkbox"/> VRAG (1)       | <input type="checkbox"/> SORAG (6)                 | <input type="checkbox"/> LS/CMI (10) |
| <input type="checkbox"/> HCR-20 (2)     | <input type="checkbox"/> SVR-20 (7)                | <input type="checkbox"/> START (11)  |
| <input type="checkbox"/> PCL-R (3)      | <input type="checkbox"/> STATIC-99/STATIC 2002 (8) | <input type="checkbox"/> HARM (12)   |
| <input type="checkbox"/> LSI-R (4)      |  | <input type="checkbox"/> Other (13)  |
- Specify: \_\_\_\_\_

## 3. Mentioned use of the VRAG, HCR-20, and PCL-R items: (NM= Not Mentioned, M= Mentioned)

For "Noted in Risk Assessment" portion, score only most recent unless it has been linked to a prior evaluation (e.g., "only changes include", "increase/decrease in score [from prior evaluation] because", etc. If linked, code both sections)

<b>4. Violence Risk Appraisal Guide</b>		
<b>Items</b>	<b>NM</b>	<b>M</b>
1. Lived with both biological parents to age 16	0	1
2. Elementary school maladjustment	0	1
3. History of alcohol problems	0	1
4. Marital status	0	1
5. Criminal history score for nonviolent offenses prior to the index offense	0	1
6. Failure on prior conditional release	0	1
7. Age at index offence	0	1
8. Victim injury	0	1
9. Any female victim (for index offence)	0	1
10. Meets DSM criteria for any personality disorder	0	1
11. Meets DSM criteria for schizophrenia	0	1
12. Psychopathy Checklist score	0	1
<b>Total Items Mentioned</b>	<b>=</b>	
<b>Percentage of risk factors mentioned (out of 12)</b>	<b>=</b>	<b>%</b>

---

**VRAG** (If no mention of VRAG, check here ☐ and skip to question 12)

6a). Total scale score mentioned:

- ☐ Yes (1)
- ☐ No (0)

b) If yes, what was the total score? \_\_\_\_\_ OR \_\_\_\_\_ percentile

7a). Categorical risk level mentioned:

- ☐ Yes (1)
- ☐ No (0)

b) If yes, what was it?

- Categorical risk level:
- ☐ 1 (score of -22 or less) (1)
  - ☐ 2 (score of -21 to -15) (2)
  - ☐ 3 (score of -14 to -8) (3)
  - ☐ 4 (score of -7 to -1) (4)
  - ☐ 5 (score of 0 to +6) (5)
  - ☐ 6 (score of +7 to +13) (6)
  - ☐ 7 (score of +14 to +20) (7)
  - ☐ 8 (score +21 to +27) (8)
  - ☐ 9 (score of +28 or more) (9)

c) Convert to quartile score:

- Quartile score:
- ☐ 1st (-24 to -9) (1)
  - ☐ 2nd (-10 to +5) (2)
  - ☐ 3rd (+6 to +21) (3)
  - ☐ 4th (+22 to +38) (4)

8a). Projected violent recidivism rate for fixed duration of opportunity mentioned:

- ☐ Yes (1)
- ☐ No (0)

b) If yes, what was it?

- i) 7 years fixed opportunity: \_\_\_\_\_
- ii) 10 years fixed opportunity: \_\_\_\_\_

9a) Other statement of risk level (e.g., low, moderate, high)?

- ☐ Yes (1)
- ☐ No (0)

b) If yes, specify: \_\_\_\_\_

10. Justification for scoring mentioned (listed specific risk factors contributing to scoring):

- ☐ Yes (1)  
☐ No (0)

11. Explanation of measure/score given?

- a) purpose of scale ☐ Yes (1) ☐ No (0)
- b) probabilistic risk statement (absolute risk) ☐ Yes (1) ☐ No (0)
- c) relative risk statement  
 (likelihood that a high risk patient will recidivate  
 compared to a low risk patient) ☐ Yes (1) ☐ No (0)
- d) any other information ☐ Yes (1) ☐ No (0)  
 (e.g., limitations of measure, CIs, research)  
 Specify:

12. Historical Clinical Risk Management-20 <sup>V2</sup>		
Items	NM	M
<b>Historical items</b>		
1. Previous violence	0	1
2. Young age at first violent incident	0	1
3. Relationship instability	0	1
4. Employment problems	0	1
5. Substance use problems	0	1
6. Major mental illness	0	1
7. Psychopathy	0	1
8. Early maladjustment	0	1
9. Personality disorder	0	1
10. Prior supervision failure	0	1
<b>Clinical items</b>		
1. Lack of insight	0	1
2. Negative attitudes	0	1
3. Active symptoms of a major mental illness	0	1

4. Impulsivity	0	1
5. Unresponsive to treatment	0	1
<b>Risk Management items</b>		
1. Plans lack feasibility	0	1
2. Exposure to destabilizers	0	1
3. Lack of personal support	0	1
4. Noncompliance with remediation attempts	0	1
5. Stress	0	1
<b>Total Items Mentioned (/20)</b>	=	%
Total Historical Items Mentioned (/10)	=	%
Total Clinical Items Mentioned (/5)	=	%
Total Risk Management Items Mentioned (/5)	=	%

**HCR-20** (If no mention of HCR-20, check here ☐ and skip to question 18)

13a). Total scale score mentioned:

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was the total score? \_\_\_\_\_ OR \_\_\_\_\_ percentile

c) Convert to quartile score:

- Quartile score: ☐ 1st (0-9) (1)  
☐ 2nd (10-19) (2)  
☐ 3rd (20 to 29) (3)  
☐ 4th (30 to 40) (4)

14a) . Summary risk rating mentioned (i.e., low, moderate, high \*must be in relation to measure\*):

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was it? \_\_\_\_\_

15a) Scale score mentioned?

- ☐ Yes (1)  
☐ No (0)

b) If yes, what was it?

i) Historical Total: \_\_\_\_\_ ii) Clinical Total: \_\_\_\_\_ iii) Risk Management Total: \_\_\_\_\_

16. Justification for scoring mentioned (listed specific risk factors contributing to scoring):

- ☐ Yes (1)  
☐ No (0)

17. Explanation of measure/score given?

- a) purpose of scale ☐ Yes (1) ☐ No (0)
- b) probabilistic risk statement (absolute risk) ☐ Yes (1) ☐ No (0)
- c) relative risk statement  
 (likelihood that a high risk patient will recidivate  
 compared to a low risk patient) ☐ Yes (1) ☐ No (0)
- d) any other information ☐ Yes (1) ☐ No (0)  
 (e.g., limitations of measure, CIs, research)

Specify:

18. Psychopathy Checklist-Revised		
Items	NM	M
1. Glibness/Superficial Charm <sup>1</sup>	0	1
2. Grandiose Sense of Self-Worth <sup>1</sup>	0	1
3. Need for Stimulation/Proneness to Boredom <sup>3</sup>	0	1
4. Pathological Lying <sup>1</sup>	0	1
5. Conning/Manipulative <sup>1</sup>	0	1
6. Lack of Remorse or Guilt <sup>2</sup>	0	1
7. Shallow Affect <sup>2</sup>	0	1
8. Callous/Lack of Empathy <sup>2</sup>	0	1
9. Parasitic Lifestyle <sup>3</sup>	0	1
10. Poor Behavioural Controls <sup>4</sup>	0	1
11. Promiscuous Sexual Behaviour	0	1
12. Early Behavioural Problems <sup>4</sup>	0	1
13. Lack of Realistic, Long-Term Goals <sup>3</sup>	0	1

14. Impulsivity <sup>3</sup>	0	1
15. Irresponsibility <sup>3</sup>	0	1
16. Failure to Accept Responsibility for Own Actions <sup>2</sup>	0	1
17. Many Short-Term Marital Relationships	0	1
18. Juvenile Delinquency <sup>4</sup>	0	1
19. Revocation of Conditional Release <sup>4</sup>	0	1
20. Criminal Versatility <sup>4</sup>	0	1
<b>Total Items Mentioned (/20)</b>	=	%
<sup>(1+2)</sup> Total Factor 1 Items Mentioned (/8)	=	%
<sup>(3+4)</sup> Total Factor 2 Items Mentioned (/10)	=	%
<sup>1</sup> Total Facet 1 Items Mentioned (/4)	=	%
<sup>2</sup> Total Facet 2 Items Mentioned (/4)	=	%
<sup>3</sup> Total Facet 3 Items Mentioned (/5)	=	%
<sup>4</sup> Total Facet 4 Items Mentioned (/5)	=	%

**PCL-R**

(If **NO** mention of PCL-R **BUT** mentioned psychopathy, check here ☐ and skip to qu. 23)

(If **NO** mention of PCL-R **OR** psychopathy, check here ☐ and skip to qu. 32)

19a). Total scale score mentioned:

☐ Yes (1)

☐ No (0)

b) If yes, what was the total score? \_\_\_\_\_ OR \_\_\_\_\_ percentile OR \_\_\_\_\_ T

c) Convert to quartile score:

☐ 1st (0-9) (1)

☐ 2nd (10-19) (2)

☐ 3rd (20 to 29) (3)

☐ 4th (30 to 40) (4)

20. Did score exceed cutoff of 30 for diagnosis of psychopathy?

☐ Yes (1)

☐ No (0)



21. Total factor scores mentioned:

a) Factor 1 score:

- ☐ Yes (1)  
☐ No (0)

b) Factor 2 score:

- ☐ Yes (1)  
☐ No (0)

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_percentile

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_percentile

22. Total facet scores mentioned:

a) Facet 1 score:

- ☐ Yes (1)  
☐ No (0)

b) Facet 2 score:

- ☐ Yes (1)  
☐ No (0)

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_percentile

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_percentile

c) Facet 3 score:

- ☐ Yes (1)  
☐ No (0)

d) Facet 4 score:

- ☐ Yes (1)  
☐ No (0)

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_percentile

i) If yes, what was it?

\_\_\_\_\_ OR \_\_\_\_\_percentile

23. Did report mention whether or not the patient was a psychopath (used actual label “psychopath”)?

- ☐ Yes (1)  
☐ No (0)

24. Listed ONLY the characteristics of psychopathy and explicitly related them to psychopathy without using the label “psychopath”

- ☐ Yes (1)  
☐ No (0)

25. Listed characteristics related to psychopathy + used the label “psychopath”

- ☐ Yes (1)  
☐ No (0)

26. Listed the characteristics associated with psychopathy but did not explicitly refer to these characteristics as psychopathy related.

- ☐ Yes (1)  
☐ No (0)

27. Psychopathy evidence explicitly used to make inference about treatability?

- (a) Difficult to treat because of *presence* of psychopathy traits ☐ Yes (1) ☐ No (0)  
(b) More likely to be treated because of the *absence* of psychopathy traits ☐ Yes (1) ☐ No (0)

28. Psychopathy evidence explicitly used to make inference concerning risk for future violence/re-offending?

- (a) Higher risk because of presence of psychopathy traits ☐ Yes (1) ☐ No (0)  
(b) Lower risk because of the absence of psychopathy traits ☐ Yes (1) ☐ No (0)

29a). Other statement of risk level (e.g., low, moderate, high)?

- ☐ Yes (1)  
☐ No (0)

b) If yes, specify: \_\_\_\_\_

30. Justification for scoring mentioned (listed specific risk factors contributing to scoring):

- ☐ Yes (1)  
☐ No (0)

31. Explanation of measure/score given?

- a) purpose of scale ☐ Yes (1) ☐ No (0)  
b) probabilistic risk statement (absolute risk) ☐ Yes (1) ☐ No (0)  
c) relative risk statement ☐ Yes (1) ☐ No (0)  
(likelihood that a high risk patient will recidivate compared to a low risk patient)  
d) any other information ☐ Yes (1) ☐ No (0)  
(e.g., limitations of measure, CIs, research)  
Specify:

<b>32. Structured Assessment of Protective Factors for violence risk</b>		
<b>Items</b>	<b>NM</b>	<b>M</b>
<b>Internal Factors</b>		
1. Intelligence	0	1
2. Secure attachment in childhood	0	1
3. Empathy	0	1
4. Coping	0	1
5. Self-control	0	1
<b>Motivational Factors</b>		
6. Work	0	1
7. Leisure activities	0	1
8. Financial Management	0	1
9. Motivation for treatment	0	1
10. Attitude towards authority	0	1
11. Life goals	0	1
12. Medication	0	1
<b>External Factors</b>		
13. Social network	0	1
14. Intimate relationship	0	1
15. Professional care	0	1
16. Living circumstances	0	1
17. External control	0	1
<b>Total Items Mentioned (/17)</b>	=	%
Total Internal Items Mentioned (/5)	=	%
Total Motivational Items Mentioned (/7)	=	%
Total External Items Mentioned (/5)	=	%

<b>33. Other Risk Factors mentioned in report to support risk level and/or disposition</b>		
<b>Items</b>	<b>NM</b>	<b>M</b>
<b>Patient Characteristics</b>		
1. Severity of index offence (e.g. described as brutal, excessive, egregious, etc.) If uncertain, specify descriptor(s):	0	1
Specify any other factors supporting risk level or disposition (not included in measures): (e.g., presence/absence of firesetting, bedwetting, aggression/violence against animals,)		

**Appendix C****CORMIER-LANG CRIMINAL HISTORY****VIOLENT OFFENSES**

- 1= Murder First Degree (28)
- 2= Murder Second Degree (28)
- 3= Manslaughter (28)
- 4= Criminal Negligence Causing Death (28)
- 5= Attempted Murder (7)
- 6= Wounding (7)
- 7= Assault CBH with Intent to Wound (7)
- 8= Choking (6)
- 9= Kidnapping and Forcible Confinement (6)
- 10= Aggravated Assault (6)
- 11= Assault Causing Bodily Harm/CBH (5)
- 12= Assault with a Weapon (3)
- 13= Common Assault/Assault Level 1/Assault Peace Officer (2)
- 14= Aggravated Sexual Assault (15)
- 15= Sexual Assault Causing Bodily Harm (15)
- 16= Sexual Assault with Weapon (12)
- 17= Sexual Assault(vaginal, oral, anal penetration of victim)(10)
- 18= Gross Indecency(anal/oral penetration of victim) (10)
- 19= Sexual Assault (Attempted Rape/Indecent Assault)(6)
- 20= Gross Indecency(offender performs oral sex on victim)(6)
- 21= Exhibitionism/Interference/Indecent Act /Invitation to Sexual Touching (no physical contact with victim) (2)
- 22= "Sexual Assault" unspecified (6)
- 23= Armed Robbery (bank, store) (8)
- 24= Robbery (bank, store) (7)
- 25= Robbery with Violence (5)
- 26= Armed Robbery (purse snatching) (4)

**NON-VIOLENT OFFENSES**

- 27= Robbery (purse snatching) (3)
- 28= Arson (church, store, house) (5)
- 29= Arson (garbage can) (1)
- 30= Threatening with Weapon/Point Firearm(3)
- 31= Threatening/Intimidation (2)
- 32= Criminal Harassment (1)
- 33= Poss. Weapon/Carry Concealed Weapon (1)
- 34= Theft Over/car theft/Possession Over) (5)
- 35= Theft Under /Possession Under (1)
- 36= B & E and Commit/B &E &Theft (2)
- 37= Break and Enter/ B& E with Intent /Unlawfully in Dwelling (1)
- 38= Fraud Over (Extortion, bank scams) (5)
- 39= Fraud Under/Forgery/Impersonation/False Pretences/Uttering/Use Stolen Credit Card (1)

- 40= Mischief Over (5)
- 41= Mischief (1)
- 42= Procuring (1)
- 43=Trafficking in Narcotics (1)
- 44= Dangerous Driving /Impaired Driving (1)
- 45= Obstruct Peace Officer/Resisting Arrest(1)
- 46= Cause a Disturbance (1)
- 47= Disguise with Intent (1)
- 48=Other: (1)
  - Careless Use Firearm/Misuse Firearm
  - Conspiracy
  - Criminal Negligence
  - Fail To Provide Sample
  - Fail To Remain/Fail To Stop
  - Obstruct Justice
  - Breach of Bail/Undertaking
  - Fail To Appear/Attend (FTA)
  - Fail To Comply/Breach Probation (FTC)
  - Fail To Comply/Breach Recognizance
  - Parole/Mandatory Supervision Violator
  - Violation of Restraining Order/Peace Bond
  - Deliver Firearm To Person Without FAC
  - Possession of Firearm While Prohibited
  - Store Firearms in Careless Manner
  - Escape Lawful Custody
  - Loitering
  - Possession of Narcotic
  - Vagrancy
  - Driving While Disqualified
  - Possess Housebreaking