Is it all in the details? Effect of psychopathy communication format on laypeople's
perceptions of legal outcomes

by

Natasha S. Maltais

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Natasha S. Maltais

Abstract

Past findings that laypeople's perceptions of psychopathy can negatively influence trial outcomes are exacerbated by the fact that there are no standards for how psychopathy-related information should be presented in risk assessment reports. This problem results in inconsistencies and misinterpretation of information by jurors. The current studies explored how different ways of communicating psychopathy evidence affect decisions concerning risk, management, and treatment amenability among laypeople in two online studies of community members. When psychopathy scores were low, the formatting of information did not seem to matter for decision-making. However, when psychopathy scores were high, providing more information appeared to play more of a role in final outcomes. Importantly, risk level mattered over psychopathy information. These results suggest that the way psychopathy is discussed in legal settings may need to be altered, with focus placed on the relevancy of including psychopathy information in specific contexts.

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Is it all in the details? Effect of psychopathy communication format on laypeople's perceptions of legal outcomes

The construct of psychopathy and its relationship with antisocial behaviours is well established (Blais et al., 2014; Leistco et al., 2008; Salekin et al., 1996) and the Psychopathy Checklist-Revised (PCL-R; Hare, 2003) is one of the most commonly used scales when assessing risk for future violence and criminality in the criminal justice system (CJS; Hurducas et al., 2014; Viljoen et al., 2010). Despite the frequent use of the PCL-R, concerns have been raised about the appropriateness of using it as evidence in the legal system (Edens et al., 2013). One such concern involves the influence of the label of psychopathy in courts with evidence suggesting that juror attitudes about whether a defendant is psychopathic influences trial outcomes in both civil and criminal cases (Berryessa & Wohlstetter, 2019; Edens et al., 2013; S. T. Smith et al., 2014). This labelling effect is exacerbated by the fact that there are no standards set for the quantity or quality of psychopathy-related information presented in risk assessment reports (Blais & Forth, 2014b), thus leaving room for inconsistency across evaluators and misinterpretation of information in the court.

Although there is no standardized approach to presenting evidence of psychopathy, some guidelines for minimum requirements exist (e.g., Blais et al., 2017). Additionally, recent advances in general risk assessment have led to a standardized system for communicating general risk with the Five-level Risk and Needs System (Hanson, Bourgon, et al., 2017). Using a model of communication based on the existing guidelines may help address the above concerns. That is, communicating psychopathy information in a way that includes the relevance of the information to the case at hand,

explaining the scoring procedure, addressing needs and strengths of the individual, and including recommended correctional and treatment responses may be a more useful approach for experts to take when communicating PCL-R results in court. As such, an important step to determining how best to communicate psychopathy information is to examine the extent to which different ways of communicating the information affects decision-making.

Psychopathy

Psychopathy is a personality disorder with interpersonal, affective, and behavioural components (Hare & Neumann, 2008). It is often characterized by a lack of empathy and guilt, shallow affect, manipulation of other people and premeditated and violent antisocial behaviour (Viding et al., 2014). Those who exhibit psychopathic traits are often superficially charming, stimulus-seeking, and have poor behavioural controls (Kroner et al., 2005). The prevalence rate of psychopathy in the general population has been estimated to be approximately 0.75% to 1% (Viding et al., 2014). The tendency to behave in antisocial and often violent and criminal ways has made psychopathy particularly relevant in forensic settings, where the estimated prevalence rate is much higher at 15% to 25% (Lilienfeld & Arkowitz, 2007; Woodworth & Porter, 2002). There is also evidence that more men than women exhibit psychopathic traits in both general and forensic populations (Viding et al., 2014; Wynn et al., 2012). Yet, the underlying reasons as to why prevalence rates of psychopathy differ between the two biological sexes is still debated. Although it is possible that physical differences in frequency (i.e., women are less likely to exhibit high levels of psychopathy) have contributed to the observable differences, it is also possible that the diagnostic tools and terminology used

in the assessment of psychopathy, which were validated using primarily male populations, play a role (Forouzan & Cooke, 2005; Nicholls & Petrila, 2005; Rogstad & Rogers, 2008; Wynn et al., 2012). As such, precautions should be taken when examining psychopathy in different populations.

To facilitate the measurement of psychopathy, Hare (1980) developed the Psychopathy Checklist, and later the Psychopathy Checklist-Revised (1991, 2003) following the influential work of Cleckley (1941/1976). Other measures of psychopathy have since been developed, such as the Comprehensive Assessment of Psychopathic Personality – Institutional Rating Scale (CAPP-IRS; Cooke et al., 2004), which was created to detect changes in personality over time, and several self-report psychopathy scales including the Levenson Self-Report Psychopathy Scale (LSRP; M. Levenson et al., 1995), the Self-Report Psychopathy Scale:4 (SRP:4; Paulhus et al., 2016), and the Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Windows, 2005). Although there is a variety of scales that measure psychopathy, the PCL-R continues to be one of the most widely used scales by forensic clinicians (Neal & Grisso, 2014).

The PCL-R is a 20-item clinical rating scale of psychopathic traits for adults (Hare, 2016). The measure is typically scored using file data and through a semi-structured interview and is based on observable behaviours as opposed to inferences or speculations about an individual (Hare, 2016). Items are scored on a 3-point ordinal scale (0, 1, or 2) according to how applicable each item description is to a given individual, with total scores varying from 0 to 40. Traditionally, scores of 30 were used as a threshold for psychopathy, with cut-off scores of 25 recommended when data was collected using file review (Wong, 1988). However, more recent studies on psychopathy

have highlighted the dimensional nature of the personality construct (De Oliveira-Souza et al., 2008; Edens et al., 2006; Guay et al., 2018; Walters et al., 2011). Consequently, researchers have suggested studying individuals in terms of the level of psychopathic traits present rather than dichotomizing them into psychopathic or non-psychopathic groups (Edens et al., 2006; Hare & Neumann, 2008).

A number of studies, using latent variable analyses, have provided support for a four-factor model of psychopathy across large samples of men and women involved in the CJS (Neumann et al., 2007), youth involved in the CJS (Jones et al., 2006; Neumann et al., 2006), and psychiatric patients (Jackson et al., 2007; Neumann et al. 2007). Modelled after such findings, all but two of the PCL-R items (promiscuous sexual behaviour and many short-term marital relationships) load onto four correlated facets, referred to as Interpersonal (e.g., pathological lying; glib/superficial), Affective (e.g., shallow affect; remorselessness), Lifestyle (e.g., irresponsibility; stimulation seeking; impulsivity), and Antisocial (e.g., poor behaviour controls and criminal versatility). The facets can also be separated into a second-order two-factor model, labelled Factor 1 (Interpersonal/Affective) and Factor 2 (Lifestyle/Antisocial), that demonstrates the same degree of good fit as the four-factor model (Hare & Neumann, 2008).

Although there is ample support for the current four-factor structure of the PCL-R, some researchers have argued that a hierarchical three-factor model may be more suitable. Originally proposed by Cooke and Mitchie (2001) when the PCL-R only had two factors, the three-factor model was a response to mixed results from studies trying to replicate the factor-structure of the PCL-R and a disagreement whether criminality was a core feature or consequence of psychopathy. The three-factor model consists of the

following: 1) Arrogant and Deceitful Interpersonal Style, 2) Deficient Affective Experience, and 3) Impulsive and Irresponsible Behavioral Style, and places little emphasis on criminality (Cooke & Michie, 2001).

The three-factor model, which contains 13 of the 20 PCL-R items, has been successfully cross-validated in multiple studies (Cooke et al., 2001; Cooke & Michie, 2001; Johansson et al., 2002; Warren et al., 2003; Weaver et al., 2006). Critiques of the three-factor model also exist, with general criticisms focussing on statistical and conceptual issues such as overfitting of the model (Neumann et al., 2005; Neumann, 2007; Vitacco et al., 2005). Currently, the PCL-R continues to use the four-facet, two-factor model.

Psychopathy and Recidivism

The PCL-R has become an important tool for assessing, managing, and monitoring risk (Hurducas et al., 2014) despite being created to measure a clinical construct and not to assess the likelihood of reoffending. This popularity is mainly due to the PCL-R and its derivatives being at least as predictive of risk outcomes in a variety of contexts as other risk tools (Blais & Bonta, 2015; Singh et al., 2011; Yang et al., 2010). Research has demonstrated that the measure is related to general criminal recidivism (Blais & Bonta, 2015; Olver & Wong, 2015), institutional misconduct and violence (Guy et al., 2005; Vitacco et al., 2012), violent criminal recidivism (Campbell et al., 2009; Leistico et al., 2008; Mokros et al., 2014; Yang et al., 2010), violent and aggressive behaviour in the community (Hare et al., 2000; Skeem & Mulvey, 2001), domestic violence recidivism (Hilton, Harris, et al., 2008; Swogger et al., 2007), and sexual violence (Gonsalves et al., 2009; Harris et al., 2003; Hawes et al., 2013).

A frequent finding among the literature is that Factor 2 (Lifestyle/Antisocial) is often more predictive of recidivism than Factor 1 (Interpersonal/Affective; Hare, 2016). However, some researchers argue that the predictive utility of the factors depends on what is being predicted and the appropriateness of the methods used to analyze the data (Blais et al., 2017; Hare, 2016). For instance, Factor 1 is at least as predictive as Factor 2 of inpatient violence (Langton et al., 2011; Vitacco et al., 2012), instrumental and reactive violence (Blais et al., 2014), time to first violence (Wilson, 2003), and domestic violence (Swogger et al., 2007).

Psychopathy and Treatment Outcomes

There is a long history of therapeutic pessimism towards psychopathy. Early studies demonstrated no improvement in individuals with high levels of psychopathy (Humphreys, 1940; Whitaker & Burdy, 1969), with some even suggesting that individuals were actually getting worse from treatment (Rice et al., 1992). However, a meta-analysis of this early research by Salekin (2002) demonstrated that approximately 62% of individuals high in psychopathy benefitted from treatment. The author also noted that poor methodology, differing definitions of psychopathy, and targeting treatment that does not address factors associated with antisocial behaviour may have contributed to the negative results from some of these studies (Salekin, 2002). While more recent research does demonstrate that individuals with high levels of psychopathy tend to be more resistant and unmotivated towards treatment, show less treatment improvement, and have higher attrition rates than those with low levels of psychopathy (Hobson et al., 2000; Ogloff et al., 1990; Olver & Wong, 2011; Olver et al., 2011; Sewall & Olver, 2019), it does not mean that they are untreatable (Olver, 2016; Salekin, 2002).

As the treatment literature concerning individuals high in psychopathy continues to grow, a significant body of research has shown that treatment programs that follow the Risk, Need, and Responsivity (RNR; Andrews & Bonta, 2010a) principles for effective correctional responses are the most effective in reducing reoffending (Olver et al., 2013; Olver & Wong, 2009; Sewall & Olver, 2019; Wilson & Tamatea, 2013; Wong & Gordon, 2013). Generally, RNR principles describe programs that provide the most service to the highest risk individuals (Risk), target risk-relevant needs (Needs), and do so using a cognitive-behavioural model (general Responsivity) while considering individual differences such as cultural factors, learning styles, and motivation (specific Responsivity); these programs are the most effective in treating individuals involved in the CJS (Andrews & Bonta, 2010a; Hanson et al., 2009). Considering that psychopathy is both a relevant factor for recidivism (Campbell et al., 2009; Gendreau et al., 2002) and treatment responsivity (Brown & Forth, 1997; Chakhssi et al., 2010; Salekin, 2002), careful treatment planning may be even more critical for individuals with high levels of psychopathy (Tew et al., 2013).

In applying RNR to individuals with psychopathic traits, a two-factor model of treatment has been proposed by Wong (2015) and colleagues (Wong & Hare, 2005; Wong et al., 2012). The primary treatment goal of the Two-Component Model of offender rehabilitation is to reduce criminal behaviour rather than to alter psychopathic characteristics (Wong & Burt, 2007; Wong & Hare, 2005). The first component of the Two-Component Model, the Interpersonal Component focuses on Factor 1 traits. Supported by evidence that Factor 1 traits demonstrate a weaker association with reoffending compared to Factor 2 traits (Leistico et al., 2008; Yang et al., 2010) and that

Factor 1 traits are related to a variety of difficult treatment behaviours (DeSorcy et al., 2017; Olver et al., 2011; Wong & Hare, 2005), the Two-Component Model treats Factor 1 traits and behaviours as responsivity issues (Wong et al., 2012). As such, they must be addressed to ensure that the individual does not engage in behaviours that will either cause disruption to the treatment program or lead to treatment dropout (Wong, 2015). The second component, the Criminogenic Component, focuses on Factor 2 traits and behaviours which are treated as criminogenic needs (Wong, 2015). This is based on the belief that Factor 2 traits represent a persistent antisocial behaviour pattern (Wong, 2015; Wong et al., 2015). More specifically, while some Factor 2 characteristics appear to be static and unchangeable (e.g., early maladjustment), other characteristics are believed to be approximate representations of established criminogenic needs such as poor behavioural controls and parasitic lifestyle. This means that although individuals high in psychopathic traits may have many criminogenic needs, these needs are still the same needs that those low in psychopathic traits have.

In addition to the Two-Component Model that addresses the Need principle and the specific responsivity component of the Responsivity principle, high PCL-R scorers should generally receive higher dosages of treatment to adhere to the Risk principle. After all, individuals high in psychopathy tend to pose a higher risk for diverse forms of criminal behaviour and are more likely to fit the label of “high risk” (Mailloux et al., 2003; Porter et al., 2001). Longer programs tend to demonstrate more successful outcomes for individuals demonstrating many psychopathic traits (Salekin, 2002; Skeem et al., 2002). Further, cognitive-behavioural based interventions should still be used to target Factor 2 characteristics to adhere to the general responsivity component of the

Responsivity principle. Finally, in addition to treating Factor 1 traits as treatment-interfering characteristics, the presence of psychopathy itself needs to be considered as a responsivity issue. High levels of psychopathy present several obstacles to treatment, such as higher attrition rates (Olver et al., 2011), higher levels of treatment failure (Olver & Wong, 2011), the formation of weaker therapeutic bonds (DeSorcy et al., 2017), and more negative interactions with staff and other patients (e.g., verbal and emotional abuse, threats, and intimidation; Olver, 2016). Thus, it is important for treatment providers to be aware of the unique challenges that come with treating those high in psychopathy (Brown & Forth, 1997; Chakhssi et al., 2010).

There are now several studies that provide support for the effectiveness of the Two-Component model, with results demonstrating that focusing on treatment motivation reduced treatment attrition (Olver & Wong, 2009), more treatment change was associated with less violent recidivism (Olver et al., 2013; Olver & Wong, 2009), and that strong therapeutic alliances are possible with high PCL-R scoring men (DeSorcy et al., 2017). Notably, there has also been a push for a more public health stance concerning psychopathy (Coid & Yang, 2011; Reidy et al., 2015; Vaughn & DeLisi, 2008). Reidy et al., (2015), for example, suggest that by adopting a public health perspective with concerning psychopathy and violence, increased focus can be placed on early detection, monitoring, and prevention instead of a more reactionary approach. Among the multiple benefits to society and the field of research, this approach would provide better insight into psychopathy across the lifespan, including the possible identification of mitigating and aggravating factors (Reidy et al., 2015).

Psychopathy in the Criminal Justice System

Given that the PCL-R is capable of predicting various recidivism outcomes related to violence and crime as well as treatment outcomes, unsurprisingly, psychopathy is often assessed in legal settings. An early systematic review identified that the PCL-R had been used for the following reasons, in order of frequency: commitment pursuant to sexual predator laws, parole hearings, death penalty sentencing, guilt determination, competency to stand trial, sentence enhancement or mitigation, termination of parental rights, transfer from juvenile to adult court, and civil commitment (Walsh & Walsh, 2006). Additionally, in the majority of reviewed cases, psychopathy was used by the prosecution in an attempt to secure a conviction (Walsh & Walsh, 2006). Similar results have been found in other studies in both the United States and Canada, with the PCL-R being used to inform decisions of future dangerousness during sentencing and parole hearings (DeMatteo et al., 2014; Guy et al., 2015; Viljoen, et al., 2010), inform death penalty decisions in the States (DeMatteo et al., 2014), dangerous offender hearings in Canada (Blais & Forth, 2014b; Edens et al., 2014), and sexually violent predator hearings in the United States (Boccaccini et al., 2017; DeMatteo & Edens, 2006; DeMatteo et al., 2014).

Importantly, several concerns have been raised about the use of the PCL-R in the CJS. One of these concerns is the potentially stigmatizing effect of the term “psychopath”. Traditionally, psychopathy has been linked to individuals thought to be dangerous, evil, and violent (Keesler & DeMatteo, 2017; Kiehl & Hoffman, 2011; S. T. Smith et al., 2014) and in media, both fictional and nonfictional psychopathic individuals are often portrayed as merciless villains or killers (Hesse, 2009). In one study, when

individuals summoned for jury duty were prompted to list typical examples of psychopaths, infamous serial killers or mass murderers (e.g., Ted Bundy, Charles Manson) were mentioned most frequently (S. T. Smith et al., 2014). Given these stereotypical beliefs, much of the research in the area of the psychopathic labelling has examined how labelling an individual as a psychopath can affect specific decisions regarding death penalties (Edens et al., 2005, 2013), sentencing (Cox et al., 2016), credibility (Blais & Forth, 2014a) and insanity pleas (Rendell et al., 2010).

A recent meta-analysis by Berryessa and Wohlstetter (2019) examined 22 studies reporting the influential effect of the label of psychopathy on three punishment outcomes for two types of experimental designs. The three punishment outcomes included dangerousness which involved participant-perceived potential for risk or dangerousness, treatment amenability which referred to participant-perceived potential for treatment or need for mental health treatment, and legal sentencing which involved recommended sanctions from participants (e.g., capital punishment, length of sentence). The first experimental design included studies where the defendant with a psychopathic label was compared to a defendant with no mental health diagnosis, while the second design included studies where the defendant with a psychopathic label was compared to a defendant with a different psychiatric diagnosis. Effect sizes of varying strengths were found for dangerousness ($d = 0.58$, $p < .001$, 95% confidence interval [CI] [0.40, 0.76]; $k = 15$), treatment amenability ($d = -0.30$, $p = .07$, 95% CI [-0.62, 0.28]; $k = 10$) and legal sentencing ($d = 0.17$, $p < .0001$, 95% CI [0.09, 0.17]; $k = 15$) for studies comparing the psychopath label to no label, demonstrating that the presence of the psychopathy label resulted in greater perceived dangerousness, less perceived treatment amenability, and

harsher legal sentencing than the presence of no label. However, for the studies comparing the psychopath label to other psychiatric labels, all effect sizes were weak and nonsignificant (dangerousness: $d = 0.14$, $p = .10$, 95% CI [-0.01, 0.28]; $k = 10$; treatment amenability: $d = 0.02$, $p = .87$, 95% CI [-0.17, 0.20]; $k = 7$; and legal sentencing: $d = 0.09$, $p = .11$, 95% CI [-0.01, 0.18]; $k = 10$).

Further moderator analyses examining the types of diagnostic label compared to the psychopathic label revealed additional significant differences. For dangerousness, only the effect size for antisocial personality disorder was significant ($d = 0.23$, $p = .03$, 95% CI [0.02, 0.44]; $k = 2$), and not those for conduct disorder or psychotic disorder (e.g., schizophrenia). For legal sentencing, the effect size for psychotic disorder compared to the psychopathic label was significant, with mean ratings for legal sentence/sanction significantly higher for the psychopathic label, $d = 0.24$, $p = .006$, 95% CI [0.06, 0.39]; $k = 2$. The effect sizes for conduct disorder, antisocial personality disorder, and paraphilic disorder were nonsignificant. All diagnostic label comparisons remained nonsignificant for treatment amenability. Overall, these findings suggest that a significant general labelling effect of psychopathy exists, particularly those pertaining to risk and legal sentencing, but no specific labelling effect of psychopathy (Berryessa & Wohlstetter, 2019). In other words, it may be the presence of any diagnostic label that appears to negatively influence perceptions, albeit differentially, as opposed to a psychopathic label.

A separate meta-analysis by Kelley et al. (2019) attempted to further understand the psychopathy labelling literature by looking at the effect of perceived psychopathy on various outcomes. Examining ten juror simulation studies, Kelley et al. (2019) found that

when participants perceived someone as being more psychopathic, they viewed that individual as being more dangerous ($r_w = 0.31$), evil ($r_w = 0.44$) and deserving of harsher consequences for capital sentencing ($r_w = 0.22$) and sentence length ($r_w = 0.27$). Perceived psychopathy was not predictive of perceived treatment amenability ($r_w = 0.09$). These results demonstrated the importance of perceived psychopathy in experimental studies to help identify the circumstances under which psychopathy evidence might negatively impact legal outcomes. Further, the researchers suggested that it is possible that previous studies that failed to find a psychopathy labelling effect may not have sufficiently elicited differing perceptions of the defendant's level of psychopathy (Kelley et al., 2019).

The findings of these meta-analyses may provide some conflicting information about the extent to which psychopathy influences outcomes in the courtroom, however, both support the notion that psychopathy can influence decision-making, particularly in a negative way. There are some circumstances, such as with decisions involving perceptions of future dangerousness, where more negative outcomes due to perceived psychopathy may be warranted as research supports the idea that an individual with higher levels of psychopathy poses a greater risk than an individual with lower levels of psychopathy (Yang et al., 2010). However, the influence of psychopathy evidence on legal outcomes cannot always be justified and may be considered as undue prejudice (Berryessa & Wohlstetter, 2019; Kelley et al., 2019). For example, perceiving those with psychopathic traits as “evil” may contribute to undue prejudice in capital cases, as psychopathy testimony is predictive of death verdicts, even when perceived dangerousness is accounted for (Edens et al., 2005; Kelley et al., 2019). Additionally,

perceiving psychopathy as a “moral illness” that has no effect on competency or intelligence may interfere with judgements related to not criminally responsible (NCR) or mental capacity claims (Glenn et al., 2009). Thus, while information concerning psychopathic features may be worth considering in certain legal circumstances, that information must be provided in a way that does not contribute to any potential bias in decision-making.

Intensifying the problem, case law reviews have indicated that the admissibility of expert mental health evidence about psychopathy is rarely challenged and, in the few cases where it is challenged, it is rarely objected to on the basis of undue prejudice even considering the association between psychopathy and negative court outcomes (Boccaccini et al., 2017). Research has also suggested that the psychopathy label, among others, is used more frequently by the prosecution to paint a negative picture of the defendant (Edens & Cox, 2012). Further, a recent review of the use of the PCL-R in capital sentencing has led a group of researchers to create a statement of concerned experts warning against the reliance on the PCL-R in high-stake contexts (DeMatteo et al., 2020). If psychopathy evidence is rarely challenged, it is crucial that the information regarding psychopathy that is provided is appropriate and relevant to the decisions being made.

It is important to note that results from a small body of mock-jury research suggest that the scores from risk measures, including the PCL-R, have little influence on judges’ and jurors’ perceptions (Boccaccini et al., 2013; Krauss et al., 2012; Turner et al., 2015). This body of research suggests that mock jurors are more likely to be influenced by testimony based on clinical judgement than by testimony based on findings from risk

assessment instruments regardless of the empirical support for the latter (Krauss et al., 2012; McCabe et al., 2010). These findings seem to contradict the evidence for the stigmatizing effect of psychopathy. Perhaps when provided with more information regarding a case, evidence regarding psychopathy loses its influence over decision making. However, further research is needed to truly understand these divergent findings. In either instance, the lack of standards for the quality and quantity of psychopathy information may be a contributing factor. Jurors may perceive the information provided by clinicians to be more relevant to the case at hand than scores from a risk measure. As such, these findings do not negate the importance of relevant and adequate information regarding all risk measures used.

Communication of Psychopathy Information

Even with the importance placed on psychopathy in the CJS, surprisingly few studies have examined how psychopathy information is communicated in legal settings. Further, there is presently no standardized approach for communicating information about psychopathy. The available literature suggests that the way in which psychopathy is discussed is up to the discretion of professionals, which has often led to little contextual information on psychopathy provided in PCL-R assessments (Blais & Forth, 2014b; Edens et al., 2014) and an inadequate amount of information given to stakeholders (Blais et al., 2017). For example, examining risk assessment reports submitted for dangerous offender/long-term offender proceedings, Blais and Forth (2014b) found that beyond discussing PCL-R scores, very little information concerning the implications of the scores for risk management or treatment amenability was provided. Only total PCL-R scores were reported, with factor and facet scores rarely

discussed (Blais & Forth, 2014b). As such, relevant information regarding the PCL-R (e.g., the purpose of the measure), contextual information, and implications for management and treatment are not typically discussed (Blais et al., 2017), leaving room for the inappropriate application of the psychopathy information that is provided to judges and jurors.

In a separate study surveying forensic psychologists on the practices they used in assessing violence risk in youth and adults, Viljoen et al. (2010) found that clinicians working primarily with youth populations rarely used the label “psychopath” in their reports and instead focused more on psychopathic-related characteristics. In comparison, clinicians that conducted adult assessments were significantly more likely than those writing youth assessments to explicitly state whether or not the subject of the report was a psychopath (41.0% and 2.60%, respectively). However, a large proportion of clinicians conducting adult assessments still preferred to discuss the characteristics associated with psychopathy (57.4%; Viljoen et al., 2010). When clinicians were asked whether they believed anyone, including adults, should be labelled a psychopath, most either stated that they were opposed to labelling anyone as psychopathic (47.0%) or unsure whether or not the label was appropriate (39.2%), demonstrating that professionals are unclear on the appropriate approach to communicating psychopathy-related information. In the same study, while most clinicians believed that individuals under the age of 18 should not be assessed for psychopathic traits, there was still no definitive consensus on what age is appropriate for psychopathy to be assessed (Viljoen et al., 2010).

Together, the findings from these two studies demonstrate that not only is little information provided regarding psychopathy but that the information that is provided

varies from clinician to clinician, which leaves notable room for misinterpretation. While perhaps there should be some differences in the way youth and adult assessments are conducted as demonstrated by Viljoen et al. (2010), it is important to note that clinician preference appears to guide the content of the assessment. The lack of standards for communicating about psychopathy is especially concerning considering the evidence that suggests that jury-eligible individuals hold some incorrect perceptions and beliefs about psychopathy (e.g., endorsed delusions as prototypical of psychopathy; S. T. Smith et al., 2014), and rely on the information provided by professionals to make help make judgements (McCabe et al., 2010).

Best Practice Guidelines

Many researchers have argued for the appropriate communication and use of psychopathy information in the criminal justice system (Blais et al., 2017; DeMatteo & Edens, 2006; Edens et al., 2005; Edens & Petrila, 2006). Although there is currently no standardized way to communicate information about psychopathy, some guidelines do exist. Blais et al. (2017) outlined what they believed to be the minimum requirements, stating that evaluators should describe the construct of psychopathy and its relevance in the current legal context, explain the scoring procedure and the attempts to ensure good reliability, provide information on total, factor, and facet scores, and explain the implications of these scores for a given case. Recently, Olver et al. (in press) have outlined additional recommendations on the use and dissemination of PCL-R results. For example, the researchers recommend that PCL-R information be integrated with other risk assessment information to provide comprehensive appraisals of risk to inform both risk management and violence prevention efforts and that statements of risk should be

qualified, contextualized, and informative for decision-makers (Olver et al., in press). Practical guidelines for the proper use of the PCL-R in clinical and forensic settings are also available (e.g., Gacono, 2016; Hare et al. 2013). Although limited information on how best to communicate psychopathy exists, it is possible that the research examining general risk communication may help shape a standardized approach for communicating psychopathy information.

A Five-Level Risk and Needs System

Similar to the communication problems facing the PCL-R, there are no general guidelines for communicating results from structured risk assessments. More specifically, risk can be reported in many ways, such as with risk probabilities, percentile ranks, relative risk estimates, risk ratios, or nominal risk categories (Hanson, 2009). Research has found that although nominal risk categories are preferred by many types of professionals (Heilbrun et al., 1999, 2004; Kwartner et al., 2006), they are extremely subjective and prone to misinterpretation (Hilton, Carter, et al., 2008; Hilton et al., 2015). Further, while reporting risk is important, many decision-makers also require information about the potential consequences, what can be done to mitigate the risk, and what type of criminogenic needs may be present (Hanson, 2009). Efforts to improve how risk outcomes are communicated have resulted in a recent endeavour to create and implement a standardized communication system.

Created by the Council of State Governments' Justice Center in collaboration with researchers from Canada, the Five-Level Risk and Needs System was designed to inform case planning, guide the classification of risk and needs, and to help identify those who would benefit from specific types and intensity of intervention (Hanson, Bourgon, et al.,

2017). Intended to be both broadly applicable and useful, adoption of the system does not require the use of new risk and needs assessment instruments. Instead, the system can be adopted by realigning the existing information from validated risk assessment instruments to reflect the standard terminology of the Five-Level system.

The Five-Level system encompasses three domains related to a person's criminogenic risk factors, labelled as the psychological, interpersonal, and lifestyle domains (Hanson, Bourgon, et al., 2017). The psychological domain focuses on the cognitive, emotional, and behavioural features of an individual that are linked to criminality. The interpersonal domain focuses on an individual's relationship with peers, family, and intimate partners and whether those relationships foster prosocial or pro-criminal behaviour. Finally, the lifestyle domain involves other aspects of an individual's life such as employment, housing, substance abuse, and education. By grouping factors in these domains, decision-makers are provided with a full picture of an individual's circumstances, including their criminogenic needs, life problems, strengths, and likelihood of reoffending. The system includes five levels, with each level labelled by a Roman numeral. Table 1 describes the differences in needs, strengths, correctional responses and prognosis for each of the five levels.

Current communication of psychopathy information could benefit from using a model of communication based on the Five-Levels risk framework, which has been adapted to several risk measures to date including the Static-99R (Hanson, Babchishin et al., 2017), Static-2002R (Hanson, Babchishin et al., 2017), and Violent Risk Scale – Sexual Offence Version (VRS-SO; Olver et al., 2018). Such a format would involve communicating psychopathy information in a way that describes the relevance of the

information to the case at hand, explains the scoring procedure, addresses the needs and strengths of the individual, and includes recommended correctional and treatment responses.

Table 1

Five-levels Risk and Needs System

Level	Needs/Strengths	Correctional response	Prognosis
I	-None or few needs - minimal or transitory -Identifiable resources and strengths in all domains, similar to those with no criminal record	-Custody not recommended (may increase risk), minimal levels of monitoring suggested	-Average two-year recidivism rate of 3% -Expected to desist from crime even without a correctional response
II	-One or two needs, severity of these needs is considered low -Some identifiable resources and strengths	-Custody not recommended, focus on short-term interventions -Expected to respond quickly and positively to services	-Average two-year recidivism rate of 19% -Desistance is likely if criminogenic needs are addressed, would transition to Level I
III	-Multiple needs with some being severe, likely to have non-criminogenic needs as well -Some strengths but needs create barrier to their effective use	-Short-term risk management may be appropriate (approximately 100-200 hours) -Focus on criminogenic needs first and non-criminogenic needs second	-Average two-year recidivism rate of 40% -About half will transition to Level II -Intervention impact will have slower results, but may still be significant
IV	-Multiple criminogenic and non-criminogenic needs, many chronic and severe -Some identifiable strengths and resources, but chronic barriers accessing them	-Likely have a history of incarceration and will require intensive supervision and treatment (approximately 200-300 hours)	-Average two-year recidivism rate of 65% -Some will move to Level III, and as low as II after 10+ years
V	-Multiple chronic and severe criminogenic and non-criminogenic needs, likely entrenched across the 3 domains -Strengths and resources are limited, if they exist	-Custody appropriate for the purpose of community safety -Treatment needs to be structured, comprehensive, intensive, and lengthy (over 300 hours)	-Average two-year recidivism rate of 90% -Recidivism will stay above average; yet, some may move to IV, III, even II with age

Note. Adapted from “A Five-Level Risk and Needs System: Maximizing Assessment Results in Corrections Through the Development of a Common Language,” by R. K. Hanson, G. Bourgon, R. J. McGrath, D. Kroner, D. A. D’Amora, S. S. Thomas, and L. P. Tavaréz, 2017, The Council of State Governments Justice Center, p. 13. Copyright 2017 by The Council of State Governments Justice Center.

Current Research

An important step to creating best practice guidelines for communicating psychopathy information is to understand how the formatting of this information influences decision-making. While past research has demonstrated that perceptions of psychopathy can negatively influence trial outcomes (Cox et al., 2016; Edens et al., 2013), little is known about the extent to which the quality and quantity of psychopathy information provided play a role. Thus, the overarching goal of the current project was to examine how different ways of communicating psychopathy evidence affect decisions concerning risk, management, and treatment amenability. Further, due to the practical implications of the current research, specific attention was placed on making the information given to participants as realistic as possible. In other words, the stimuli presented to participants included the typical information given in any risk assessment report. This allowed us to understand whether psychopathy information is perceived as relevant above and beyond other risk-related information (e.g., a summary of index offence, criminal history, psych-social development, and the results of other risk assessment tools).

These goals were accomplished through two online surveys where participants were required to read a four-page risk assessment report describing an individual with an index offence of assault and robbery who is up for parole. Afterwards, participants answered questions regarding their opinions on the risk, management, and treatment of the individual as well as about the clarity, ease in understanding, usefulness, and confidence regarding the formatting of the information provided in the report. Both studies used 2 (Risk level: moderate, high) x 3 (Psychopathy information format: none,

status quo, enhanced) designs. Risk level was manipulated to understand how changes in risk level influence decisions and interact with the psychopathy information given.

Nominal risk categories were used to describe risk level, with moderate and high-risk conditions. Psychopathy information format was manipulated to examine the extent to which the formatting of psychopathy information influences decisions. The formatting conditions include a no psychopathy information condition to act as a reference condition, a status quo condition where psychopathy information was presented consistent with current reporting practices (e.g., Blais & Forth, 2014b), and an enhanced psychopathy condition where the information provided resembled current recommendations for communicating psychopathy and general risk. The only difference between the studies was the PCL-R score provided; Study 1 was an average score of 22 and the score provided in Study 2 was a much higher score of 34.

Study 1

The main focus of Study 1 was to examine how the formatting of psychopathy information influences decisions about recidivism, dangerousness, and treatment amenability when the psychopathy score described is that of the typical individual involved in the CJS. Using an average psychopathy score (i.e., 22) was of particular interest in this study as many, if not all, published research examining the psychopathy label have used designs with a psychopathy present/absent condition (e.g., Eden et al., 2005; Kopkin, 2016), thus presenting psychopathy as dichotomously instead of on a continuum as suggested (Edens et al., 2006; Hare & Neumann, 2008). Study 1 also served as a pilot study for Study 2.

Hypotheses

Risk Level

Hypothesis 1a (H1a): I predicted that the individual described as high risk would be perceived as a higher risk, more likely to reoffend, and more dangerous than the individual described as moderate risk. Although there is evidence to suggest that nominal risk labels lack consistency in interpretation (Hilton et al., 2008; Monahan & Silver, 2003), experimental studies with similar designs to the current study have found that individuals described as higher risk are perceived as higher in risk (Varela et al., 2014; Krauss et al., 2018), more likely to reoffend (Varela et al., 2014) and more dangerous (Edens et al., 2004, 2005) than those described as lower risk.

Hypothesis 1b (H1b): I predicted that participants would be less likely to grant parole if assigned to the high risk condition as opposed to the moderate risk condition. Evidence from past research suggests that parole decisions are closely related to risk (Caplan, 2007; Lindsey & Miller, 2011; Proctor, 1999). As such, an outcome similar to the hypothesis about risk was expected, where higher risk is associated with a decreased likelihood of being granted parole.

Hypothesis 1c (H1c): I predicted that the individual described as high risk would be perceived as needing more management and being less likely to benefit from treatment than the individual described as moderate risk. Existing research suggests that individuals scoring higher on risk measures are perceived as needing stricter and more expensive supervision strategies, particularly when presented in a categorical format (Varela et al., 2014). Concerning treatment, research has focused more on perceptions of the treatment amenability of individuals with different types of offences. Typically, individuals

involved in more serious offences are perceived as less likely to benefit or improve from treatment (Cullen et al., 1990; Dooley, 2009; L. L. King & Roberts, 2017; Sundt et al., 1998). It is possible that this sentiment concerning individuals that pose a higher risk being less likely to rehabilitate extended to the current study.

Psychopathy Conditions

Hypothesis 2a (H2a): I predicted that there would be no differences in the perceptions of risk (e.g., risk, recidivism, dangerousness) between the individual described in the different conditions based on the formatting of psychopathy information. Research has demonstrated that labelling the individual as a psychopath is associated with higher perceived risk, dangerousness, and rates of reoffending (Berryessa & Wohlstetter, 2019), however the effect appears to have only been studied in the presence of high levels of psychopathy or when specifically referring to the individual as a psychopath. Thus, there is little reason to expect that an individual demonstrating an average score on the PCL-R would elicit the same perceptions, particularly when there is meta-analytic evidence that higher perceived psychopathy leads to harsher outcomes concerning dangerousness and sentencing decisions among other things (Kelley et al., 2019).

Hypothesis 2b (H2b): I predicted that there would be no differences in the likelihood that the individual would be granted parole based on the formatting of psychopathy information. There was little reason to expect that the formatting of psychopathy information would be associated with parole decisions when psychopathy is described as being an average score.

Hypothesis 2c (H2c): I predicted that there would be no differences in the perceptions of management or treatment between the individual described in the different conditions based on the formatting of psychopathy information. Similar to the risk-related hypothesis, studies examining the association between psychopathy and treatment amenability focus on high levels of psychopathy (Boccaccini et al., 2008; Guy & Edens, 2006; Vidal & Skeem, 2007). Due to the use of an average psychopathy score in this study, there was no expectation that the formatting of the information would affect on perceptions of treatment amenability.

Clarity of Information

Hypothesis 3 (H3): I predicted that there would be no differences in the perceptions of clarity, ease in understanding, and relevance of risk assessment report information between the individual described in the different conditions based on risk level. Additionally, I predicted that risk level would have no influence on the usefulness of PCL-R information. Past research has demonstrated that jurors tend to rely more on information other than risk scores when making legal decisions (Boccaccini et al., 2013; Turner et al., 2015), therefore, the level of risk indicated by the risk score was expected to have little influence on the perceptions of other risk report information.

Hypothesis 4 (H4): I predicted that having enhanced psychopathy information would lead to higher perceived clarity, ease in understanding, relevance, and usefulness than having status quo psychopathy information. One of the purposes of using more detailed information when describing the presence of psychopathy in a risk assessment report is to make the information clearer and more useful for legal purposes. Past researchers have argued that providing more detailed information is important to ensure

that appropriate and useful information is provided to decision-makers (Blais et al., 2017; Boccaccini et al., 2013; Turner et al., 2015). Having followed recommendations for improved communication, the results were expected to demonstrate that the enhanced psychopathy information format is associated with higher ratings on the format-related variables.

Exploratory Analyses

Several remaining dependent variables had no concrete hypotheses regarding risk level or psychopathy information format and were treated as exploratory. These included the confidence in making risk-related decisions, the usefulness of other sections of the risk assessment report, and the open-ended question about what information participants found to be the most useful.

Study 1: Method

Participants

The sample included 160 individuals recruited through Qualtrics, with all participants 18 years old or older and Canadian citizens. After completing the online study, participants received monetary compensation ranging between \$0.80 and \$2.00 depending on how they were recruited by the platform. All participants provided informed consent prior to starting the study and received debriefing after completion. Of the 160 responses collected, two were removed for answering two of the three manipulation check questions incorrectly. Therefore, the total number of participants included in the analysis was 158. The sample consisted of 97 females, 58 males, 2 non-binary individuals, and 1 individual that declined to answer. The average age of the participants was 53.3 ($SD = 14.6$, range: 21–77 years). The majority of participants

identified themselves as Caucasian ($n = 133$, 84.2%) and had achieved at least a high-school diploma ($n = 155$, 98.0%). The number of participants in each of the six possible conditions ranged from 24 to 29. See Table 2 for the demographic of the sample.

Table 2*Demographic Characteristics of the Sample*

Categorical variables	% (<i>n</i>)	
Gender		
Female	61.39 (97)	
Male	36.71 (58)	
Non-binary	1.27 (2)	
Prefer not to say	0.63 (1)	
Racial/Ethnic background		
White/Caucasian	84.17 (133)	
Asian	6.96 (11)	
Middle Eastern	2.53 (4)	
Black/African-Canadian	1.27 (2)	
Indigenous	1.27 (2)	
Other	3.80 (6)	
Highest level of education completed		
Elementary school	1.90 (3)	
Secondary/high school	29.11 (46)	
Technical/community college	32.91 (52)	
Bachelor’s Degree	26.58 (42)	
Master’s Degree	7.59 (12)	
Professional degree or doctorate	1.90 (3)	
Any law or legal study courses		
Yes	15.19 (24)	
Any psychology courses		
Yes	29.75 (47)	
Continuous variables	<i>M (SD)</i>	Range
Age	53.27 (14.58)	21-77
Political leaning	5.25 (2.04)	1-10

Note. $N = 158$. Political leaning was measured using a 10-point Likert scale where 1 = left leaning and 10 = right leaning.

Measures

Risk Assessment Report

Six versions of a four-page risk assessment report describing an individual with an index offence of assault and robbery who is being considered for parole were used. Each of the six reports began with a description of parole and the participant's task to review the report and answer opinion-based questions concerning the individual's parole hearing. The reports included typical information provided in risk assessment reports (e.g., description of current offences, psychosocial history, criminal history, correctional and rehabilitation history), an assessment of risk including the Violence Risk Appraisal Guide (VRAG-R; Harris et al., 2015) and the Historical Clinical Risk Management-20 (HCR-20^{V3}; Douglas et al., 2013), the most updated versions of two commonly used risk assessment measures for violent recidivism (Neal & Grisso, 2014). The content of the reports was identical in all conditions, except for the risk assessment scores and length of criminal history varying for the risk conditions, and presence of the PCL-R measure and PCL-R information varying for the psychopathy information conditions. These variations are described below. See Appendix A for the risk assessment report with the six conditions.

Experimental Manipulation. The reports varied across two dimensions - the individual's overall risk level (moderate or high risk) and the formatting of the psychopathy information (no psychopathy information, status quo psychopathy information, or enhanced psychopathy information). The cases describing the individual as a moderate risk provided a VRAG-R score of 3, which falls within the moderate risk category (Quinsey et al., 2006) and an HCR-20^{V3} summary judgement of moderate risk.

The cases describing the individual as a high risk provided a VRAG-R score of 18, which falls within the high-risk category (Quinsey et al., 2006) and an HCR-20^{V3} summary judgement of high risk. In addition, the reports describing the individual as a high risk described a more extensive criminal history including supervision failures. It is important to note that a low risk condition was not included as it would be difficult to have an individual score low on both the VRAG-R and the HCR-20^{V3} while maintaining an overall moderate score of 22 on the PCL-R given that psychopathy information is included in the scoring of both the VRAG-R (antisocial facet) and the HCR-20^{V3}.

The three psychopathy information formats were no psychopathy information, status quo psychopathy information, and enhanced psychopathy information. The PCL-R total score of 22 remained the same in all relevant conditions. In the no psychopathy information condition, no mention of psychopathy or PCL-R was given. In the status quo condition a brief description of the PCL-R was given with a few examples of typical psychopathic traits, followed by the range of possible PCL-R scores, the typical cut-off score of 30, and the calculated total score of 22, consistent with how PCL-R information has been reported in the literature (Blais & Forth, 2014b). Finally, in the enhanced information condition, much more detail was provided, based on both previous recommendations from researchers and the Five-Level Risk and Needs System. In addition to the information provided in the status quo condition, more information on the PCL-R such as the presence of factors and facets, relevance of the PCL-R for the given case, Factor scores, explanation of scores including percentiles and list of PCL-R items with high scores, and treatment and management recommendations based on the psychopathy traits present were provided.

Post-Manipulation Questionnaires

After reading the mock risk assessment, participants answered a series of questionnaires (see Appendix B). The questionnaires included demographic questions, attention check questions, case-specific questions, and format-specific questions.

Demographics and Attention Checks. Participants were asked seven demographic questions related to age, gender, ethnicity, education level, law or legal studies experience, psychology course experience, and political leanings (see Appendix B). The attention check questions consisted of three multiple-choice questions about the details of the case to ensure that participants read the mock report and to ensure that participants were reading the questions. This included a question about the index offence, a question about the psychiatric disorder the individual was diagnosed with, and one item telling participants to choose a specific answer.

Risk, Management, and Treatment Outcomes. Outcome variables were assessed using nine questions concerning the participants' risk-, management-, and treatment-related decisions (see Appendix B). Risk-related outcomes were assessed using a multiple-choice question about which risk category the participants would assign the individual with 5 choices (i.e., low, low-moderate, moderate, moderate-high, high), and several Likert-scale questions including how likely the individual was to commit a new violent offence, how likely the individual was to commit a new crime, how comfortable the participant would feel if the individual was released into the community and how dangerous the individual would be if released. Management and treatment outcomes were assessed using two Likert-scale questions. The first asked how strict the individual's supervision should be, and the second asked how likely the individual is to benefit from

rehabilitation/treatment. Parole decisions were addressed with one question asking participants if they would grant the individual parole with 2 choices (yes, no). Finally, participants were asked to rate how confident they were about their decisions from a scale of 0% to 100%. All Likert type questions ranged from 0 (*not at all*) to 10 (*very*).

Content-specific Questions. Content-specific questions included 11 questions related to the clarity, ease in understanding, relevance, and usefulness of the information provided in the risk assessment report (see Appendix B). Ten of the questions were presented on a 10-point Likert scale, with the final question presented as open-ended. One less question on the usefulness of the report information was given to participants in the no PCL-R condition as it was specifically about the usefulness of the PCL-R information. The first three Likert-scale questions asked about clarity, ease in understanding, and relevance, respectively, while the remaining questions were about the usefulness of the different sections of the report (i.e., criminal history, index offence, clinical diagnoses, PCL-R, VRAG, HCR-20, correctional and rehabilitation history, and treatment and management recommendations). All Likert type questions ranged from 0 (*not at all*) to 10 (*very*). Finally, the open-ended question asked participants what they thought was the most useful information in making their decisions.

Procedure

Participants accessed the online survey through a link provided by the Qualtrics recruitment e-mail (see Appendix C). Those who passed the eligibility questions read an informed consent form (see Appendix D) and if they consented, were randomly assigned to review one of the six mock risk assessment reports and answer the questions that

followed. All participants received debriefing after completing the survey (see Appendix E).

Study 1: Results

Preliminary Analyses

Before conducting any analyses, the data were examined for missing values, outliers, and violations to the assumptions necessary for the primary analyses. In total, there were 13 missing values, with no participant missing more than one response. Due to the small number of missing values, the choice was made to use listwise deletion for any variables with missing data. Therefore, for any given analysis if a case was missing data, it was excluded from the analysis. Sample sizes for each group were approximately equal. Outliers were determined based on Z -scores $\geq |3.29|$ (Tabachnick & Fidell, 2007). All analyses were conducted with and without outliers to ensure results were not influenced by extreme values. Additionally, the data for three of the variables were negatively skewed. Log transformations were used to reduce the skewness in the data and analyses were carried out with and without the transformed variables. Although normality was not met for some of the variables, robustness is typically expected with 20 degrees of freedom for error (df_{error} ; Tabachnick & Fidell, 2007), which was exceeded by all groups. All other assumptions were met. See Table 3 and 4 for descriptive characteristics of the outcome variables.

Although participants were randomly assigned to the conditions in the studies, equivalence testing on relevant demographic variables were carried out to ensure internal consistency (Batastini et al., 2019). Chi-square tests were used to examine group differences across categorical variables (i.e., gender, ethnicity, education, psychology or

law studies experience). Independent samples *t*-tests were used to examine group differences for continuous variables (i.e., age, political leaning) across the risk conditions and Analysis of Variance (ANOVA) was used to test the equivalence of continuous variables across the psychopathy information conditions. No statistically significant effects of gender (risk: $\chi^2[3] = 1.06, p = .786$; psychopathy information: $\chi^2[6] = 5.82, p = .444$), ethnicity (risk: $\chi^2[5] = 5.17, p = .396$; psychopathy information: $\chi^2[10] = 7.28, p = .699$), education (risk: $\chi^2[5] = 1.77, p = .880$; psychopathy information: $\chi^2[10] = 15.91, p = .102$), or whether participants had psychology (risk: $\chi^2[1] = 0.44, p = .507$; psychopathy information: $\chi^2[2] = 1.95, p = .378$) or law studies experience (risk: $\chi^2[1] = 0.10, p = .758$; psychopathy information: $\chi^2[2] = 3.04, p = .219$) were found. Likewise, no significant differences were found for age (risk: $t[156] = -0.77, p = .444$; psychopathy information: $F[2, 155] = 0.10, p = .903$) or political leaning (risk: $t[156] = -0.98, p = .331$; psychopathy information: $F[2, 155] = 0.79, p = .455$).

Table 3*Participant Responses on Risk, Management, and Treatment Outcomes*

Categorical variables	<i>N</i>	% (<i>n</i>)	
Risk outcomes			
Parole decision	156		
Yes		55.06 (87)	
Categorical level of risk			
Low		0.63 (1)	
Low-moderate		8.86 (14)	
Moderate		43.03 (68)	
Moderate high		36.07 (57)	
High		11.39 (18)	
Continuous variables		<i>M (SD)</i>	Range
Risk outcomes			
Violence recidivism		6.58 (2.00)	1-10
Relative recidivism		6.49 (2.07)	1-10
Comfortability if released (R)		6.65 (2.32)	1-10
Dangerousness		5.89 (2.13)	1-10
Management and treatment outcomes			
Intensity of supervision		8.44 (1.51)	1-10
Benefit from treatment (R)	157	3.54 (2.14)	1-10
Risk/Management composite variable	157	6.29 (1.55)	3.17-10
Confidence rating	150	73.56 (17.31)	0-100
Omit outliers	148	74.52 (15.30)	20-100

Note. *N* = 158, unless otherwise stated. Outliers noted had *z*-scores $\geq |3.29|$. Reverse scored items are noted with an (R).

Table 4*Participant Responses on Content-specific Outcomes*

Content-specific outcomes	<i>N</i>	<i>M (SD)</i>	Range
Clarity of information		8.92 (1.37)	4-10
Relevance of information		8.41 (1.87)	2-10
Ease of understanding		8.65 (1.42)	4-10
Format composite variable		8.66 (1.32)	3.67-10
Omit outlier	157	8.69 (1.26)	5-10
Usefulness of information			
Criminal history		9.00 (1.26)	5-10
Detail about current offence		8.96 (1.26)	6-10
Clinical diagnosis		8.51 (1.56)	3-10
PCL-R information ^a	105	7.86 (1.85)	1-10
Omit outliers	103	7.99 (1.59)	4-10
VRAG information	157	7.82 (1.94)	1-10
HCR-20 information	157	7.76 (1.91)	1-10
Correctional and rehabilitation history		8.73 (1.43)	4-10
Treatment and management recommendations		8.81 (1.53)	2-10
Crime/Rehabilitation composite variable		8.88 (1.19)	5-10
Assessment composite variable	156	8.03 (1.63)	2.33-10
Omit outlier	155	8.07 (1.57)	3.33-10

Note. *N* = 158, unless otherwise specified. Outliers noted had *z*-scores $\geq |3.29|$.

^a sample size is reduced to 105 because participants in the no psychopathy information condition did not respond to this item.

Principle Component Analysis (PCA)

Due to the similarity between several of the questions in the survey, an attempt to reduce the number of items for analyses was made. Examining the questions concerning risk (four questions), management/treatment (two questions), and formatting of the risk assessment information (three questions), the absolute value of Pearson correlations

among the nine outcome variables ranged from .01 to .76, with 19 correlations $> .20$ (see Table 5). Following the procedure used in previous studies with similar patterns of correlations (i.e., Boccaccini et al., 2008; Blais & Forth, 2014b), the outcome variables were then entered in a PCA with varimax rotation to examine whether the number of outcome variables could be reduced into a smaller subset of items. A two-factor solution was chosen with items demonstrating high loadings on one factor ($\geq .607$) and not the other ($\leq .378$; see Table 6). The two-factor solution accounted for 68.23% of the variance in ratings. Composite variables were created by averaging the ratings that loaded onto the same component. The first composite variable created was named *Risk/Management* and consisted of six items: likelihood of a new violence offence in the next five years, likelihood of any new crime compared to others, perceived dangerousness, comfortability if released, intensity of supervision, and benefit of rehabilitation/treatment (Cronbach's $\alpha = .86$). The second composite variable created, *Format*, consisted of three items pertaining to the clarity, relevance, and ease of understanding of the risk assessment information provided (Cronbach's $\alpha = .79$).

Table 5*Correlation Matrix of Risk, Treatment/Management, and Format Variables*

	1	2	3	4	5	6	7	8	9
1 Violence recidivism	-								
2 Relative recidivism	.764**	-							
3 Comfortability if released	.617**	.538**	-						
4 Dangerousness	.743**	.702**	.631**	-					
5 Intensity of supervision	.580**	.565**	.440**	.573**	-				
6 Benefit from treatment	.459**	.387**	.460**	.449**	.171*	-			
7 Clarity of information	.097	.147	-.147	-.032	.292**	-.130	-		
8 Relevance of information	.071	.114	-.110	-.070	.161*	-.185*	.767**	-	
9 Ease of understanding	.011	.038	-.140	-.114	.151	-.298**	.529**	.481**	-

Note. * $p < .05$, ** $p < .01$

Table 6*Rotated Factor Loadings for Risk, Treatment/Management, and Format Variables*

Item	Factor loadings	
	1	2
Composite 1: Risk/Management		
Violence recidivism	.886	.095
Relative recidivism	.878	-.067
Comfortability if released (R)	.841	.160
Dangerousness	.770	-.189
Intensity of supervision	.676	.378
Benefit from treatment (R)	.607	-.343
Composite 2: Format		
Clarity of information	.065	.893
Relevance of information	.016	.857
Ease of understanding	-.070	.762

Note. The extraction method was principal components analyses with varimax rotation. Extracted factor loadings are in bold. Reverse scored items are denoted by (R).

Similarly, questions regarding the usefulness of the information provided in the report were also examined to determine if the variables could be condensed into a smaller subset of items. Seven of the eight usefulness questions were considered, as the question concerning the usefulness of the PCL-R was not provided to participants in one of the psychopathy information conditions. The absolute value of Pearson correlations among the seven outcome variables ranged from .342 to .925 (see Table 7). Using PCA with varimax rotation, a two-factor solution was chosen with items demonstrating higher loadings on one factor ($\geq .607$) than the other ($\leq .532$; see Table 8). The two-factor solution accounted for 80.37% of the variance in ratings. Composite variables were created by averaging the ratings that loaded onto the same component. The first

composite variable created from the usefulness questions was named *Crime/Rehabilitation Usefulness* and consisted of criminal history, index offence, correctional and rehabilitation history, and treatment and management recommendations (Cronbach's $\alpha = .89$). The second composite variable created, *Assessment Usefulness*, consisted of clinical diagnosis, VRAG, and HCR-20 (Cronbach's $\alpha = .88$). Although the loadings of the two factors were closer in value, the removal of the item with the weakest loading, clinical diagnosis (loading on Crime/Rehabilitation Usefulness: .532; loading on Assessment Usefulness: .607), led to weaker loadings for all items. The justification for keeping clinical diagnosis as an item is further supported by the high internal consistency of the items for both composite variables.

Table 7*Correlation Matrix of Information Usefulness Variables*

	1	2	3	4	5	6	7
1 Criminal history	-						
2 Index offence	.787**	-					
3 Clinical diagnosis	.526**	.516**	-				
4 VRAG	.345**	.385**	.591**	-			
5 HCR-20	.347**	.398**	.620**	.925**	-		
6 Correctional/ rehabilitation history	.627**	.654**	.633**	.515**	.543**	-	
7 Treatment/ management recommendations	.534**	.617**	.565**	.540**	.546**	.823**	-

Note. * $p < .05$, ** $p < .01$

Table 8*Rotated Factor Loadings for Information Usefulness Variables*

Item	Factor loadings	
	1	2
Composite 1: Crime/Rehabilitation		
Criminal history	.891	.116
Index offence	.882	.184
Correctional/rehabilitation history	.763	.449
Treatment/management recommendations	.693	.492
Composite 2: Assessment		
Clinical diagnosis	.532	.607
VRAG	.197	.938
HCR-20	.214	.939

Note. The extraction method was principal components analyses with varimax rotation. Extracted factor loadings are in bold.

Primary Analyses

Risk Outcomes

Risk Level (H1a and H2a). Multinomial logistic regression was used to predict risk category placement based on risk level (H1a) and psychopathy information format (H2a). Risk category placements included five choices from low risk to high risk. Due to minimal responding in the lowest risk category, low risk was combined with low-moderate risk to form four categories for analysis (low/low-moderate, moderate, moderate-high, and high risk, with low/low-moderate as the reference category). Low responding was still an issue for some interaction cells; therefore, a hierarchical approach was taken. Risk level was entered in the initial model, as it is a known predictor (Varela

et al., 2014), and psychopathy information format and the interaction term were then entered into the model simultaneously in a forward stepwise manner. Using the hierarchical procedure, only risk level successfully entered into the model. A test for the full model was significant, $\chi^2(3, N = 158) = 30.39, p < .001$. The dispersion parameter of the deviance goodness-of-fit statistic indicated that overdispersion was present in the data, therefore standard errors were rescaled to correct for this problem. The Wald test of significance revealed that the risk level reported in the risk assessment report significantly predicted whether the participant assigned a moderate-high risk category over a low/low-moderate risk category, Wald $\chi^2(1) = 8.40, p < .001$. The odds ratio indicated that the odds of participants in the high risk condition assigning a moderate-high risk category over a low/low-moderate risk category were 14 times that of the odds of the participants in the moderate risk condition, $OR = 0.07, 95\% CI [0.01, 0.43]$. Risk level also significantly predicted whether the participant assigned a high risk category over a low/low-moderate risk category, Wald $\chi^2(1) = 9.80, p = .002$. The odds of participants in the high risk condition assigning a high risk category over a low/low-moderate risk category was 33 times that of the odds of participants in the moderate risk condition, $OR = 0.03, 95\% CI [0.003, 0.27]$. In other words, the odds of participants in the high risk condition assigning a moderate-high or high risk category were more than the odds of participants in the moderate risk condition, consistent with H1a. Risk level was unable to predict whether the participant assigned a moderate risk category over a low/low-moderate risk category. Additionally, psychopathy information was unable to predict any risk categories, which supports H2a. Participant risk category placements

based on conditions are presented in Table 9 and results of the multinomial logistic regression are presented in Table 10.

Table 9

Risk Category Placements Based on Risk and Psychopathy Information Conditions

		Risk category % (<i>n</i>)				
	<i>N</i>	Low	Low-moderate	Moderate	Moderate-high	High
Risk level						
Moderate	77	1.30 (1)	15.58 (12)	55.84 (43)	23.38 (18)	3.90 (3)
High	81	0.00 (0)	2.47 (2)	30.86 (25)	48.15 (39)	18.52 (15)
Psychopathy info						
No PCL-R info	53	1.89 (1)	7.55 (4)	35.85 (19)	37.74 (20)	16.98 (9)
Status quo	56	0.00 (0)	8.93 (5)	46.43 (26)	37.50 (21)	7.14 (4)
Enhanced	49	0.00 (0)	10.20 (5)	46.94 (23)	32.65 (16)	10.20 (5)

Note. Info = information.

Table 10

Logistic Regression of Risk Level and Psychopathy Information on Risk Categorization

	<i>B (SE)</i>	Wald χ^2	<i>p</i>	<i>OR [95% CI]</i>
Moderate vs. low/low-moderate risk				
Risk level	-1.33 (0.90)	2.18	.140	0.27 [0.05, 1.55]
Moderate-high vs. low/low-moderate risk				
Risk level	-2.65 (0.91)	8.40	< .001	0.07 [0.01, 0.43]
High vs. low/low-moderate risk				
Risk level	-3.48 (1.11)	9.80	.002	0.03 [0.003, 0.27]

Note. *N* = 156. Hierarchical multinomial regression was used, with risk level entered into the initial model. Using forward stepwise entry, no other effects were added to the model. Significant *p*-values are in bold. CI = confidence interval.

Parole (H1b and H2b). Binary logistic regression was used to analyze if risk level (H1b) or psychopathy information format (H2b) could predict whether participants would grant parole (0 = no, 1 = yes). All variables were simultaneously entered into the model. A test of the full model did not reach significance, $\chi^2(5, N = 156) = 2.61, p = .759$, with the Hosmer and Lemeshow test revealing a good fit between the data and the model (goodness of fit $\chi^2 = 0, df = 4, p = 1.0$). All tests were statistically non-significant. That is, neither risk condition, psychopathy information, nor the interaction between the two conditions was able to significantly predict participants' decision to grant parole, providing support for H2b but not for H1b. Participant responses on the parole decision based on conditions are presented in Table 11 and results from the binary logistic regression are presented in Table 12.

Table 11

Participants' Parole Decision Based on Risk and Psychopathy Information Condition

		Parole % (<i>n</i>)	
	<i>N</i>	Yes	No
<hr/>			
Risk level			
Moderate	75	58.67 (44)	41.33 (31)
High	81	53.90 (43)	46.91 (38)
Psychopathy Information			
No PCL-R information	51	58.82 (30)	41.18 (21)
Status quo	56	53.57 (30)	46.43 (26)
Enhanced	49	55.10 (27)	44.90 (22)

Table 12*Logistic Regression of Risk Level and Psychopathy Information on Parole Decision*

	<i>B (SE)</i>	Wald χ^2	<i>p</i>	<i>OR [95% CI]</i>
Risk level				
Moderate risk ^a				
High risk	-0.83 (0.59)	1.96	.161	0.44 [0.14, 1.39]
Psychopathy information				
No psychopathy information ^a				
Status quo information	-0.60 (0.60)	1.03	.311	0.55 [0.17, 1.78]
Enhanced information	- 0.75 (0.61)	1.53	.217	0.48 [0.15, 1.55]
Interactions ^b				
Psychopathy information (1) by risk level	0.67 (0.80)	0.71	.399	1.96 [0.41, 9.36]
Psychopathy information (2) by risk level	1.08 (0.83)	1.73	.189	2.95 [0.59, 14.87]

Note. *N* = 156. Binary logistic regression with forward entry was used. CI = confidence interval.

^a Reference category (coded as 0) for all predictor variables.

^b Psychopathy information (1 = Status quo information, 2 = Enhanced information).

Risk Management Composite (H1a/c and H2a/c). A 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to examine the impact of risk level (H1a/c), psychopathy information format, (H2a/c) and their interaction on participant ratings on the Risk/Management composite variable. The Risk/Management composite variable consisted of the average rating on six items related to risk, management, and treatment amenability, measured on a scale of 1 to 10. As I predicted (H1a/c), participants in the high risk condition rated the individual higher on the

Risk/Management composite variable ($M = 6.57, SD = 1.41$) than those in the moderate condition ($M = 6.00, SD = 1.65$), $F(1, 151) = 5.52, p = .020, d = 0.37, 95\% CI [0.06, 0.69]$. Additionally, no main effect was found between having no psychopathy information ($M = 6.27, SD = 1.68$), status quo information ($M = 6.22, SD = 1.29$), and enhanced information ($M = 6.40, SD = 1.69$), $F(2, 151) = 0.22, p = .804, \eta_p^2 = .003, 95\% CI [0, .300]$, providing support for H2a/c. The interaction term was also nonsignificant, $F(2, 151) = .48, p = .620, \eta_p^2 = .006, 95\% CI [0, .040]$. Overall, it appears that only risk level had an impact on Risk/Management ratings (see Figure 1 below).

Figure 1

Ratings on Risk/Management Based on Risk level and Psychopathy Information Format.

Note. Errors bars represent the standard error of measurement for the average ratings on the Risk/Management composite variable.

Confidence Outcome (Exploratory)

A 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to examine the impact of risk level, psychopathy information format, and their interaction on participant ratings of overall confidence in their decision-making (0-100%). Two outliers with z -scores greater than $|3.29|$ were identified and the analysis was carried out with and without them. Due to similar patterns in the results, the reported analysis includes all responses. Both main effects were non-significant. There were no differences between the confidence ratings of participants in the moderate risk condition ($M = 74.25$, $SD = 16.09$) and the high-risk condition ($M = 74.79$, $SD = 14.58$), $F(1,144) = 0.85$, $p = .359$, $d = -0.04$, 95% CI $[-0.46, 0.18]$. Additionally, there was no effect found between no psychopathy information ($M = 76.94$, $SD = 14.45$), status quo information ($M = 72.41$, $SD = 14.84$) or enhanced information conditions ($M = 74.30$, $SD = 14.45$), $F(2,144) = 0.48$, $p = .621$, $\eta_p^2 = .007$, 95% CI $[0, .040]$. The interaction between conditions was also non-significant, $F(2,144) = 0.98$, $p = .379$, $\eta_p^2 = .013$, 95% CI $[0, .060]$. As such, it appears that risk level and communication format had no effect of confidence ratings of participants.

Content-Specific Outcomes

Clarity of Information (H3 and H4). The effect of risk level (H3), psychopathy information format (H4), and their interaction on participant ratings on the Format composite variable was examined using a 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA. The Format composite variable was rated on a scale of 1 to 10 and

consisted of the averaged ratings of clarity, relevance, and ease of understanding. The data was negatively skewed and was transformed with a log transformation. Similarly, one outlier was identified. Analyses were carried out with and without the transformed data and the outlier. All analyses produced a similar pattern of results; therefore, the reported analysis includes the original data. As predicted (H3), there were no differences between Format ratings for the moderate risk ($M = 8.65$, $SD = 1.36$) and the high-risk condition ($M = 8.67$, $SD = 1.29$), $F(1, 152) = 0.01$, $p = .936$, $d = -0.01$, 95% CI [-0.33, 0.30]. However, contrary to expectations (H4), there was also no effect found between no psychopathy information ($M = 8.79$, $SD = 1.47$), status quo information ($M = 8.68$, $SD = 1.25$) or enhanced information conditions ($M = 8.50$, $SD = 1.22$), $F(2, 152) = 0.62$, $p = .538$, $\eta_p^2 = .008$, 95% CI [0, .500]. The interaction between conditions was also non-significant, $F(2, 152) = 0.08$, $p = .928$, $\eta_p^2 = .001$, 95% CI [0, .010]. Overall, it appears that neither risk level nor psychopathy information had any effect on participants' ratings on the Format composite variable.

PCL-R Usefulness (H3 and H4). Participants in the conditions with psychopathy information (i.e., the status quo and enhanced conditions) were asked about the usefulness of the PCL-R in making their decisions on a scale of 1 to 10. To examine the extent to which risk level (H3), psychopathy information format (H4), and their interaction impacted the perceived usefulness of the PCL-R, a 2 (risk level: moderate, high) x 2 (psychopathy information format: status quo, enhanced) between participant ANOVA was used. The data was negatively skewed and was transformed with a log transformation. Similarly, two outliers were identified. Analyses were carried out with and without the transformed data and the outliers. All analyses produced a similar pattern

of results; therefore, the reported analysis includes the original data. Both main effects were nonsignificant. Participants in the moderate risk condition had PCL-R usefulness ratings ($M = 7.65$, $SD = 2.14$) similar to those in the high risk condition ($M = 8.06$, $SD = 1.50$), $F(1, 101) = 4.32$, $p = .266$, $d = -0.22$, 95% CI $[-0.61, 0.16]$, consistent with H3.

There was also no difference in ratings for participants in the status quo information ($M = 7.75$, $SD = 1.89$) and enhanced information conditions ($M = 7.98$, $SD = 1.81$), $F(1, 101) = 0.44$, $p = .509$, $d = -0.12$, 95% CI $[-0.51, 0.26]$, contrary to H4. The interaction term was also non-significant, $F(1, 101) = 0.01$, $p = .912$, $\eta_p^2 < .001$, 95% CI $[0, .020]$. These findings suggest that there was no difference in the usefulness of the PCL-R information based on risk level or the formatting of the information given to participants.

Usefulness Composites (Exploratory). A 2 (risk level: moderate, high) $\times$ 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to examine the influence of risk level, psychopathy information format, and their interaction on participant ratings on the Crime/Rehabilitation Usefulness composite variable. The Crime/Rehabilitation Usefulness composite variable consisted of the averaged usefulness ratings on four items involving offence and treatment/rehabilitation information, measured on a scale of 1 to 10. The data was negatively skewed and was transformed with a log transformation. Analyses were carried out with and without the transformed data. All analyses produced a similar pattern of results; therefore, the reported analysis includes the original data. No significant main effects were found. That is, there was no difference between participants' Crime/Rehabilitation Usefulness ratings based on being placed in the moderate risk ($M = 8.83$, $SD = 1.28$) or high risk condition ($M = 8.92$, $SD = 1.12$), $F(1,$

152) = 0.21, $p = .650$, $d = -0.07$, 95% CI [-0.39, 0.24]. No difference existed between the ratings of participants in the no psychopathy information ($M = 9.02$, $SD = 1.23$), status quo information ($M = 8.71$, $SD = 1.23$), and enhanced information conditions ($M = 8.91$, $SD = 1.10$), $F(2, 152) = 0.94$, $p = .392$, $\eta_p^2 = .01$, 95% CI [0, .060]. The interaction term was also non-significant, $F(2, 152) = 0.08$, $p = .948$, $\eta_p^2 = .001$, 95% CI [0, .010]. These findings suggest that risk level and psychopathy information formatting had no impact on ratings of Crime/Rehabilitation Usefulness.

A final 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to analyze the effect of risk level, psychopathy information format, and their interaction on participant ratings on the Assessment Usefulness composite variable. This composite variable included the averaged usefulness ratings on clinical diagnosis, VRAG, and HCR-20 information, measured on a scale of 1 to 10. The data was negatively skewed and was transformed with a log transformation. Similarly, one outlier was identified. The analysis was carried out with and without the transformed data and the outlier. Due to similar patterns in the results, the reported analysis includes the original data. There was no difference in ratings between participants in the moderate risk condition ($M = 7.87$, $SD = 1.80$) and the high risk condition ($M = 8.18$, $SD = 1.44$), $F(1, 150) = 4.13$, $p = .218$, $d = -0.20$, 95% CI [-0.51, 0.12]. Similarly, no differences were found between ratings of participants provided with no psychopathy information ($M = 8.04$, $SD = 1.83$), status quo psychopathy information ($M = 7.98$, $SD = 1.51$), or enhanced psychopathy information ($M = 8.07$, $SD = 1.56$), $F(2, 150) = 0.04$, $p = .965$, $\eta_p^2 < .001$, 95% CI [0, .006]. The interaction term was also non-significant, $F(2, 152) = 0.22$, $p = .805$, $\eta_p^2 = .003$, 95% CI

[0, .030]. These findings suggest that risk level and psychopathy information formatting had no impact on the usefulness ratings of the Assessment composite variable.

Open-ended Usefulness Question (Exploratory). Finally, some preliminary content analysis was conducted on the open-ended question presented to participants. Using *NVIVO 12*, a software designed specifically for qualitative data analysis, all participant responses were carefully examined to extract commonalities between what participants thought to be the most useful information for their decision making. Figure 2 provides a word frequency map of participant responses. A total of 152 participants provided 259 unique responses that were organized into 11 general categories, with most including subcategories. The main categories included the following: History, Rehabilitation, Recommendations, Substance abuse, Assessment of risk, Personality/behaviour, Index offence, Behaviour in corrections, External support, All information and Other. See Table 13 for a list of the categories, subcategories and frequencies of responses. The most frequent response was related to criminal history, a subcategory of history, with a quarter of the sample ($n = 38$) making a mention of the individual's past offences. Treatment history, treatment and supervision recommendations, substance abuse history, and risk assessment information were also popular responses.

Figure 2

Word Frequency Map of Participant Responses to Most Important Information

Note. Size of text is related to the frequency of the word mentioned by participants.

Table 13*Response Categories for Most Useful Information*

Response categories	% (n)
History	
Criminal history	25.00 (38)
General past	7.24 (11)
Family history	3.29 (5)
Rehabilitation	
Treatment history	14.47 (22)
Treatment motivation	5.26 (8)
Treatment change	3.29 (5)
Recommendations	
Supervision/conditions	13.16 (20)
Treatment	13.16 (20)
Substance abuse	
History	13.16 (20)
Rehabilitation potential	5.26 (8)
Assessment of risk	
All risk measure information	11.84 (18)
VRAG	3.29 (5)
PCL-R	1.32 (2)
Personality/behaviour	4.61 (7)
Index offence	9.21 (14)
Behaviour in corrections	
Correctional history	8.55 (13)
Education	3.95 (6)
External support	
Social support	7.24 (11)
Employment	5.92 (9)
All information	7.89 (12)
Other	3.29 (5)

Note. $N = 152$. Frequencies will not add up to 100 as participant responses may have been included in more than one category.

Summary of Findings

Table 14 provides a summary of the hypotheses and results for Study 1. These results suggest that individuals could distinguish between risk levels and use that information to help with decision-making, but that the formatting of psychopathy information, when psychopathy scores are moderate, did not seem to have any impact on the same decisions. It also appeared that neither risk level nor psychopathy information format had an impact on perceived clarity, relevance, ease of understanding, or usefulness of risk assessment information although the majority of participants rated content-specific outcomes favourably. To further understand the extent to which psychopathy information formatting effects legal decision making, high psychopathy scores must also be examined. As the results of the current study demonstrated, the presence of psychopathic traits did not elicit more negative perceptions, particularly in the status quo condition. However, it is unclear whether this was due to the average psychopathy score used or other potential factors. To properly address the research question, a second study with high psychopathy scores and a similar research design was needed.

Table 14*Summary of Study 1 Hypotheses and Results*

Dependant variables	Independent variables	Prediction (Sig?)	Actual (Sig?)
Risk category	Risk level (H1a)	YES	YES
	PCL-R information (H2a)	NO	NO
Parole	Risk level (H1b)	YES	NO
	PCL-R Information (H2b)	NO	NO
Risk composite	Risk level (H1a/c)	YES	YES
	PCL-R information (H1a/c)	NO	NO
Confidence outcome	Risk level (Exp)	-	NO
	PCL-R information (Exp)	-	NO
Format composite	Risk level (H3)	NO	NO
	PCL-R information (H4)	YES	NO
PCL-R usefulness	Risk level (H3)	NO	NO
	PCL-R information (H4)	YES	NO
Usefulness composites	Risk level (Exp)	-	NO
	PCL-R information (Exp)	-	NO

Note. Exp = Exploratory hypothesis; Sig = Significant.

Study 2

Although the findings from Study 1 are valuable, some limitations need to be acknowledged. More specifically, the moderate PCL-R score is not consistent with labelling research when psychopathy is present. To be able to address the issues raised, a similar study examining perceptions with a high PCL-R score was needed. Additionally, no a priori power analysis was completed for Study 1 making it possible that the study was underpowered, and some of the outcomes needed to be clarified.

Study 2 built off of the findings of Study 1 and was structured similarly, with the most salient difference being that the psychopathy score described was higher than the

average PCL-R score from Study 2, namely a score of 34. This allowed for a better examination of how the inclusion of a high psychopathy score may further influence the perceptions of laypeople, with the results allowing for a better understanding of if psychopathy information actually matters for decision making. If Study 2 did not find significant results, particularly with the psychopathy information condition, stronger implications could be made than Study 1 alone. Further, an a priori power analysis using the G*Power program (Faul et al., 2009) was conducted and found that a total sample of 432 people would be needed to detect a small/medium effect ($d = 0.30$) with 80% power using ANOVA with alpha at .05. Some variables were also altered or added for clarity and will be described in more detail below. Importantly, although Study 1 acted as a pilot study, hypotheses for both studies were created at the same time, before any analyses were conducted for Study 1. Therefore, results from Study 1 did not alter the hypotheses for Study 2.

Hypotheses

Risk Level

Hypothesis 1a – 1c (H1a-c): There were no foreseeable reasons for why the hypotheses regarding the risk conditions should differ from Study 1, as the conditions themselves were not altered. As such, all of the same predictions were made concerning risk, treatment, and parole.

Psychopathy Condition

Hypothesis 2a (H2a): I predicted that the individual described using the status quo psychopathy information would be perceived as a higher risk, more likely to reoffend, and more dangerous than the individual described using the enhanced

psychopathy or no psychopathy information conditions. The psychopathy labelling literature suggests that when an individual is described as having psychopathic traits, they are more likely to be perceived as higher risk and more dangerous (Berryessa & Wohlstetter, 2019; Edens et al., 2005; Jones & Cauffman, 2008). Further, Kelley et al.'s (2019) meta-analysis demonstrated that perceiving someone as being more psychopathic was related to viewing them as being more dangerous. I expected that a similar pattern would emerge in the current study with the status quo psychopathy information condition, but that responses from the enhanced psychopathy information condition would resemble those from the no psychopathy information condition, as relevant and detailed information was provided to mitigate misconceptions, such as treatment pessimism (i.e., inability to change), that may alter perceived risk.

Hypothesis 2b (H2b): I predicted that the individual described using the status quo psychopathy information would be less likely to be granted parole than the individual described using the enhanced psychopathy or no psychopathy information conditions. Consistent with past research that has demonstrated that the presence of psychopathy is associated with harsher sentencing decisions (Cox et al., 2010; Kopkin, 2016; Vidal & Skeem, 2007), the status quo condition was expected to be associated with a lesser chance of the individual being granted parole, regardless of risk level. Conversely, the enhanced psychopathy information condition was expected to be more similar to the condition with no psychopathy information provided, as the enhanced information provided would hopefully mitigate any stigma (e.g., treatment pessimism).

Hypothesis 2c (H2c): I predicted that the individual described using the status quo psychopathy information would be perceived as needing more management and

being less likely to benefit from treatment than the individual described using the enhanced psychopathy or no psychopathy information conditions. Evidence supporting the hypothesis comes from Berryessa and Wohlstetter's (2019) meta-analysis, where the presence of the psychopathy label was associated with more management (in the form of harsher sanctions) and decreased perceived treatment amenability. Further, I expected that participants in the enhanced information condition would view the individual as more treatable than those in the status quo condition because evidence-based treatment information is specifically provided (i.e., the Two-Component model) to help diminish some possible misconceptions about treatment amenability that participants may have about individuals with psychopathy.

Hypothesis 2d (H2d): I predicted that the individual described using the status quo psychopathy information condition would be perceived as more psychopathic than the individual described using the enhanced psychopathy or no psychopathy information conditions. This variable was added to Study 2 to measure if perceived psychopathy changed depending on the information provided. The status quo psychopathy information condition was intended to portray how psychopathy is typically communicated (i.e., with little information given), which may contribute to the stigmatizing effect of psychopathy. If this is true, the individual described using the status quo psychopathy information should have been perceived as more psychopathic than the individual described using the other information formats.

Clarity of Information

Hypothesis 3 (H3): I predicted that there would be no differences in the perceptions of clarity, ease in understanding, and relevance between the individual

described in the different conditions based on risk level. I also predicted that risk level would not affect the perceived usefulness of the PCL-R.

Hypothesis 4 (H4): I predicted that having enhanced psychopathy information would lead to higher perceived clarity, ease in understanding, relevance, and usefulness than having status quo psychopathy information. This hypothesis was the same as Study 1, as the intention of having more detailed information was still to provide clearer, easier to understand, more relevant and more useful information regarding psychopathy.

Exploratory Analyses

Similar to Study 1, the confidence in making risk-related decisions, the usefulness of other sections of the risk assessment section, and the open-ended question on what participants found the most useful were treated as exploratory.

Study 2: Method

Participants

The sample included 466 individuals that were 18 years old or older, Canadian citizens, and able to read and write in English. Participants were recruited through social media platforms including Twitter, Facebook, Instagram, and Reddit. The use of social media is a quick and cost-effective approach to recruiting participants, that, due to its prevalence in day-to-day life, is not limited to certain populations (D. B. King et al., 2014), with approximately 61% of Canadians engage on social media every day, spanning all age groups (McKinnon, 2019). Participants had the opportunity to be put in a draw for a \$100 gift card from Amazon for participating in the study. All participants provided informed consent prior to starting the study and received debriefing after completion. Of the 466 responses collected, eight were removed for answering two of the

three manipulation check questions incorrectly, and 23 were removed for not answering the outcome variables. Therefore, the total number of participants included in the analysis was 435, 428 of which answered the demographic questions. The sample consisted of 330 women, 85 men, 7 non-binary individuals, 5 who declined to answer, and 1 individual that endorsed the ‘Other’ category. The average age of the participants was 36.28 ($SD = 13.39$, range: 19–77 years). The majority of participants identified themselves as Caucasian ($n = 381$, 89.02%) and had achieved at least technical or community college ($n = 137$, 32.24%). The number of participants in each of the six possible conditions ranged from 67 to 80. See Table 15 for the demographic characteristics of the sample.

Table 15*Demographic Characteristics of the Sample*

Categorical Variables	<i>N</i>	% (<i>n</i>)	
Gender			
Female		77.10	(330)
Male		19.86	(85)
Non-binary		1.64	(7)
Other		0.23	(1)
Prefer not to say		1.17	(5)
Racial/Ethnic background			
White/Caucasian		89.02	(381)
Indigenous		3.50	(15)
Asian		1.87	(8)
East Indian		0.93	(4)
Middle Eastern		0.70	(3)
Black/African-Canadian		0.47	(2)
Hispanic/Latinx		0.47	(2)
Other		3.04	(13)
Highest level of education completed	425		
Secondary/high school		25.41	(108)
Technical/community college		32.24	(137)
Bachelor's Degree		29.41	(125)
Master's Degree		9.18	(39)
Professional degree or doctorate		3.76	(16)
Any law or legal study courses			
Yes		27.34	(117)
Any psychology courses			
Yes		51.40	(220)
Any prior risk assessment knowledge			
Yes	431	31.79	(137)
Continuous Variables		<i>M (SD)</i>	Range
Age	427	36.28 (13.39)	19-77
Political leaning	424	4.79 (2.19)	1-10

Note. *N* = 428. Political leaning was measured using a 10-point Likert scale where 1 = left leaning and 10 = right leaning.

Measures

Risk Assessment Report

Participants read one of six versions of a four-page risk assessment report similar to the stimuli used in Study 1. The most salient difference from the first study was the use of a higher psychopathy score of 34. As such, each of the reports began with a description of parole and the participant's task to review the report and answer opinion-based questions concerning the individual's parole hearing. The risk assessment report included all the same sections as Study 1 with the content of the reports identical in all conditions, except for the risk assessment scores and length of criminal history for the risk conditions, and PCL-R information for the psychopathy information format conditions. See Appendix F for the risk assessment report.

Experimental Manipulation. The experimental design was the same as Study 1. That is, the reports varied based on the individual's overall risk level (moderate or high risk) and the formatting of PCL-R information (no PCL-R information, status quo PCL-R information, or enhanced PCL-R information). The cases describing the individual as a moderate risk provided the same VRAG-R score of 3 and HCR-20^{V3} summary judgement of moderate risk as in Study 1. The cases describing the individual as a high risk provided a VRAG-R score of 18 and an HCR-20^{V3} summary judgement of high risk. In addition, the reports describing the individual as a high risk described a more extensive criminal history including supervision failures.

The three psychopathy information formats included no psychopathy information, status quo psychopathy information, and enhanced psychopathy information. The details of the different format conditions generally remained the same as Study 1. The main

differences included the PCL-R score of 34, indicating a high level of psychopathy for all relevant conditions, as well as more detailed treatment, management, and strengths sections in the enhanced psychopathy information condition.

Post-manipulation questionnaires

Demographics and Attention Checks. Demographic and attention check items were similar to those used in Study 1, although one additional question regarding prior knowledge of risk assessment was also asked. See Appendix G for the survey questions.

Risk, Management, and Treatment Outcomes. Two additional risk-related questions were included in Study 2 in which participants were asked to rate how psychopathic they viewed and the likelihood of the individual committing any new offence in the next 5 years, both on a 10-point Likert scale. Additionally, the question asking participants if they thought that the individual would benefit from treatment was reworded for clarity. That is, instead of asking participants how likely the individual is to benefit from rehabilitation/treatment, participants were asked how likely the individual is to improve from rehabilitation/treatment. All other risk, management and treatment-related questions were the same as those used in Study 1 (see Appendix G).

Content-specific Questions. All content-specific questions were identical to the ones used in Study 1 (see Appendix G).

Procedure

Participants accessed the online survey through the link provided in the recruitment notices (see Appendix H). Those who passed the eligibility questions read an informed consent form (see Appendix I) and if they provided consent, they were randomly assigned to review one of the six mock risk assessment reports and answer the

questions that follow. Once they completed the survey, participants were provided with a debriefing form (see Appendix J) and were redirected to a new Qualtrics window where they could enter their e-mail address to be entered in the draw for the Amazon gift card.

Study 2: Results

Preliminary Analyses

Before conducting any analyses, the data were examined for missing values, outliers, and violations to the assumptions necessary for the primary analyses. In total, there were 143 missing values, although there were no more than 13 missing responses (3%) of any given variable. Therefore, similar to Study 1, the choice was made to use listwise deletion for any variables with missing data. For any given analysis if a case was missing data, it was excluded from the analysis. Sample sizes for each group were approximately equal. Outliers were determined based on $Z\text{-scores} \geq |3.29|$ (Tabachnick & Fidell, 2007). All analyses were conducted with and without outliers to ensure results were not influenced by extreme values. Additionally, the data for six of the variables were negatively skewed. Three log transformations and four square root transformations were used to reduce the skewness in the data and analyses were carried out with and without the transformed variables. Although normality was not met for some of the variables, all groups exceeded 20 df_{error} , therefore, the data was robust to violations of the normality assumption (Tabachnick & Fidell, 2007). All other assumptions were met. See Table 16 and 17 for the descriptive characteristics of the outcome variables.

Table 16*Participant Responses on Risk, Management, and Treatment Outcomes*

Categorical variables	<i>N</i>	% (<i>n</i>)	
Risk outcomes			
Parole decision			
Yes		59.54% (259)	
Categorical level of risk			
Low		0.46% (2)	
Low-moderate		8.05% (35)	
Moderate		59.54% (259)	
Moderate high		41.84% (182)	
High		13.10% (57)	
Continuous variables		<i>M (SD)</i>	Range
Risk outcomes			
Violence recidivism		6.27 (2.05)	1-10
Any recidivism		6.61 (2.12)	1-10
Relative recidivism		6.44 (2.09)	2-10
Comfortability if released (R)		6.44 (2.12)	1-10
Dangerousness		5.43 (1.95)	1-10
Psychopathy		5.32 (2.55)	1-10
Management and treatment outcomes			
Intensity of supervision		8.18 (1.69)	2-10
Improve from treatment (R)	434	4.41 (2.05)	1-10
Risk/Management composite variable	429	6.25 (1.52)	1.57-10
Confidence rating		75.25 (15.26)	10-100
Omit outliers	432	75.65 (14.52)	27-100

Note. *N* = 435, unless otherwise stated. Outliers noted had *z*-scores $\geq |3.29|$. Reverse scored items are noted with an (R).

Table 17*Participant Responses on Content-specific Outcomes*

Content-specific outcomes	<i>N</i>	<i>M (SD)</i>	Range
Clarity of information		9.06 (1.23)	4-10
Relevance of information		8.97 (1.45)	3-10
Ease of understanding		8.90 (1.42)	2-10
Format composite variable		8.97 (1.10)	4-10
Omit outliers	431	9.02 (1.00)	5.67-10
Usefulness of information			
Criminal history	434	9.19 (1.34)	1-10
Detail about current offense	431	9.07 (1.43)	3-10
Clinical diagnosis	429	8.93 (1.76)	1-10
PCL-R information ^a	283	8.25 (1.85)	1-10
Omit outliers	280	8.33 (1.71)	3-10
VRAG information	425	8.14 (1.94)	1-10
HCR-20 information	426	7.85 (2.14)	1-10
Correctional and rehabilitation history	429	8.94 (1.43)	3-10
Treatment and management recommendations	427	8.92 (1.55)	1-10
Crime/Rehabilitation composite variable	423	8.95 (1.07)	4.40-10
Omit outliers	419	9.00 (1.00)	5.60-10
Assessment composite variable	422	8.00 (1.97)	1-10
Omit outliers	415	8.12 (1.77)	2-10

Note. *N* = 435, unless otherwise specified. Outliers noted had *z*-scores $\geq |3.29|$.

^a sample size is reduced to 283 because participants in the no psychopathy information condition did not respond to this item.

Chi-square tests were used to examine group differences across categorical variables (i.e., gender, ethnicity, education, psychology and law studies experience, and prior risk assessment knowledge). Independent samples *t*-tests were used to examine group differences for continuous variables (i.e., age, political leaning) across the risk

conditions and Analysis of Variance (ANOVA) was used to test the equivalence of continuous variables across the psychopathy information conditions. No statistically significant effects of gender (risk: $\chi^2[4] = 1.81, p = .771$; psychopathy information: $\chi^2[8] = 6.18, p = .627$), ethnicity (risk: $\chi^2[7] = 9.64, p = .210$; psychopathy information: $\chi^2[14] = 7.04, p = .933$), education (risk: $\chi^2[4] = 4.16, p = .385$; psychopathy information: $\chi^2[8] = 8.56, p = .381$), whether participants had psychology (risk: $\chi^2[1] = 1.01, p = .314$; psychopathy information: $\chi^2[2] = 2.72, p = .257$) or law studies experience (risk: $\chi^2[1] = 0.01, p = .907$; psychopathy information: $\chi^2[2] = 3.25, p = .197$), or whether participants had previous risk assessment knowledge (risk: $\chi^2[1] = 0.89, p = .347$; psychopathy information: $\chi^2[2] = 0.75, p = .686$) were found. Likewise, no significant differences were found for age (risk: $t[424] = 1.71, p = .089$; psychopathy information: $F[2, 424] = 0.68, p = .507$) or political leaning (risk: $t[421] = 0.90, p = .368$; psychopathy information: $F[2, 421] = 0.09, p = .912$). Age was positively skewed; however, a log transformation did not lead to significantly different results and the original data is reported.

Principle Component Analysis (PCA)

An attempt to reduce the number of items for analyses was made, similar to Study 1. The absolute value of Pearson correlations among the questions concerning risk (five questions), management/treatment (two questions), and formatting of the risk assessment information (three questions) ranging from .01 to .73, with 25 correlations $> .20$ (see Table 18). The outcome variables were then entered in a PCA with varimax rotation to examine whether the number of outcome variables could be reduced into a smaller subset of items. A similar two-factor solution to Study 1 was chosen with items demonstrating

high loadings on one factor ($\geq .551$) and not the other ($\leq .207$; see Table 19). The two-factor solution accounted for 60.47% of the variance in ratings, which was somewhat smaller than the 68.23% variance accounted for the composite in Study 1. Composite variables were created by averaging the ratings that loaded onto the same component. The *Risk/Management* composite variable consisted of seven items: likelihood of a new violence offence in the next five years, likelihood of any new offence in the next five years, likelihood of any new crime compared to others, perceived dangerousness, comfortability if released, intensity of supervision, and benefit of rehabilitation/treatment (Cronbach's $\alpha = .88$). The second composite variable, *Format*, consisted of clarity, relevance, and ease of understanding of the risk assessment information provided (Cronbach's $\alpha = .72$).

Table 18*Correlation Matrix of Risk, Treatment/Management, and Format Variables*

	1	2	3	4	5	6	7	8	9	10
1 Violence recidivism	-									
2 Any recidivism	.733**	-								
3 Relative recidivism	.683**	.713**	-							
4 Comfortability if released	.525**	.527**	.490**	-						
5 Dangerousness	.664**	.547**	.591**	.573**	-					
6 Intensity of supervision	.476**	.467**	.444**	.484**	.499**	-				
7 Benefit from treatment	.392**	.415**	.339**	.436**	.347**	.127**	-			
8 Clarity of information	.113*	.078	.046	-.011	.079	.166**	-.047	-		
9 Relevance of information	.127**	.108*	.040	.058	.122*	.168**	-.014	.458**	-	
10 Ease of understanding	.136**	.156**	.096*	.212**	.151**	.217**	.070	.287**	.301**	-

Note. * $p < .05$, ** $p < .01$

Table 19*Rotated Factor Loadings for Risk, Treatment/Management, and Format Variables*

Item	Factor Loadings	
	1	2
Composite 1: Risk/Management		
Violence recidivism	.856	.088
Any recidivism	.840	.066
Relative recidivism	.819	.018
Comfortability if released (R)	.762	.065
Dangerousness	.803	-.030
Intensity of supervision	.642	.207
Benefit from treatment (R)	.551	-.122
Composite 2: Format		
Clarity of information	.026	.826
Relevance of information	-.007	.796
Ease of understanding	.078	.774

Note. The extraction method was principal components analyses with varimax rotation. Extracted factor loadings are in bold. Reverse scored items are denoted by (R).

Seven of the eight usefulness questions were examined through PCA as the PCL-R usefulness item was not provided to all participants. The absolute value of Pearson correlations among the seven outcome variables ranged from .183 to .867, with 20 correlations $> .20$ (see Table 20). Using PCA with varimax rotation, a two-factor solution was chosen with items demonstrating higher loadings on one factor ($\geq .573$) than the other ($\leq .386$; see Table 21). The two-factor solution accounted for 63.78% of the variance in ratings, which is lower than the variance accounted for the PCA of usefulness variables in Study 1 (80.37%). Composite variables were created by averaging the ratings

that loaded onto the same component. *Crime/Rehabilitation Usefulness* consisted of criminal history, index offence, correctional and rehabilitation history, treatment and management recommendations, and clinical diagnosis (Cronbach's $\alpha = .76$). *Assessment Usefulness* consisted of VRAG and HCR-20 (Cronbach's $\alpha = .93$). Of note, the clinical diagnosis item, which was included in the Assessment Usefulness composite variable in Study 1, loaded better on the Crime/Rehabilitation Usefulness composite variable in the current study. Removal of the item led to decreased internal consistency (Cronbach's $\alpha = .70$), therefore, the item was kept in the Crime/Rehabilitation Usefulness composite variable.

Table 20*Correlation Matrix of Information Usefulness Variables*

	1	2	3	4	5	6	7
1 Criminal history	-						
2 Index offence	.515**	-					
3 Clinical diagnosis	.361**	.494**	-				
4 VRAG	.295**	.288**	.419**	-			
5 HCR-20	.263**	.297**	.446**	.867**	-		
6 Correctional/ rehabilitation history	.370**	.419**	.420**	.324**	.363**	-	
7 Treatment/ management recommendations	.183**	.266**	.384**	.251**	.289**	.467**	-

Note. * $p < .05$, ** $p < .01$

Table 21*Rotated Factor Loadings for Information Usefulness Variables*

Item	Factor Loadings	
	1	2
Composite 1: Crime/Rehabilitation		
Criminal history	.703	.088
Index offense	.787	.099
Correctional/rehabilitation history	.713	.224
Treatment/management recommendations	.573	.200
Clinical diagnosis	.646	.386
Composite 2: Assessment		
VRAG	.195	.937
HCR-20	.226	.935

Note. The extraction method was principal components analyses with varimax rotation. Extracted factor loadings are in bold.

Primary Analyses

Risk Outcomes

Risk Level (H1a and H2a). Multinomial logistic regression was used to predict risk category placement based on risk level (H1a) and psychopathy information format (H2a). Risk category placements included five choices from low risk to high risk. Due to minimal responding in the lowest risk category, low risk was combined with low-moderate risk to form four categories for analysis (low/low-moderate, moderate, moderate-high, and high risk, with low/low-moderate as the reference category). Low responding was still an issue for some interaction cells; therefore, a hierarchical approach was taken similar to Study 1. Risk level was entered in the initial model, as it is a known predictor (Varela et al., 2014), and psychopathy information format and the interaction

term were then entered into the model simultaneously in a forward stepwise manner. Using the hierarchical procedure, both an initial model with risk level only and a secondary model with risk level and psychopathy information were significant (initial model: $\chi^2[3, N = 434] = 121.79, p < .001$; secondary model: $\chi^2[6, N = 434] = 14.46, p = .025$). Similar to Study 1, the dispersion parameter of the deviance goodness-of-fit statistic indicated that overdispersion was present in the data, therefore standard errors were rescaled to correct for this problem.

Risk level significantly predicted whether the participant assigned a moderate-high risk category over a low/low-moderate risk category, Wald $\chi^2(1) = 13.76, p < .001$. The odds of participants in the high risk condition assigning a moderate-high risk category than a low/low-moderate risk category was 11 times that of the odds of participants in the moderate risk condition, $OR = 0.09$, 95% CI [0.03, 0.32]. Risk level also predicted whether the participant assigned a high risk category over a low/low-moderate risk category, Wald $\chi^2(1) = 21.42, p < .001$, with the odds of participants in the high risk condition assigning a high risk category over a low/low-moderate risk category 50 times that of the odds of participants in the moderate risk condition, $OR = 0.02$, 95% CI [0.003, 0.09].

Psychopathy information also significantly predicted whether the participant assigned a moderate-high, Wald $\chi^2(1) = 4.12, p = .042$, or high risk category, Wald $\chi^2(1) = 3.91, p = .048$, over a low/low-moderate risk category. The odds of participants in the status quo psychopathy information condition assigning a moderate-high risk category compared to a low/low-moderate risk category were 3.7 times greater than the odds of participants in the no psychopathy information condition, $OR = 0.27$, 95% CI [0.08,

0.96]. Similarly, the odds of participants in the status quo condition assigning a high risk category over a low/low-moderate risk category were 4.5 times the odds of individuals in the no psychopathy information condition. Participants in the enhanced psychopathy condition did not differ from those in the no psychopathy information condition on odds of assigning any of the categories over the low/low-moderate risk category. Further, neither risk level nor psychopathy information condition was able to significantly predict whether participants would assign a moderate risk category over a low/low-moderate risk category.

In summary, the odds of assigning a moderate-high risk or high risk category over the low risk category were greater for participants in the high risk condition compared to those in the moderate risk condition, consistent with H1a. Likewise, odds were greater for participants assigned to the status quo psychopathy information compared to those in the no psychopathy information condition in assigning a moderate-high or high risk category over a low/low-moderate risk category. Importantly, membership in the enhanced psychopathy information condition was unable to predict risk category placement compared to the no psychopathy information condition. Both of these findings support H2a. Participant risk category placements based on conditions are presented in Table 22 and results of the multinomial logistic regression are presented in Table 23.

Table 22*Risk Category Placements Based on Risk and Psychopathy Information Conditions*

		Risk Category % (n)				
	<i>N</i>	Low	Low-moderate	Moderate	Moderate-high	High
Risk level						
Moderate	215	0.47 (1)	13.95 (30)	54.42 (117)	28.84 (62)	2.33 (5)
High	219	0.46 (1)	2.28 (5)	19.18 (42)	54.79 (120)	23.29 (51)
Psychopathy info						
No PCL-R info	143	1.40 (2)	11.89 (17)	40.56 (58)	34.27 (49)	11.89 (17)
Status quo	151	0.00 (0)	5.96 (9)	35.76 (54)	46.36 (70)	11.92 (18)
Enhanced	141	0.00 (0)	6.38 (9)	33.33 (47)	44.68 (63)	15.60 (22)

Note. Info = information.

Table 23*Logistic Regression of Risk Level and Psychopathy Information on Risk Categorization*

	<i>B (SE)</i>	Wald χ^2	<i>p</i>	<i>OR [95% CI]</i>
Moderate vs. low/low-moderate risk				
Risk level	-0.68 (0.66)	1.05	.304	0.51 [0.14, 1.85]
Psychopathy information (1)	-0.60 (0.61)	0.96	.328	0.55 [0.17, 1.83]
Psychopathy information (2)	0.10 (0.70)	0.02	.885	1.12 [0.28, 4.32]
Moderate-high vs. low/low-moderate risk				
Risk level	-2.42 (0.65)	13.76	< .001	0.09 [0.03, 0.32]
Psychopathy information (1)	-1.30 (0.64)	4.12	.042	0.27 [0.08, 0.96]
Psychopathy information (2)	-0.09 (0.71)	0.02	.900	0.92 [0.23, 3.66]
High vs. low/low-moderate risk				
Risk level	-4.12 (0.89)	21.42	< .001	0.02 [0.003, 0.09]
Psychopathy information (1)	-1.52 (0.77)	3.91	.048	0.22 [0.05, 0.99]
Psychopathy information (2)	-0.50 (0.82)	0.37	.544	0.61 [0.12, 3.05]

Note. $N = 434$. Hierarchical multinomial regression was used, with risk level entered into the initial model. Using forward stepwise entry, psychopathy information was also added to the model. Significant p -values are in bold. CI = confidence interval. Psychopathy information (1 = Status quo information, 2 = Enhanced information).

Parole (H1b and H2b). Binary logistic regression was used to analyze if risk level (H1b) or psychopathy information format (H2b) could predict whether participants would grant parole (0 = no, 1 = yes). All variables were simultaneously entered into the model. A test of the full model was significant, $\chi^2(5, N = 435) = 19.30, p = .002$, with the Hosmer and Lemeshow test revealing a good fit between the data and the model (goodness of fit $\chi^2 = 0, df = 4, p = 1.0$). Risk level significantly predicted participants' decision to grant parole, Wald $\chi^2(1) = 5.00, p = .025$. The odds of participants in the high risk condition to grant parole are 54% of the odds of those in the moderate risk condition, $OR = 0.46, 95\% CI [0.23, 0.91]$. Psychopathy information and the interaction between

risk level and psychopathy information did not significantly predict participants' decision to grant parole. Therefore, it appears that risk level, but not psychopathy information format, predict the decision to grant parole. These results provide support for H1b, but not H2b. Participant responses on the parole decision based on conditions are presented in Table 24 and results from the binary logistic regression are presented in Table 25.

Table 24

Participants' Parole Decision Based on Risk and Psychopathy Information Condition

		Parole % (<i>n</i>)	
	<i>N</i>	Yes	No
Risk level			
Moderate	215	30.70 (66)	69.30 (149)
High	219	49.77 (109)	50.23 (110)
Psychopathy Information			
No PCL-R information	143	41.26 (59)	58.74 (84)
Status quo	151	38.41 (58)	61.59 (93)
Enhanced	141	41.84 (59)	58.16 (82)

Table 25*Logistic Regression of Risk Level and Psychopathy Information on Parole Decision*

	<i>B (SE)</i>	Wald χ^2	<i>p</i>	<i>OR [95% CI]</i>
Risk level				
Moderate risk ^a				
High risk	-0.78 (0.35)	5.00	.025	0.46 [0.23, 0.91]
Psychopathy information				
No psychopathy information ^a				
Status quo information	-0.04 (0.36)	0.02	.902	0.96 [0.47, 1.94]
Enhanced information	0.15 (0.36)	0.16	.689	1.16 [0.57, 2.36]
Interactions ^b				
Psychopathy information (1) by risk level	0.30 (0.49)	0.37	.543	1.34 [0.52, 3.49]
Psychopathy information (2) by risk level	-0.42 (0.50)	0.70	.405	0.66 [0.25, 1.76]

Note. $N = 156$. Binary logistic regression with forward entry was used. Bolded p -values are significant at .05. CI = confidence interval.

^a Reference category (coded as 0) for all predictor variables.

^b Psychopathy information (1 = Status quo information, 2 = Enhanced information).

Risk Management Composite (H1a/c and H2a/c). A 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to examine the impact of risk level (H1a/c), psychopathy information format, (H2a/c) and their interaction on participant ratings on the Risk/Management composite variable. The Risk/Management composite variable consisted of the average rating on six items related to risk, management, and treatment amenability, measured on a scale of 1 to 10, with higher scores representing more punitive attitudes. As I predicted (H1a/c), participants in the high risk condition rated the individual higher on the Risk/Management composite variable ($M = 6.68$, $SD = 1.39$) than those in the moderate condition ($M = 5.80$, $SD = 1.53$), $F(1, 422) = 41.72$, $p <$

.001, $d = 0.62$, 95% CI [0.41, 0.80]. Further, a significant main effect was found between having no psychopathy information, status quo information, and enhanced information, $F(2, 422) = 7.18$, $p = .001$, $\eta_p^2 = .033$, 95% CI [.006, .270]. The interaction term was nonsignificant, $F(2, 422) = 3.40$, $p = .192$, $\eta_p^2 = .008$, 95% CI [0, .040]

Tukey's Honestly Significant Difference (HSD) was used to examine the pairwise comparisons for the main effect of psychopathy information. Participants rated the individual higher on the Risk/Management composite variable when given enhanced psychopathy information ($M = 6.54$, $SD = 1.54$) compared to no psychopathy information ($M = 5.92$, $SD = 1.56$), $p = .001$, $d = 0.43$, 95% CI [0.16, 0.64], contrary to H2a/c. The difference between participants in the status quo information condition ($M = 6.28$, $SD = 1.40$) compared to the no information condition on Risk/Management ratings was nonsignificant, $p = .079$, $d = 0.25$, 95% CI [0.01, 0.47]. There was no difference between ratings on the Risk/Management composite variable based on status quo information or enhanced information, $p = .293$, $d = -0.18$, 95% CI [-0.41, 0.06]. Overall, it appears that not only did risk level had an impact on Risk/Management ratings but also that having enhanced psychopathy information led to higher ratings compared to having no psychopathy information (see Figure 3 below).

Figure 3

Ratings on Risk/Management Based on Risk level and Psychopathy Information Format.

Note. Errors bars represent the standard error of measurement for the average ratings on the Risk/Management composite variable.

Psychopathy Outcome (H2d). A 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to examine the effect of risk level, psychopathy information format, and their interaction on participant ratings of how psychopathic they perceived the individual was, on a scale of 1 to 10, with special attention placed on psychopathy information format (H2d). A main effect of psychopathy information was found, $F(2, 424) = 78.74, p < .001, \eta_p^2 = .271, 95\% \text{ CI } [.209, .334]$. However, risk level did not have a significant effect on perceived psychopathy, with those in the moderate risk condition ($M = 5.21, SD = 2.57$) providing similar ratings as those in the high risk condition ($M = 5.44, SD = 2.51$), $F(1, 424) = 1.40, p = .238, d = -0.11, 95\% \text{ CI } [-0.28,$

0.10]. The interaction term was also nonsignificant, $F(2, 424) = 1.16, p = .314, \eta_p^2 = .005$, 95% CI [0, .024].

The significant main effect of psychopathy information was followed up with Tukey's HSD for pairwise comparisons. Participants in the status quo information condition ($M = 6.05, SD = 2.08$) and the enhanced information condition ($M = 6.44, SD = 2.22$) rated the individual as more psychopathic than participants in the no information psychopathy condition ($M = 3.45, SD = 2.24$), $p < .001, d = 1.20$, 95% CI [0.95, 1.45] and $p < .001, d = 1.37$, 95% CI [1.08, 1.60], respectively. There was no significant difference in psychopathy ratings between participants in the status quo information or enhanced information conditions, $p = .296, d = -0.18$, 95% CI [-0.41, 0.05]. In other words, H2d was partially supported as those in the status quo information condition rated the individual as more psychopathic than the no information condition. However, contrary to the prediction, those in the enhanced information condition rated the individual as more psychopathic than those in the no information condition, and in a similar fashion to those in the status quo condition (see Figure 4).

Figure 4

Psychopathy Ratings Based on Risk Level and Psychopathy Information Format.

Note. Errors bars represent the standard error of measurement for average psychopathy ratings.

Confidence Outcome (Exploratory)

A 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to examine the impact of risk level, psychopathy information format, and their interaction on participant ratings of overall confidence in their decision-making (0-100%). The data was negatively skewed and was transformed with a square root transformation and three outliers with z-scores greater than $|3.29|$ were identified. The analysis was carried out with and without the transformed data and outliers. Due to a difference in results based on the transformed and original data, both results are presented, although only the means

and standard deviations of the original data are given for ease of interpretation. Using the original data, there were no significant main effects. As such, there was no difference between participants' confidence ratings based on being placed in the moderate risk ($M = 74.11$, $SD = 16.51$) or high risk condition ($M = 76.34$, $SD = 13.90$), $F(1, 428) = 2.516$, $p = .113$, $d = -0.15$, 95% CI $[-0.33, 0.04]$. There were also no differences between confidence ratings of participants in the no psychopathy information ($M = 77.06$, $SD = 15.39$), status quo information ($M = 73.87$, $SD = 12.84$), and enhanced information conditions ($M = 74.85$, $SD = 17.33$), $F(2, 428) = 1.63$, $p = .197$, $\eta_p^2 < .008$, 95% CI $[0, .029]$. The interaction term was non-significant, $F(2, 428) = 1.11$, $p = .329$, $\eta_p^2 = .005$, 95% CI $[0, .023]$.

Based on the transformed model, there were no differences between the confidence ratings of participants in the moderate risk condition and the high-risk condition, $F(1, 428) = 1.50$, $p = .222$, $d = 0.11$, 95% CI $[-0.08, 0.30]$. However, a significant difference was found between the psychopathy information conditions, $F(2, 428) = 3.22$, $p = .041$, $\eta_p^2 = .015$, 95% CI $[0, .042]$. The interaction between conditions was non-significant, $F(2, 428) = 0.74$, $p = .477$, $\eta_p^2 = .003$, 95% CI $[0, .019]$. Post-hoc tests using Tukey's HSD revealed that participants in the no psychopathy information condition had higher ratings of confidence than those in the status quo psychopathy condition, $p = .030$, $d = 0.29$, 95% CI $[0.16, 0.64]$. Confidence ratings from participants in the enhanced information condition did not significantly differ from either of the other conditions. As such, it appears that risk level had no effect of confidence ratings of participants, but psychopathy information, when provided in the status quo format reduces confidence in decision making. Importantly, these results should be taken

cautiously. Transformed data is harder to interpret and the significance detected is based on differences between the square root of the mean ratings of confidence as opposed to the difference of the mean ratings themselves.

Content-Specific Outcomes

Clarity of Information (H3 and H4). The effect of risk level (H3), psychopathy information format (H4), and their interaction on participant ratings on the Format composite variable was examined using a 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA. The Format composite variable was rated on a scale of 1 to 10 and consisted of the averaged ratings of clarity, relevance, and ease of understanding. The data was negatively skewed and was transformed with a log transformation. Similarly, four outliers were identified. Analyses were carried out with and without the transformed data and the outliers. All analyses produced a similar pattern of results; therefore, the reported analysis includes the original data. As predicted (H3), there were no differences between Format ratings for the moderate risk ($M = 8.96$, $SD = 1.14$) and the high-risk condition ($M = 8.99$, $SD = 1.05$), $F(1, 428) = 0.03$, $p = .854$, $d = -0.03$, 95% CI [-0.22, 0.16]. However, contrary to expectations (H4), no significant effect was found between no psychopathy information ($M = 8.92$, $SD = 1.25$), status quo information ($M = 9.13$, $SD = 0.93$) or enhanced information conditions ($M = 8.86$, $SD = 1.08$), $F(2, 428) = 2.48$, $p = .085$, $\eta_p^2 = .011$, 95% CI [0, .036]. The interaction between conditions was also non-significant, $F(2, 428) = 0.01$, $p = .989$, $\eta_p^2 < .001$. Overall, it appears that neither risk level nor psychopathy information had a significant effect on participants' ratings on the Format composite variable, similar to Study 1, as mean ratings were already high.

PCL-R Usefulness (H3 and H4). Participants in the conditions with psychopathy information (i.e., the status quo and enhanced conditions) were also asked about the usefulness of the PCL-R in making their decisions ($n = 283$). To examine the extent to which risk level (H3), psychopathy information format (H4), and their interaction impacted the perceived usefulness of the PCL-R, a 2 (risk level: moderate, high) x 2 (psychopathy information format: status quo, enhanced) between participant ANOVA was used. The data was negatively skewed and was transformed with a log transformation. Similarly, three outliers were identified. Analyses were carried out with and without the transformed data and the outliers. All analyses produced a similar pattern of results; therefore, the reported analysis includes the original data. Both main effects were nonsignificant. In line with H3, participants in the moderate risk condition had PCL-R usefulness ratings ($M = 8.17$, $SD = 1.86$) similar to those in the high risk condition ($M = 8.33$, $SD = 1.83$), $F(1, 279) = 0.58$, $p = .448$, $d = -0.09$, 95% CI [-0.32, 0.15]. There was also no difference in ratings for participants in the status quo information ($M = 8.20$, $SD = 1.93$) and enhanced information conditions ($M = 8.31$, $SD = 1.76$), $F(1, 279) = 0.26$, $p = .609$, $d = -0.06$, 95% CI [-0.29, 0.17], which was contrary to H4. The interaction term was also non-significant, $F(1, 279) = 0.95$, $p = .330$, $\eta_p^2 < .003$, 95% CI [0, .030]. Overall, it appears that there was no difference in the usefulness of the PCL-R information based on risk level or the formatting of the information given to participants as participants in both conditions found the measure to be usefulness.

Usefulness Composites (Exploratory). A 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to examine the influence of risk level,

psychopathy information format, and their interaction on participant ratings on the Crime/Rehabilitation Usefulness composite variable. The Crime/Rehabilitation Usefulness composite variable differed from the composite variable created in Study 1 in that it consisted of the averaged usefulness ratings on five items instead of four, including offence, diagnosis, and treatment/rehabilitation information, measured on a scale of 1 to 10. The data was negatively skewed and was transformed with a log transformation. There were also four outliers. Analyses were carried out with and without the transformed variable and the outliers. All analyses produced a similar pattern of results; therefore, the reported analysis includes the original data. No significant main effects were found. As such, there was no difference between participants' Crime/Rehabilitation Usefulness ratings based on being placed in the moderate risk ($M = 8.96$, $SD = 1.11$) or high risk condition ($M = 8.94$, $SD = 1.05$), $F(1, 416) = 0.02$, $p = .900$, $d = 0.02$, 95% CI [-0.17, 0.21]. No difference existed between the ratings of participants in the no psychopathy information ($M = 8.97$, $SD = 1.12$), status quo information ($M = 8.93$, $SD = 1.00$), and enhanced information conditions ($M = 8.94$, $SD = 1.11$), $F(2, 416) = 0.36$, $p = .964$, $\eta_p^2 < .001$, 95% CI [0, .014]. The interaction term was also non-significant, $F(2, 416) = 0.90$, $p = .407$, $\eta_p^2 = .004$, 95% CI [0, .022]. These findings suggest that risk level and psychopathy information formatting have no impact on ratings of Crime/Rehabilitation Usefulness ratings, as all participants endorsed high ratings.

A final 2 (risk level: moderate, high) x 3 (psychopathy information format: no psychopathy information, status quo, enhanced) between participants ANOVA was used to analyze the effect of risk level, psychopathy information format, and their interaction on participant ratings on the Assessment Usefulness composite variable. This composite

variable included the averaged usefulness ratings on VRAG and HCR-20 information, measured on a scale of 1 to 10. The data was negatively skewed and was transformed with a square root transformation. Similarly, seven outliers were identified. The analysis was carried out with and without the transformed data and the outliers. Due to similar patterns in the results, the reported analysis includes the original data. There was no difference in ratings between participants in the moderate risk condition ($M = 7.96$, $SD = 1.96$) and the high risk condition ($M = 8.04$, $SD = 1.99$), $F(1, 415) = 0.15$, $p = .698$, $d = 0.04$, 95% CI [-0.23, 0.15]. Similarly, no differences were found between ratings of participants provided with no psychopathy information ($M = 7.89$, $SD = 2.18$), status quo psychopathy information ($M = 8.12$, $SD = 1.90$), or enhanced psychopathy information ($M = 7.99$, $SD = 1.83$), $F(2, 415) = 0.54$, $p = .582$, $\eta_p^2 = .003$, 95% CI [0, .017]. The interaction term was also non-significant, $F(2, 415) = 0.82$, $p = .440$, $\eta_p^2 = .004$, 95% CI [0, .021]. As such, these results suggest that risk level and psychopathy information formatting have no effect on ratings of Assessment Usefulness ratings, as ratings are already high.

Open-ended Usefulness Question (Exploratory). Preliminary content analysis was conducted on the open-ended question presented to participants. All participant responses were carefully examined to extract commonalities between what participants thought to be the most useful information for their decision making, using the categories from Study 1 as guidance. Figure 5 provides a word frequency map of participant responses. A total of 376 participants provided 775 unique responses that were organized into the 11 general categories, with most including subcategories. The main categories included the following: History, Rehabilitation, Recommendations, Substance abuse,

Table 26*Response Categories for Most Useful Information*

Response Categories	% (n)
History	
Criminal history	27.39 (103)
General past	8.78 (33)
Family history	1.33 (5)
Rehabilitation	
Treatment history	15.69 (59)
Treatment motivation	3.46 (13)
Treatment change	4.52 (17)
Recommendations	
Supervision/conditions	12.50 (47)
Treatment	14.89 (56)
Substance abuse	
History	18.35 (69)
Rehabilitation potential	6.91 (26)
Assessment of risk	
All risk measure information	23.94 (90)
VRAG	2.93 (11)
PCL-R	6.38 (24)
HCR-20	1.06 (4)
Personality/behaviour	3.46 (13)
Index offense	8.78 (33)
Behaviour in corrections	
Correctional history	17.55 (66)
Education	0.80 (3)
External support	
Social support	10.90 (41)
Employment	6.12 (23)
All information	6.38 (24)
Other	3.99 (15)

Note. $N = 376$. Frequencies will not add up to 100 as participant responses may have been included in more than one category.

Summary of Findings

Table 27 provides a summary of the hypotheses and results for Study 2 as well as a comparison to the hypotheses and results from Study 1. Overall, the results from Study 2 suggested that individuals could distinguish between risk levels and use that information to help with decision-making. However, the formatting of psychopathy information, when psychopathy scores were high, had a more complicated impact on the same decisions. For assigning risk categories, psychopathy information seemed to matter, as participants were more likely to place the person in a higher risk category with the inclusion of psychopathy, but only when status quo information was provided. When enhanced PCL-R information was provided it did not affect risk level placement, suggesting that people placed more weight on other risk factors when making risk category placement decisions. Conversely, with status quo information, more emphasis was placed on the PCL-R score, which suggests that providing more context in the enhanced condition may stop people from making decisions based on preconceived notions about psychopathy.

Interestingly, enhanced PCL-R information led to more negative ratings on risk, management, and treatment-related ratings (through the Risk/Management composite) compared to having no information or the status quo information. Since the enhanced condition had no effect on parole or risk level placement, these ratings did not seem to translate into actual decisions that were more punitive, even though both PCL-R conditions accurately perceived the person as more psychopathic than the no psychopathy information condition. Results also demonstrated that the status quo information led to less confidence in decision-making, whereas individuals with enhanced psychopathy

information had similar confidence ratings to those who received no information about psychopathy. Taken together, it seems that providing more information concerning psychopathy was better than the status quo information, however, risk level, with or without PCL-R information, was more important for decision making. It also appears that neither risk level nor psychopathy information format had an impact on perceived clarity, relevance, ease of understanding, or usefulness of risk assessment information although the majority of participants rated content-specific outcomes in a favourable manner.

Table 27*Summary and Comparisons of Study 1 and 2 Hypotheses and Results*

Study 1		Dependant Variables	Independent Variables	Study 2	
Prediction (Sig?)	Actual (Sig?)			Prediction (Sig?)	Actual (Sig?)
YES	YES	Risk category	Risk level (H1a)	YES	YES
NO	NO		PCL-R information (H2a)	YES	YES
YES	NO	Parole	Risk level (H1b)	YES	YES
NO	NO		PCL-R information (H2b)	YES	NO
YES	YES	Risk composite	Risk level (H1a/c)	YES	YES
NO	NO		PCL-R information (H2a/c)	YES	YES ^a
-	-	Psychopathy	Risk level (H1d)	NO	NO
-	-		PCL-R information (H2d)	YES ^b	YES
-	NO	Confidence	Risk level (Exp)	-	NO
-	NO		PCL-R information (Exp)	-	YES
NO	NO	Format composite	Risk level (H3)	NO	NO
YES	NO		PCL-R information (H4)	YES	NO
NO	NO	PCL-R usefulness	Risk level (H3)	NO	NO
YES	NO		PCL-R information (H4)	YES	NO
-	NO	Usefulness composites	Risk level (Exp)	-	NO
-	NO		PCL-R information (Exp)	-	NO

Note. Exp = Exploratory hypothesis; Sig = Significant.^a Significant difference was in the opposite direction of what was predicted.^b Significant difference was predicted for status quo condition only, but both psychopathy conditions showed significant difference.

General Discussion

In the current studies, I sought to explore the extent to which the formatting of psychopathy information influenced decision making regarding risk, management, and treatment amenability among laypeople under different circumstances. In other words, I examined the effect of psychopathy information when the risk to reoffend was moderate or high, and when PCL-R scores were average (Study 1) or high (Study 2). Specific attention was placed on making the information given to participants as realistic as possible. The stimuli presented to participants included the typical information given in any risk assessment report, allowing for further examination into whether psychopathy information was perceived as relevant above and beyond other risk-related information. Overall, findings suggested that risk level appeared to be related to decision-making, in that being labelled as high risk to offend was associated with more punitive outcomes. For psychopathy information formatting, when psychopathy scores were moderate, the formatting of information did not seem to matter for decision-making. However, when psychopathy scores were high, providing more information appeared to play more of a role in the legal outcomes. Finally, all risk assessment report content was generally perceived as being clear, relevant, easy to understand, and useful.

The Importance of Risk

In both studies, participants were able to distinguish between risk levels and use that information to help inform their decisions. That is, the odds of participants in the high risk conditions to endorse higher, rather than lower risk categories were greater than the odds of participants in the moderate risk conditions to do the same. Further, perceptions of risk, management, and treatment decisions were also influenced by risk

level, with the high risk conditions related to harsher perceptions. These findings are consistent with past research that has demonstrated that participants can use categorical risk messages and expert testimony concerning risk to make decisions (Batastini et al., 2019; Evans & Salekin, 2014; Krauss et al., 2018; Varela et al., 2014). Further, risk assessment information was mentioned frequently by participants in both studies as being the most useful information for informing decision-making.

Many common risk factors were also endorsed frequently as being the most useful information for decision-making. For example, criminal history, which is one of the most salient risk factors for reoffending (Andrews & Bonta, 2010a, 2010b), was endorsed by the majority of participants in both studies, consistent with Turner et al. (2015). Other common factors mentioned by participants included correctional history, substance abuse history, and treatment history, with almost all responses focusing on risk-relevant factors and factors typically considered in parole decision making (Carroll & Burke, 1990). Notably, potential protective factors were mentioned by participants in both studies. Although less is known about the influence of protective factors when paired with high psychopathy scores, certain protective factors do seem to exist, such as social support (Barry et al., 2008), employment (DeMatteo et al., 2005), and treatment motivation (Salekin et al., 2010), which were all mentioned in the risk assessment report that participants read. Thus, it appears that laypeople may be able to identify both risk-relevant factors and protective factors that they then can use to inform their decision-making.

The Role of Psychopathy Scores

Moderate Psychopathy Scores

Little to no research has examined how low or moderate psychopathy scores influence perceptions or decision-making. Perhaps this gap in the literature is due to the dichotomization of psychopathy scores in many studies, where all scores under the typical thresholds of psychopathy are treated the same (e.g., Seto & Barbaree, 1999; Looman et al., 2005). Regardless of the underlying cause, the limited research has led to an unspoken assumption that the presence of some psychopathic traits is not as important as the presence of many psychopathic traits when it comes to legal decision making. The results from the current research provided preliminary support for that assumption, as moderate levels of psychopathic traits did not appear to alter decision-making. That is, both the perceptions of and decisions made by participants did not differ depending on the presence or formatting of PCL-R information. The mean rating of PCL-R information usefulness also appeared to be on the lower end of ratings compared to the usefulness of other risk assessment components. This suggests that participants also perceived psychopathy information to be less relevant compared to some of the other information provided when the PCL-R score was moderate.

These findings raise the question of whether it is worth reporting moderate PCL-R scores at all. If the information does not provide any value for decision making, are there any benefits to including it? Research stemming from item theory response analyses provides some insight into this question. Bolt et al. (2004) discovered that PCL-R items differ in the amount of information that they can provide about psychopathy. Expanding on these findings, Balsis et al. (2017) examined the consequences of the item differences

for cut-scores and found that there were over 8.5 million different response combinations that met the cut-score of 30 on the PCL-R. Moreover, they found that the ranges of severity associated with each raw score on the PCL-R overlapped in meaningful ways (Balsis et al., 2017). In other words, the raw scores on the PCL-R are not as ordinal as once thought. Even if an individual is given a moderate score on the PCL-R, their response pattern can still overlap with someone who scores a 30 or higher on the same measure (Balsis et al., 2017). These findings emphasize the importance of describing more than just total scores to decision-makers, as a more in-depth examination of their individual item scores may provide useful insight, particularly for treatment and management of risk.

To illustrate, high Factor 1 or Factor 2 scores on their own may not result in a high total score on the PCL-R, but both have valuable implications. Following the Two-Component Model of offender rehabilitation (Wong, 2015), an individual with many Factor 1 traits present may have less criminogenic needs (e.g., Factor 2 traits) to address in treatment, but may have more obstacles to treating those needs as the psychopathic traits they do possess are more stable. In comparison, an individual high in Factor 2 traits might have more criminogenic needs to address but could possibly respond better to treatment if they have fewer Factor 1 traits to consider. Thus, despite total PCL-R scores providing limited information to laypeople and decision-makers, other information derived from PCL-R scores may still play a role in shaping perceptions. These details are typically more important for clinicians and treatment providers to consider, and laypeople may not be able to use psychopathy information to come to the same conclusions. If a more in-depth examination of PCL-R scores reveals any important details, it is up to the

evaluator to make the implications of the scores clear to jurors and other decision-makers. At the very least, details on factor scores should be provided, as just providing a total score does not appear to be enough information.

High Psychopathy Scores

The potential influence of information formatting on high psychopathy scores is of particular importance as individuals with many psychopathic traits are likely to be stigmatized (Cox et al., 2016; Edens et al., 2013; Rendell et al., 2010). Based on the findings from the current research, the relationship between psychopathy information formatting and decision-making is much more complicated with high scores on the PCL-R. Concerning risk categorization, presenting status quo information led to greater odds of placing the individual in a higher risk category, compared to when no PCL-R information or enhanced PCL-R information was given. These findings suggest that when minimal information about psychopathy is given, more weight may have been placed on the PCL-R in determining risk. In contrast, when more details about the PCL-R were provided, it appears that laypeople may have placed more weight on other factors. In line with the labelling literature, it is possible that individuals relied on preconceived notions of psychopathy in instances where little contextual information was given (Keesler & DeMatteo, 2017; Kiehl & Hoffman, 2011; S. T. Smith et al., 2014). However, with the inclusion of more detailed information, these misconceptions were potentially diminished.

Interestingly, providing enhanced PCL-R information led to harsher perceptions of risk, management, and treatment outcomes, compared to providing no psychopathy information. Although contrary to hypothesized results, this finding is not necessarily

problematic. As previously mentioned, there are some circumstances in which harsher perceptions due to the presence of psychopathy are warranted as they are supported by evidence (Kelley et al., 2019). Understanding that the presence of certain psychopathic traits (e.g., manipulative, lack of empathy) may lead to more obstacles in treatment (DeSorcy et al., 2017; Olver, 2016) or that higher psychopathy scores are often associated with reoffending (Blais & Bonta, 2015; Olver & Wong, 2015) could translate into lower perceived treatment amenability or higher perceived likelihood of reoffending. However, the difference between these perceptions and perceptions considered to be undue prejudice, is that the former is based on empirical evidence while the latter would be based on assumptions.

Due to the emphasis on relevance when creating the enhanced psychopathy information, people were possibly able to take that information and incorporate it more readily in their decision making. For example, when asked what the most useful information was for making decisions, one participant in the enhanced information condition stated that “[the most useful information was] comparing his recent remedial behaviours to specific sections of the psychopathy test. My sticking point is his potential for being manipulative and superficial while incarcerated.” This is further supported by the reduced ratings of confidence seen in the status quo condition, as they had less information about psychopathy to base their opinions on. Even if those in the status quo condition made similar connections between psychopathy and risk, management, and treatment outcomes, those in the enhanced condition could do so with less ambiguity or uncertainty. Finally, despite being more negative, legal outcomes (i.e., risk level placement and parole) were not influenced negatively by perceptions in the enhanced

condition. That is, negative perceptions did not seem to translate into more punitive decision making.

It is worth noting that both psychopathy information conditions were viewed similarly in terms of perceived psychopathy. Therefore, the differences in outcomes between the information formatting conditions were likely not caused by differing perceptions of psychopathy, but rather by other characteristics of the information provided.

Comparisons Between Study 1 and Study 2

Combining the results from Study 1 and Study 2, risk level appeared to have a consistent relationship with decision-making. In both studies, risk level was significantly associated with perceptions of risk, management, and treatment and related outcomes. In comparison, the formatting of psychopathy information appeared to have no influence on perceptions or decision making when PCL-R scores were moderate. However, when PCL-R scores were high, there appeared to be some differences concerning risk level placement, perceptions, and confidence depending on the formatting of psychopathy information. These differences did not extend to the parole outcome. Overall, it appears that the formatting of psychopathy information did not influence actual legal outcomes all that much. Finally, the majority of participants in both studies gave high ratings of clarity, relevancy, ease of understanding, and usefulness, regardless of their condition suggesting that the risk assessment report given to all participants was perceived as being detailed and useful.

Importantly, differences between the samples from Study 1 and Study 2 affect the ability to truly compare results across studies. Using chi-square tests for categorical

variables and *t*-tests for continuous variables, demographics were compared across studies with the results presented in Appendix K. The samples significantly differed across all variables except for the highest level of education completed by participants. Some demographic characteristics that may have impacted results include the gender and age of participants as research has found that women (Devine & Caughlin, 2014) and older adults (Higgins et al., 2007; Sealy, 1981) tend to be more punitive in their decision making. Political leaning and knowledge from psychology/legal studies courses may have also influenced findings. As such, the current research will need to be replicated in a single study that manipulates both PCL-R score and formatting of PCL-R information to ensure that differences in perceptions and decision-making can be attributed to changes in conditions as opposed to changes in the demographic of the samples.

Implications

Due to the limited research on the communication of psychopathy information, there are several implications for the current research. First and foremost, findings suggest that a more detailed approach to communicating information about psychopathy may be warranted and provides some preliminary support for suggested guidelines (Blais et al., 2017; Olver et al., in press). That is, giving more information about psychopathy, outlining its relevance, and providing implications and recommendations for treatment and management, among other things, may help in the decision-making process for laypeople, at least when the PCL-R score presented is high. As there have been recommendations to view psychopathy on a continuum as opposed to dichotomously (Edens et al., 2006; Hare & Neumann, 2006), evaluators must be cognizant of the way they discuss total scores to ensure that decisions makers do not ignore relevant

information by focusing instead on an outdated threshold (i.e., the cut-off score of 30; Hare, 2003). To facilitate a more dimensional approach to interpreting PCL-R scores, evaluators should consider reporting the possible range of scores based on the standard error of measurement (SEM) of the PCL-R ($SEM = \pm 2.90$; Hare, 2003). Potentially by providing a range of scores, less emphasis would be placed only on the score itself.

Moreover, total scores are not very useful on their own, given the dimensional nature of psychopathy and that factor scores are differentially related to key outcomes such as treatment and risk (Wong, 2015; Wong & Hare, 2005). Special attention also needs to be placed on linking assessment information to realistic recommendations for intervention and management as this information is particularly important for decision-makers (Hanson, 2009), who may often not be able to make the connections themselves. The Interpersonal/Affective traits of psychopathy (Factor 1) are seen as particularly damning among laypeople (Cox et al., 2013, 2016). Perhaps if an evaluator explains how treatment and supervision can be adapted to address pervasive Factor 1 traits through the emphasis of task-related bonds over emotional bonds (Wong & Hare, 2005), for example, and that Factor 1 traits are not as predictive of violent recidivism (Leistico et al., 2008), this information could be taken into account by laypeople when making their decisions.

As the above implications call for more information about the PCL-R, cognitive load capacity is an important consideration to make. Past research has demonstrated that when too much information is presented and cognitive resources become strained, people are inclined to use heuristic processes to help in their decision-making (Kleider-Offutt et al., 2016). This tendency can often lead to people relying on criminal stereotypes in courtroom settings which, in turn, can lead to harsher outcomes (Giner-Sorolla et al.,

2002; van Knippenberg et al., 1999). While an individual's working memory capacity may mitigate or exacerbate cognitive load (Kleider-Offutt et al., 2016), helping jurors understand complex scientific information can also lessen the strain (Austin & Kovra, 2015). Thus, to avoid creating new sources of misconceptions around psychopathy, the push for more psychopathy information has to be a push for more *relevant* information about psychopathy. As such, emphasis should be placed on how relevant reported information is for decision-making.

The current research also highlights the importance of considering all of the information that people are exposed to when making any legal decisions. Many past studies have used stimuli that are very focused on the specific information that the researchers are examining and, as a result, are often short paragraphs that include little information other than the component being examined (e.g., Boccaccini et al., 2008; Cox et al., 2016; Edens et al., 2013). Similar to Turner et al. (2015) who found that jurors viewed risk measure results as important, but not as important as other defendant, offence, and testimony information, the current study suggests that when many details are given for a case, information such as psychopathy may become less important. As such, future research examining the effect of certain information on legal decision-making should do so in more realistic contexts to ensure external validity of any effects found.

Finally, the findings do not necessarily suggest that all negative perceptions of psychopathy will be eradicated by the use of a more detailed approach to communicating psychopathy information. Instead, they suggest that negative perceptions can potentially be lessened by educating decision-makers on the empirical evidence behind the use of psychopathy in the CJS.

Limitations

In addition to the differences between the samples mentioned above, there are several other limitations associated with these two studies that must be considered when interpreting the results. Focusing on limitations across both studies, all of the outcome measures used were created specifically for these studies which means that there is no information regarding their reliability or validity other than the internal consistency values obtained through the PCAs for the composite variables. Differences between the items included in the Crime/Rehabilitation Usefulness and Assessment Usefulness composite variables across the two studies also limit comparisons that can be made. Further, although results from both studies suggested that participants were able to distinguish between the moderate and high risk conditions, including a low risk condition in either study could have led to a larger range of responses and provided more information regarding the participants' perceptions. Further, the mention of the traditional cut-score for psychopathy may have influenced results more than anticipated. That is, perhaps the threshold cued participants to view the PCL-R as less useful when the score was average and more useful when the score was high. Finally, although equivalency testing was completed to ensure that demographics were consistent across all conditions, the high frequency of women and individuals who identified as White/Caucasian may have altered responses in ways that were not anticipated.

For Study 1, one notable limitation is the smaller sample size, which may have interfered with the ability of the statistical tests used to detect small effects. Study 1 also did not include an item to determine how psychopathic participants perceived the individual to be. As such, I cannot be certain that participants viewed the individual as

having similar levels of psychopathy in all conditions regardless of the psychopathy information provided, and opens the possibility that there are other explanations for the results.

The participant recruitment method, especially for Study 2, could also be considered a limitation as participants were recruited through social media platforms. Although participant recruitment through social media allows for easier access to required populations (D. B. King et al., 2014) and an attempt to reach a variety of participants was made (e.g., through the use of different platforms, encouraging others to share the recruitment notice, using public forums), research has demonstrated that individuals typically communicate with like-minded people on social media platforms (L. M. Smith et al., 2013; Wodzicki et al., 2012). It is also possible that individuals who voluntarily complete online surveys share similar characteristics that were not considered in the study, therefore possibly altering the generalizability of the results. As such, future research could focus on recruiting other samples, such as past jurors or judges, both of whom have previously made decisions in legal settings to determine if results can be replicated in other, potentially more relevant, samples.

Future Directions

Very few studies have examined how psychopathy is communicated, let alone how this communication can affect decision-making. Therefore, there are many avenues for future research, especially if best practice guidelines for communicating psychopathy information are to be created. Importantly, replications of the current studies are needed before future studies can build on the findings. As mentioned above, a single study examining both variations in psychopathy score and psychopathy information format

should be conducted. In such a study, risk could also be held at a moderate level to control for variations in outcomes due to risk level.

Future research could also explore variations in settings, offence details, and legal outcomes. For example, a mock risk assessment report was used in the current studies to present the information to participants, however, the medium in which the information is presented may influence results. Many studies examining legal decision-making use scripts as their stimuli which creates a more authentic representation of court-room interactions (e.g., Bright & Goodman-Delahunty, 2006; Neuschatz et al., 2008; Staggs, 2017). Using such a stimulus would allow researchers to examine how the language used in an adversarial environment may interact with the psychopathy information presented. This is particularly important when you consider that psychopathy information is often used by the prosecution to secure certain courtroom outcomes (Walsh & Walsh, 2006). It would also be important to examine how changing the type of offence would influence results. Many studies examining the labelling effects of psychopathy, do so under the context of SVP hearings. It would be interesting to see how results may be influenced by the inclusion of sexual offences, as individuals may focus on different factors depending on the preconceptions of different types of offending. This is particularly relevant for offences related to sexual violence as research has demonstrated that individuals involved in sexual offending are already heavily stigmatized (Fortney et al., 2007; J. S. Levenson et al., 2007; Guy & Edens, 2006). Examining different ways of communicating psychopathy when a variety of legal decisions are being made is also of importance, as different information may be considered to be more valuable depending on the decisions being made.

Focusing on the amount and type of information presented in the enhanced psychopathy information condition is also a worthwhile endeavour. For example, the inclusion of more or less protective factors with psychopathy information could be examined. Factors such as a prosocial relationship with a family member, employment, and treatment motivation were listed in the risk assessment reported for the current studies, however, they were not explicitly labelled as protective factors. It would be interesting to see how a more detailed description of these factors alongside other psychopathy information could affect outcomes. Perhaps excluding any mention of a cut-score could also influence results, as it would allow participants to view the PCL-R as more of a continuum and diminish the possibility that participants' psychopathy-related decisions relied on the cut-score provided.

Conclusions

As research concerning risk factors and legal decision making continues to grow, more attention is being placed on how the communication of risk factors influences outcomes in the courtroom. In recent years, there has been a push for risk assessment to go beyond categorizing individuals by providing information that will help guide appropriate and individualized treatment and management strategies (Hanson, Bourgeon, et al., 2017). Due to the frequent use of the PCL-R to assess, monitor, and manage risk in legal settings, there needs to be increased attention on how psychopathy information should be communicated, particularly when considering the potential stigma attached to the label. The overall pattern of findings suggests that the way psychopathy information is presented may matter, particularly when PCL-R scores are high. More research is needed before best practice guidelines for communicating psychopathy can be created,

although current results suggest that providing more details on the scoring of the measure, meaningful recommendations, and relevancy to the current context may mitigate some preconceived notions of psychopathy and help individuals focus on more risk-relevant information.

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Appendix A

STUDY 1: RISK ASSESSMENT VIGNETTE

Nearly all prisoners will eventually be released. Some prisoners may be paroled which means they are released from prison to serve the last part of their sentence in the community. Their release is supervised by correction's officers and they can get some help with things like mental health and substance abuse. They also need to obey certain rules. If they break any of these rules, they could be sent back to prison for the rest of their sentence.

You are tasked with reviewing the following report which has been prepared by a registered clinician in order to help the parole board in deciding whether Mr. Darrell Wilson should be released to serve the last part of his sentence in the community. Once you have read the report, you will be asked for your opinion concerning Mr. Wilson's parole hearing.

In reading the following assessment, you can assume that the psychologist is a qualified expert and that all measures of risk used are accepted within the field.

Evaluation Report

Report written by: Dr. John Campbell

Name: Darrell Wilson

Age: 43

Offenses: Assault; Robbery

I have been asked to complete a psychological risk assessment for Mr. Darrell Wilson. Mr. Wilson is currently serving a 2.5-year sentence for assault and robbery. Mr. Wilson is now eligible for parole after serving two-thirds of his sentence in a federal institution. This report is meant to aid the parole board in making their release decision.

I met with Mr. Wilson over the course of three separate sessions. In total, I spoke with Mr. Wilson for just over 6 hours. I also had access to the following records in order to confirm information provided by Mr. Wilson: law enforcement records (e.g., arrest reports), past mental health evaluations, correctional assessments (e.g., behaviour reports from past incarcerations), and court transcripts.

Current Offense

Mr. Wilson was convicted of assault and robbery following a jury trial in January 2018. These events occurred in December 2016. Mr. Wilson had been drinking and smoking crack cocaine with a number of others in the basement of a house known to be used as a drug/party house. At some point, a confrontation occurred between Mr. Wilson and the

victim, Kyle Richards. During this confrontation, Mr. Wilson confronted Mr. Richards and punched him in the head knocking him to the concrete floor. Mr. Wilson then asked all those present to leave and was heard shortly afterwards demanding Mr. Richards' wallet.

Mr. Thomas Cain, Mr. Wilson's cousin who had remained behind in the basement room, reported that Mr. Wilson beat Mr. Richards and that he, himself, had complied with Mr. Wilson's direction to strike the victim in the head. Approximately ten minutes later, Mr. Wilson and Mr. Cain dragged the unconscious victim and placed him in the box of the victim's truck. Mr. Wilson then drove the victim's truck and parked it a few kilometers away. At 6am the next morning, the victim crawled from the box and was seen wandering in the street by a passerby who then called an ambulance upon seeing the condition of the victim. Mr. Richards was taken to the hospital where he remained for 2 days for treatment of a concussion and a scalp laceration. In addition, Mr. Richards noticed that his wallet and \$1000 dollars' worth of tools were missing from his truck. Mr. Wilson was arrested after a brief investigation. Mr. Wilson's account of the offence does not differ from the official record.

Psychosocial Development

Mr. Wilson is the second eldest of three children born to June Gauthier and John Wilson. Mr. Wilson's father died when Mr. Wilson was a baby and he was subsequently raised by his mother and grandparents. Other than the death of his father, Mr. Wilson's childhood was uneventful. In school, Mr. Wilson had minor behavioural and discipline issues and was assessed as having borderline intelligence. He dropped out of high school but went on to complete his High School Diploma Equivalency.

When in the community, Mr. Wilson has maintained employment as a maintenance worker. His current employer has indicated that Mr. Wilson can return to his job once released from his current sentence.

Mr. Wilson has never been able to maintain a long-term romantic relationship. In fact, his longest relationship to date lasted only a few months. Mr. Wilson does have a good relationship with his mother. She continues to support him and, should he be released, Mr. Wilson will reside with his mother. Mr. Wilson has not spoken to his siblings in some time.

Criminal History

[Moderate Risk Condition]

Mr. Wilson's criminal history dates back to 2005. Mr. Wilson has two criminal convictions for non-violent crimes (property-related offense and possession of controlled substances). Of particular concern, however, is his past conviction for assault. Mr. Wilson has served one provincial sentence for his past assault conviction. This is his first federal sentence (a sentence that is 2 years or more).

OR

[High Risk Condition]

Mr. Wilson's criminal history dates back to 1995. Mr. Wilson has 20 criminal convictions for non-violent offences including convictions for property-related offenses, failure to comply with conditions of recognizance or probation, and possession of controlled substances. Of particular concern, however, are his three convictions for robbery and his two convictions for assault (one for assault causing bodily harm and the other for aggravated assault). Mr. Wilson has served two federal sentences and numerous provincial sentences.

Mental Health History and Psychiatric Diagnosis

Based on his offense history and the examination of psychometric tests, Mr. Wilson justifies the diagnosis of: *Substance use disorder*

Mr. Wilson's history of substance abuse extends to his adolescence and includes a variety of different substances including alcohol, marijuana, and crack cocaine. Alcohol and/or drugs have been a factor in several of his past criminal offences.

Mr. Wilson does not present with any other mental health diagnoses.

Correctional and Rehabilitation History

During past incarceration, Mr. Wilson presented with minor behavioural problems (altercations with other inmates, being caught with drug paraphernalia).

During his current incarceration, Mr. Wilson presented no behavioural problems. He was able to attain his High School Equivalency. He successfully completed the five-week Anger and Emotions Management Program and improved on five of six areas targeted. "Moderate further intervention" was recommended. Mr. Wilson also successfully completed the Offender Substance Abuse Pre-Release Program and was evaluated positively by program staff. He has indicated that he is now sober and dedicated to maintaining his sobriety in the community. He has agreed to continue to attend treatment for alcohol and drug dependence once released.

Risk Assessment

[No PCL-R information Condition]

OR

[Status Quo Condition]

Mr. Wilson was first assessed using the Psychopathy Checklist-Revised or PCL-R, a tool intended to measure the presence of psychopathic traits. Examples of psychopathic traits include a lack of empathy and guilt, shallow affect, poor behavioural controls, and antisocial behaviour. The PCL-R produces a score between 0 and 40. A score of 30 or more is usually considered convincing evidence of psychopathy. My score for this gentleman was 22 out of a possible 40 points.

OR

[Enhanced Information Condition]

Mr. Wilson was first assessed using the Psychopathy Checklist-Revised or PCL-R, a tool intended to measure the presence of psychopathy. Psychopathy is a personality disorder characterized by a lack of empathy and guilt, shallow affect, poor behavioural controls, and antisocial behaviour, among other traits. The PCL-R consists of 20 items that outline features associated with the personality disorder that can be separated into four facets, referred to as Interpersonal, Affective, Lifestyle, and Antisocial. It is also sometimes useful to separate the items into two factors, Factor 1 (Interpersonal/Affective) and Factor 2 (Lifestyle/Antisocial). While the PCL-R was not created with the intention of predicting violence, past research has demonstrated that higher scores on the PCL-R are related to both general and violent reoffending. A frequent finding is that Factor 2 scores are particularly helpful in predicting reoffending and are typically targeted in treatment, as opposed to the more pervasive traits of Factor 1. As such, the PCL-R can provide useful insight into cases such as Mr. Wilson's.

The PCL-R produces a score between 0 and 40, with each item being scored either 0, 1, or 2 based on the applicability of each trait. A score of 30 or more is usually considered convincing evidence of psychopathy. My score for this gentleman was 22 out of a possible 40 points. Further, my score for Mr. Wilson on Factor 1 was 9 out of a possible 16 points, and for Factor 2, 13 out of a possible 20 points.

Taken together, Mr. Wilson's PCL-R profile is similar to what would be expected for the average offender, with a total PCL-R score of 22 placing him at the 48th percentile. This means that Mr. Wilson scored equal or higher than 48% of offenders, and lower or equal to 52% of offenders. Additionally, Mr. Wilson was in the 57.1 percentile for his Factor 1 score of 9 and 58.9 percentile for his Factor 2 score. Of the Factor 1 items, Mr. Wilson was scored a 2 on grandiose sense of self-worth and conning/manipulative. Additionally, he scored a 2 on the following Factor 2 items: need for stimulation, poor behavioural controls, impulsivity, and irresponsibility. It is possible that these features contributed to Mr. Wilson's past criminal behaviour.

Based on Mr. Wilson's score, he would benefit from a structured treatment program aimed at targeting the traits from Factor 2. Specifically, Mr. Wilson would benefit from treatment that focussed on his need for stimulation, poor behavioural controls, impulsivity, and irresponsibility. This recommendation is based on a body of research that suggests that targeting Factor 2 traits in treatment is the most effective rehabilitation approach. However, it is important that pervasive Factor 1 traits are addressed to keep treatment motivation and attendance high. For Mr. Wilson, this means that his grandiose sense of self-worth and conning/manipulative traits will need to be attended to in order to make sure that he stays in the treatment program. Other management strategies that would benefit Mr. Wilson include structured supervision and continued participation in drug and alcohol treatment. The continued fostering of relationships with prosocial individuals, such as the one Mr. Wilson has with his mother, would also be beneficial in helping Mr. Wilson reintegrate successfully.

In determining Mr. Wilson's risk, I scored him on several risk assessment tools. One of the most well validated tools for the prediction of future violent behaviour is the Violence Risk Appraisal Guide or VRAG-R. The VRAG-R is a 12-item scale with scores ranging from -32 to 40, with higher scores indicating higher risk. Example items include history of drug or alcohol problems, age, and criminal history. My score for Mr. Wilson on the VRAG-R is [3 OR 18]. This score places him in the [6th OR 8th] out of 9 possible risk bins. Other offenders with a similar score reoffended violently at a rate of [26% OR 58%] over 5 years and [51% OR 78%] over 12 years. This score therefore places him as a [*Moderate Risk* OR *High Risk*] for future violent offending.

In addition to the above actuarial instrument, I have utilized the manual for the Historical Clinical Risk Management-20 or HCR-20, a structure of clinical guidelines for assessment of violent recidivism. Structured clinical guidelines are lists of factors that are identified in the literature as relevant to the assessment of future risk of recidivism. Mr. Wilson's risk according to the HCR-20 was also in the [*moderate range* OR *high range*] and this rating is particularly dependent on his historical factors. Historical factors of concern include his past and present violence, substance abuse, and relationship problems [*and past supervision failures*]. There are a few risk-reducing features to consider: his positive employment history, absence of mental illness, and good support from his mother.

Treatment and Management

During his current incarceration, Mr. Wilson has shown himself to be an excellent patient and been fully cooperative with both treatment and correctional staff. Given his serious substance abuse history, it is my recommendation that he continue with his substance abuse treatment in the community. I also recommend that he continue to see a therapist for any residual anger issues.

In addition to therapeutic intervention, Mr. Wilson needs considerable supervision if he is to live in the community again. There are a number of strategies that could be used to manage his risk. Should consideration be made for community re-integration, the following is recommended: bi-weekly meetings with a parole officer, mandatory drug and alcohol testing.

Appendix B**STUDY 1: SURVEY QUESTIONS****Eligibility Questions**

Are you 18 years of age or older?

- ☐ Yes
- ☐ No

Are you a Canadian citizen?

- ☐ Yes
- ☐ No

Demographic Questions

What year were you born?

(Type Box)

What gender do you identify with?

- ☐ Female
- ☐ Male
- ☐ Non-binary
- ☐ Other
- ☐ Prefer not to say

What is your racial/ethnic background?

- ☐ Asian
- ☐ Black/African-Canadian
- ☐ East Indian
- ☐ Hispanic/Latinx
- ☐ Indigenous
- ☐ Middle Eastern
- ☐ White/Caucasian
- ☐ Other: (Type Box)

What is the highest level of education that you have completed?

- ☐ Completed elementary school
- ☐ Completed secondary/high school
- ☐ Completed technical, community college
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Professional degree or doctorate

Have you taken any courses at the college or university level on law or legal studies?

- ☐ Yes
- ☐ No

Have you taken any course at the college or university level in psychology?

- ☐ Yes
- ☐ No

In politics, people sometimes talk of left and right. Where would you place yourself on the scale below?

0	1	2	3	4	5	6	7	8	9	10
Left										Right

Attention Check Questions

[Note to ethics: bolded answers are the correct answers for the attention check questions]

What crime was Mr. Wilson most recently charged with?

- Murder
- Sexual assault
- **Robbery**

What psychiatric disorder was Mr. Wilson diagnosed with?

- Schizophrenia
- **Substance use disorder**
- Bipolar disorder

This question is to ensure that the survey software is working properly. Please choose 3.

- 1
- 2
- **3**

Outcome variable Questions

Which risk category would you assign for Mr. Wilson?

- Low
- Low-Moderate
- Moderate
- Moderate-High
- High

How likely is Mr. Wilson to commit a new **violent** offence in the next five years?

0	1	2	3	4	5	6	7	8	9	10
Not likely at all										
Very likely										

Compared to the average offender, how likely is Mr. Wilson to commit a new crime?

0 1 2 3 4 5 6 7 8 9 10
Not likely at all Very likely

Would you grant Mr. Wilson parole?

- ☐ Yes
- ☐ No

How comfortable would you feel if Mr. Wilson was released into the community?

0 1 2 3 4 5 6 7 8 9 10
Not comfortable at all Very comfortable

How dangerous would Mr. Wilson be to community members if released?

0 1 2 3 4 5 6 7 8 9 10
Not dangerous at all Very dangerous

How strict should Mr. Wilson's supervision be, if released into the community?

0 1 2 3 4 5 6 7 8 9 10
Not strict at all Very strict

How likely is Mr. Wilson to benefit from rehabilitation/treatment?

0 1 2 3 4 5 6 7 8 9 10
Not likely at all Very likely

Overall, how confident are you in your decisions about Mr. Wilson?
0%-100%

Format-related questions

Overall, how clear was the information presented to you about Mr. Wilson?

0 1 2 3 4 5 6 7 8 9 10
Not clear at all Very clear

Overall, how understandable was the information presented to you about Mr. Wilson?

0 1 2 3 4 5 6 7 8 9 10
Very difficult to understand Very easy to understand

Overall, how relevant was the information presented to you about Mr. Wilson?

0 1 2 3 4 5 6 7 8 9 10
Not relevant at all Very relevant

For the following, please rate how useful you found each piece of information in making your decisions about Mr. Wilson:

	Not useful at all	0	1	2	3	4	5	6	7	8	9	10	Very useful
Criminal history													
Details about the current offence													
Clinical diagnoses													
PCL-R information ^a													
VRAG information													
HCR-20 information													
Correctional and rehabilitation history													
Treatment and management recommendations													

^a Please note that the PCL-R information question is only provided to participants in the status quo and enhanced psychopathy conditions.

What information was the most useful in making decisions about Mr. Wilson?
(Type Box)

Appendix C

STUDY 1: RECRUITMENT NOTICE

Study Name: Effect of risk assessment on legal decision-making

Description: In this anonymous online survey, you will be asked to read a mock risk assessment report. Afterwards, you will answer a series of questions about whether or not you would give the fictional offender parole, as well as other questions concerning his future risk to reoffend, management, and treatment potential.

Eligibility Requirements: In order to participate in the study, you must be at least 18 years old and a Canadian citizen.

Risks: It is possible that you may experience some discomfort or minor distress due to the content of the mock risk assessment report as you will be reading a situation that involves crime (assault and robbery) and drug use.

Duration and Locale: This study will be conducted online and take approximately 20 minutes to complete.

Compensation: You will be compensated for the amount you agreed upon before you entered the survey.

Researchers: Natasha Maltais (Principal Investigator; email: natasha.maltais@carleton.ca) and Julie Blais (Research Supervisor; email: julie.blais@carleton.ca)

This study has received clearance by the Carleton University Research Ethics Board-B (Clearance # 112216).

If you have any ethical concerns with the study, please contact the Carleton University Research Ethics Board-B (by phone at 613-520-2600 ext. 4085 or via email at ethics@carleton.ca).

Appendix D

STUDY 1: INFORMED CONSENT FORM

Title. Effect of risk assessment on legal decision-making

Date of ethics clearance. February 24, 2020 (CUREB-B # 112216); Expires on February 28, 2021

The information in this consent form is intended to help you understand what we are asking of you so that you can decide whether you agree to participate in this study. Your participation in this study is voluntary, and a decision not to participate will not be used against you in any way. As you read this form and decide whether to participate, please take whatever time you need and feel free to use the contact information below to ask any questions you might have.

Purpose. The purpose of this study is to examine the types of information that may affect decisions within the legal system using a mock clinical risk assessment report. You will be asked to read a mock risk assessment report. Afterwards, you will answer a series of questions about whether or not you would give the individual parole, as well as other questions concerning his future risk to reoffend, management, and treatment potential. The survey will take approximately 20 minutes to complete.

Eligibility. In order to participate in the study, you must be at least 18 years old and a Canadian citizen.

Compensation and potential benefits. You will be compensated for the amount you agreed upon before you entered the survey. You may not receive any direct benefits from your participation in this study. However, your participation will help researchers better understand how the formatting of information may alter the perceptions of those making legal decisions.

Potential risks. It is possible that you may experience some discomfort or minor distress due to the content of the mock risk assessment report as you will be reading a situation that involves crime (assault and robbery) and drug use. Please remember that participation in this survey is voluntary and you can skip any particular questions you do not feel comfortable answering or withdraw at any time.

Right to withdraw. Your participation in this study is entirely voluntary. You may withdraw your participation at any point, and you have the right to refuse to complete certain questions without penalty. In order to receive your completion code, you must skip through to the end of the survey if you choose to withdraw before the study's end. However, please note that it will be impossible to withdraw your participation after you have completed the survey because your responses are anonymous, and we will not be able to identify which responses were yours.

Anonymity and confidentiality. All data collection is anonymous and confidential. This means that no identifying information, such as names or IP addresses, will be collected during study. All data collected will only be accessible to researchers working on this project and the survey company. The survey data are being collected online using the survey tool Qualtrics and will remain on these servers for the duration of the study (approximately 1 month). After all of the data are collected, they will be securely transferred from the Qualtrics server (located in Canada) to a server at Carleton University in Canada. The data will then be deleted from the Qualtrics server.

Once the project is completed, all research data will be kept indefinitely and potentially used for other projects on this same topic or for teaching purposes. A subsequent data set, stripped of all potential identifying information, may subsequently be made available to other researchers or deposited online in keeping with Open Access rules of peer-reviews journals. If you would like a copy of the finished research project, you are invited to contact the researcher to request an electronic copy which will be provided to you.

The ethics protocol for this project was reviewed and cleared by the Carleton University Research Ethics Board-B. If you have any ethical concerns with the study, please contact CUREB-B (by phone at 613-520-2600 ext. 4085 or via email at ethics@carleton.ca).

Researcher contact information.

Natasha Maltais (Principal Investigator)
Department of Psychology
Carleton University
Email: natasha.maltais@carleton.ca

Julie Blais (Supervisor)
Department of Psychology
Carleton University
Email: julie.blais@carleton.ca

Please click “I Agree” to indicate that you understand the information above and would like to participate in the study. Or, select “I Disagree” if you do not wish to continue with the survey.

Appendix E

STUDY 1: DEBRIEFING FORM

Title. Effect of risk assessment on legal decision-making

Date of ethics clearance. February 24, 2020 (CUREB-B # 112216); Expires on February 28, 2021

What are we trying to learn in this research?

This research explores the effect of different ways of communicating risk-relevant information on legal decision-making. More specifically, participants were randomly assigned to different conditions that provided either more or less information about the Psychopathy Checklist-Revised (PCL-R), a tool meant to assess the presence of psychopathic traits. We also changed whether the individual was considered moderate risk or high risk.

We are interested in learning how the communication of psychopathy information alters the perceptions of mock jurors. Specifically, we want to see how providing more descriptive information about psychopathy (e.g., scoring procedure, relevance to the current case, case management and treatment implications) affects decisions that are typically made in the criminal justice system, compared to when the more typical information about psychopathy (e.g., total score) is provided. Further, we wanted to see how the risk of the offender altered responses. The conditions with no psychopathy information given were included to help determine if the inclusion of psychopathy information influenced decisions over the other information provided in the mock risk assessment reports.

Why is this important to scientists or the general public?

Previous research has shown that jurors' perceptions of psychopathy can negatively influence trial outcomes. These findings are further complicated by the lack of standards for how psychopathy-related information should be presented in risk assessment reports, which can lead to inconsistencies and misinterpretation of information by jurors. The current study explores how different ways of communicating psychopathy evidence affects legal decisions and will hopefully provide some insight into a problem identified by past research. The ultimate goal is to begin developing best practice guidelines for the use of psychopathy information.

Where can I learn more?

To learn more about this topic, please refer to the following sources:

The following website contains good information on psychopathy as a construct:
www.hare.org

Berryessa, C. M., & Wohlstetter, B. (2019). The psychopathic “label” and effects on punishment outcomes: A meta-analysis. *Law and Human Behavior*, 43, 9-25. <https://doi.org/10.1037/lhb0000317>

Viljoen, J. L., McLachlan, K., & Vincent, G. M. (2010). Assessing violence risk and psychopathy in juvenile and adult offenders: A survey of clinical practices. *Assessment*, 17, 377–395. <https://doi.org/10.1177/1073191109359587>

Is there anything I can do if I found this experiment to be emotionally upsetting?

If you are experiencing any sort of emotional, mental, or physical distress after participating in this study, you can contact a live, trained crisis responder by texting: HOME to 686868

For more crisis lines, visit www.nowmattersnow.org/help-line.

What if I have questions later?

If you have any remaining concerns, questions, or comments about the experiment, please feel free to contact either the principal investigator, Natasha Maltais (natasha.maltais@carleton.ca) or the research supervisor, Dr. Julie Blais (julie.blais@carleton.ca).

If you have any ethical concerns with the study, please contact the Carleton University Research Ethics Board-B (by phone at 613-520-2600 ext. 4085 or via email at ethics@carleton.ca).

Thank you for participating in this research!

Appendix F

STUDY 2: RISK ASSESSMENT VIGNETTE

Nearly all prisoners will eventually be released. Some prisoners may be paroled which means they are released from prison to serve the last part of their sentence in the community. Their release is supervised by correction's officers and they can get some help with things like mental health and substance abuse. They also need to obey certain rules. If they break any of these rules, they could be sent back to prison for the rest of their sentence.

You are tasked with reviewing the following report which has been prepared by a registered clinician in order to help the parole board in deciding whether Mr. Darrell Wilson should be released to serve the last part of his sentence in the community. Once you have read the report, you will be asked for your opinion concerning Mr. Wilson's parole hearing.

In reading the following assessment, you can assume that the psychologist is a qualified expert and that all measures of risk used are accepted within the field.

Evaluation Report

Report written by: Dr. John Campbell

Name: Darrell Wilson

Age: 43

Offenses: Assault; Robbery

I have been asked to complete a psychological risk assessment for Mr. Darrell Wilson. Mr. Wilson is currently serving a 2.5-year sentence for assault and robbery. Mr. Wilson is now eligible for parole after serving two-thirds of his sentence in a federal institution. This report is meant to aid the parole board in making their release decision.

I met with Mr. Wilson over the course of three separate sessions. In total, I spoke with Mr. Wilson for just over 6 hours. I also had access to the following records in order to confirm information provided by Mr. Wilson: law enforcement records (e.g., arrest reports), past mental health evaluations, correctional assessments (e.g., behaviour reports from past incarcerations), and court transcripts.

Current Offense

Mr. Wilson was convicted of assault and robbery following a jury trial in January 2018. These events occurred in December 2016. Mr. Wilson had been drinking and smoking crack cocaine with a number of others in the basement of a house known to be used as a drug/party house. At some point, a confrontation occurred between Mr. Wilson and the

victim, Kyle Richards. During this confrontation, Mr. Wilson confronted Mr. Richards and punched him in the head knocking him to the concrete floor. Mr. Wilson then asked all those present to leave and was heard shortly afterwards demanding Mr. Richards' wallet.

Mr. Thomas Cain, Mr. Wilson's cousin who had remained behind in the basement room, reported that Mr. Wilson beat Mr. Richards and that he, himself, had complied with Mr. Wilson's direction to strike the victim in the head. Approximately ten minutes later, Mr. Wilson and Mr. Cain dragged the unconscious victim and placed him in the box of the victim's truck. Mr. Wilson then drove the victim's truck and parked it a few kilometers away. At 6am the next morning, the victim crawled from the box and was seen wandering in the street by a passerby who then called an ambulance upon seeing the condition of the victim. Mr. Richards was taken to the hospital where he remained for 2 days for treatment of a concussion and a scalp laceration. In addition, Mr. Richards noticed that his wallet and \$1000 dollars' worth of tools were missing from his truck. Mr. Wilson was arrested after a brief investigation. Mr. Wilson's account of the offence does not differ from the official record.

Psychosocial Development

Mr. Wilson is the second eldest of three children born to June Gauthier and John Wilson. Mr. Wilson's father died when Mr. Wilson was a baby and he was subsequently raised by his mother and grandparents. Other than the death of his father, Mr. Wilson's childhood was uneventful. In school, Mr. Wilson had minor behavioural and discipline issues and was assessed as having borderline intelligence. He dropped out of high school but went on to complete his High School Diploma Equivalency.

When in the community, Mr. Wilson has maintained employment as a maintenance worker. His current employer has indicated that Mr. Wilson can return to his job once released from his current sentence.

Mr. Wilson has never been able to maintain a long-term romantic relationship. In fact, his longest relationship to date lasted only a few months. Mr. Wilson does have a good relationship with his mother. She continues to support him and, should he be released, Mr. Wilson will reside with his mother. Mr. Wilson has not spoken to his siblings in some time.

Criminal History

[Moderate Risk Condition]

Mr. Wilson's criminal history dates back to 2005. Mr. Wilson has two criminal convictions for non-violent crimes (property-related offense and possession of controlled substances). Of particular concern, however, is his past conviction for assault. Mr. Wilson has served one provincial sentence for his past assault conviction. This is his first federal sentence (a sentence that is 2 years or more).

OR

[High Risk Condition]

Mr. Wilson's criminal history dates back to 1995. Mr. Wilson has 20 criminal convictions for non-violent offences including convictions for property-related offenses, failure to comply with conditions of recognizance or probation, and possession of controlled substances. Of particular concern, however, are his three convictions for robbery and his two convictions for assault (one for assault causing bodily harm and the other for aggravated assault). Mr. Wilson has served two federal sentences and numerous provincial sentences.

Mental Health History and Psychiatric Diagnosis

Based on his offense history and the examination of psychometric tests, Mr. Wilson justifies the diagnosis of: *Substance use disorder*

Mr. Wilson's history of substance abuse extends to his adolescence and includes a variety of different substances including alcohol, marijuana, and crack cocaine. Alcohol and/or drugs have been a factor in several of his past criminal offences.

Mr. Wilson does not present with any other mental health diagnoses.

Correctional and Rehabilitation History

During past incarceration, Mr. Wilson presented with minor behavioural problems (altercations with other inmates, being caught with drug paraphernalia).

During his current incarceration, Mr. Wilson presented no behavioural problems. He was able to attain his High School Equivalency. He successfully completed the five-week Anger and Emotions Management Program and improved on five of six areas targeted. "Moderate further intervention" was recommended. Mr. Wilson also successfully completed the Offender Substance Abuse Pre-Release Program and was evaluated positively by program staff. He has indicated that he is now sober and dedicated to maintaining his sobriety in the community. He has agreed to continue to attend treatment for alcohol and drug dependence once released.

Risk Assessment

[No PCL-R information Condition]

OR

[Status Quo Condition]

Mr. Wilson was first assessed using the Psychopathy Checklist-Revised or PCL-R, a tool intended to measure the presence of psychopathic traits. Examples of psychopathic traits include a lack of empathy and guilt, shallow affect, poor behavioural controls, and antisocial behaviour. The PCL-R produces a score between 0 and 40. A score of 30 or more is usually considered convincing evidence of psychopathy. My score for this gentleman was 34 out of a possible 40 points.

OR

[Enhanced Information Condition]

Mr. Wilson was first assessed using the Psychopathy Checklist-Revised or PCL-R, a tool intended to measure the presence of psychopathy. Psychopathy is a personality disorder characterized by a lack of empathy and guilt, shallow affect (or lack of emotions), poor behavioural controls, and antisocial behaviour, among other traits. The PCL-R consists of 20 items that outline features associated with the personality disorder that can be separated into four facets, referred to as Interpersonal, Affective, Lifestyle, and Antisocial. It is also sometimes useful to separate the items into two factors, Factor 1 (Interpersonal/Affective) and Factor 2 (Lifestyle/Antisocial). While the PCL-R was not created with the intention of predicting violence, past research has demonstrated that higher scores on the PCL-R are related to both general and violent reoffending. A frequent finding is that Factor 2 scores are particularly helpful in predicting reoffending and are typically targeted in treatment, as opposed to the more pervasive traits of Factor 1. As such, the PCL-R can provide useful insight into cases such as Mr. Wilson's where violence is a concern.

The PCL-R produces a score between 0 and 40, with each item being scored either 0, 1, or 2 based on the applicability of each trait. A score of 30 or more is usually considered convincing evidence of psychopathy. My score for this gentleman was 34 out of a possible 40 points. Further, my score for Mr. Wilson on Factor 1 was 16 out of a possible 16 points, and for Factor 2, 16 out of a possible 20 points.

Mr. Wilson's PCL-R score of 34 places him at the 96th percentile. This means that he scored equal or higher than 96% of offenders, and lower or equal to 4% of offenders. Additionally, Mr. Wilson was in the 100% percentile for his Factor 1 score and 84% percentile for his Factor 2 score. Of the Factor 1 items, Mr. Wilson was scored a 2 on superficial charm, grandiose sense of self worth, pathological lying, conning/manipulative, lack of remorse or guilt, shallow affect, lack of empathy and failure to accept responsibility. He scored a 2 on the following Factor 2 items: need for stimulation, parasitic lifestyle, poor behavioural controls, lack of realistic long-term goals, impulsivity, and irresponsibility. It is possible that these features contributed to Mr. Wilson's past criminal behaviour.

Based on Mr. Wilson's score, he would benefit most from structured treatment aimed at targeting the traits from Factor 2. Specifically, treatment that focussed on his need for stimulation, parasitic lifestyle, poor behavioural controls, lack of realistic long-term goals, impulsivity, and irresponsibility would be extremely beneficial. This recommendation is based on a body of research that suggests that targeting Factor 2 traits in treatment is the most effective rehabilitation approach. However, it is important that pervasive Factor 1 traits are addressed to keep treatment motivation and attendance high. For Mr. Wilson, this may involve emphasizing his own self-interest in remaining crime-free, as he demonstrates high levels of self-centeredness and self-worth. His lack of remorse, shallow emotions, and lack of empathy will need to be attended to and close monitoring of attempts to manipulate or con treatment and management staff may be needed. If Mr. Wilson is to be released, he would benefit from continued structured supervision that emphasizes task-related bonds over emotional bonds. While Mr. Wilson

has a high PCL-R score, it is important to note that many of the traits he demonstrates are Factor 1 traits, which have a weaker association with many forms of violent behaviour. With adequate attention placed on his antisocial and lifestyle characteristics in treatment, it is possible to see positive treatment change and a reduction in criminal offending.

In determining Mr. Wilson's risk, I also scored him on several other risk assessment tools. One of the most well validated tools for the prediction of future violent behaviour is the Violence Risk Appraisal Guide or VRAG-R. The VRAG-R is a 12-item scale with scores ranging from -32 to 40, with higher scores indicating higher risk. Example items include history of drug or alcohol problems, age, and criminal history. My score for Mr. Wilson on the VRAG-R is [3 OR 18]. This score places him in the [6th OR 8th] out of 9 possible risk bins. Other offenders with a similar score reoffended violently at a rate of [26% OR 58%] over 5 years and [51% OR 78%] over 12 years. This score therefore places him as a [*Moderate Risk OR High Risk*] for future violent offending.

In addition to the above actuarial instrument, I have utilized the manual for the Historical Clinical Risk Management-20 or HCR-20, a structure of clinical guidelines for assessment of violent recidivism. Structured clinical guidelines are lists of factors that are identified in the literature as relevant to the assessment of future risk of recidivism. Mr. Wilson's risk according to the HCR-20 was also in the [*moderate range OR high range*] and this rating is particularly dependent on his historical factors. Historical factors of concern include his past and present violence, substance abuse, and relationship problems [*and past supervision failures*]. There are a few risk-reducing features to consider: his positive employment history, absence of mental illness, and good support from his mother.

Treatment and Management

During his current incarceration, Mr. Wilson has shown himself to be an excellent patient and been fully cooperative with both treatment and correctional staff. Given his serious substance abuse history, it is my recommendation that he continue with his substance abuse treatment in the community. I also recommend that he continue to see a therapist for any residual anger issues.

In addition to therapeutic intervention, Mr. Wilson needs considerable supervision if he is to live in the community again. There are a number of strategies that could be used to manage his risk. Should consideration be made for community re-integration, the following is recommended: bi-weekly meetings with a parole officer, mandatory drug and alcohol testing.

Appendix G**STUDY 2: SURVEY QUESTIONS****Eligibility Questions**

Are you 18 years of age or older?

- ☐ Yes
- ☐ No

Are you a Canadian citizen?

- ☐ Yes
- ☐ No

Can you read and write in English?

- ☐ Yes
- ☐ No

Demographic Questions

What year were you born?
(Type Box)

What gender do you identify with?

- ☐ Female
- ☐ Male
- ☐ Non-binary
- ☐ Other
- ☐ Prefer not to say

What is your racial/ethnic background?

- ☐ Asian
- ☐ Black/African-Canadian
- ☐ East Indian
- ☐ Hispanic/Latinx
- ☐ Indigenous
- ☐ Middle Eastern
- ☐ White/Caucasian
- ☐ Other: (Type Box)

What is the highest level of education that you have completed?

- Completed elementary school
- Completed secondary/high school
- Completed technical, community college
- Bachelor's degree
- Master's degree
- Professional degree or doctorate

Have you taken any courses at the college or university level on law or legal studies?

- ☐ Yes
- ☐ No

Have you taken any course at the college or university level in psychology?

- ☐ Yes
- ☐ No

In politics, people sometimes talk of left and right. Where would you place yourself on the scale below?

0	1	2	3	4	5	6	7	8	9	10
Left										Right

Attention Check Questions

[Bolted answers are the correct answers for the attention check questions]

What crime was Mr. Wilson most recently charged with?

- Murder
- Sexual assault
- **Robbery**

What psychiatric disorder was Mr. Wilson diagnosed with?

- Schizophrenia
- **Substance use disorder**
- Bipolar disorder

This question is to ensure that the survey software is working properly. Please choose 3.

- 1
- 2
- **3**

Outcome variable Questions

Which risk category would you assign for Mr. Wilson?

- Low
- Low-Moderate
- Moderate
- Moderate-High
- High

How likely is Mr. Wilson to commit a new **violent** offence in the next five years?

0 1 2 3 4 5 6 7 8 9 10
Not likely at all Very likely

Compared to the average offender, how likely is Mr. Wilson to commit a new crime?

0	1	2	3	4	5	6	7	8	9	10
Not likely at all										
Very likely										

Would you grant Mr. Wilson parole?

- ☐ Yes
- ☐ No

How comfortable would you feel if Mr. Wilson was released into the community?

0	1	2	3	4	5	6	7	8	9	10
Not comfortable at all									Very comfortable	

How dangerous would Mr. Wilson be to community members if released?

0	1	2	3	4	5	6	7	8	9	10
Not dangerous at all									Very dangerous	

How strict should Mr. Wilson's supervision be, if released into the community?

0 1 2 3 4 5 6 7 8 9 10
Not strict at all Very strict

How likely is Mr. Wilson to improve from rehabilitation/treatment?

0	1	2	3	4	5	6	7	8	9	10
Not likely at all									Very likely	

How psychopathic do you think Mr. Wilson is?

0	1	2	3	4	5	6	7	8	9	10
Not psychopathic at all									Very psychopathic	

Overall, how confident are you in your decisions about Mr. Wilson?
0%-100%

Format-related questions

Overall, how clear was the information presented to you about Mr. Wilson?

0	1	2	3	4	5	6	7	8	9	10
Not clear at all									Very clear	

Overall, how understandable was the information presented to you about Mr. Wilson?

0	1	2	3	4	5	6	7	8	9	10
Very difficult to understand									Very easy to understand	

Overall, how relevant was the information presented to you about Mr. Wilson?

0	1	2	3	4	5	6	7	8	9	10
Not relevant at all									Very relevant	

For the following, please rate how useful you found each piece of information in making your decisions about Mr. Wilson:

	Not useful at all	0	1	2	3	4	5	6	7	8	9	Very useful	10
Criminal history													
Details about the current offence													
Clinical diagnoses													
PCL-R information ^a													
VRAG information													
HCR-20 information													
Correctional and rehabilitation history													
Treatment and management recommendations													

^a Please note that the PCL-R information question is only provided to participants in the status quo and enhanced psychopathy conditions.

What information was the most useful in making decisions about Mr. Wilson?
(Type Box)

Additional Questions (Not in Study 1)

How psychopathic do you think Mr. Wilson is?

0 1 2 3 4 5 6 7 8 9 10
Not psychopathic at all Very psychopathic

How likely is Mr. Wilson to commit any new offence in the next five years?

0 1 2 3 4 5 6 7 8 9 10
Not likely at all Very likely

Do you have any prior knowledge of risk assessments?

- ☐ Yes
- ☐ No

Appendix H

STUDY 2: RECRUITMENT NOTICE

PARTICIPANTS NEEDED FOR A STUDY ON LEGAL DECISION MAKING

Effect of risk assessment on legal decision-making (Study 2)

We are conducting a study examining how the different types of information provided in a risk assessment report may affect decisions within the legal system.

Who can participate?

Anyone who is 18 years or older, a Canadian citizen, and can read and write in English is eligible to participate.

What is involved?

- Read a 4-page risk assessment about a mock offender
- Complete a short questionnaire about your demographic information (e.g., age, gender, ethnic background)
- Complete a questionnaire about the case you just read; making decisions about whether you think the offender should be granted parole

How long does it take?

The study should take about 20 minutes to complete and is completed entirely online.

Do I get anything for participating?

If you provide your email address, you will be entered to win a \$100 Amazon gift card. Your email address will not be associated with your responses in any way. The information will only be used to contact you if you win.

Who are the researchers?

Natasha Maltais (Principle Researcher), Julie Blais (Faculty Supervisor)

What if I have questions?

Please contact the Principle Researcher, Natasha Maltais, at natasha.maltais@carleton.ca

How do I participate?

Click on the link to access the online study:

Ethics: The ethics protocol for this project was reviewed and cleared by the Carleton University Research Ethics Board-B (#113188)

Appendix I

STUDY 2: INFORMED CONSENT FORM

Title. Effect of risk assessment on legal decision-making (Study 2)

Date of ethics clearance. July 17, 2020 (CUREB-B #113188); Expires on July 30, 2021

The information in this consent form is intended to help you understand what we are asking of you so that you can decide whether you agree to participate in this study. Your participation in this study is voluntary, and a decision not to participate will not be used against you in any way. As you read this form and decide whether to participate, please take whatever time you need and feel free to use the contact information below to ask any questions you might have.

Purpose. The purpose of this study is to examine the types of information that may affect decisions within the legal system using a mock clinical risk assessment report. You will be asked to read a mock risk assessment report. Afterwards, you will answer a series of questions about whether or not you would give the individual parole, as well as other questions concerning his future risk to reoffend, management, and treatment potential. The survey will take approximately 20 minutes to complete.

Eligibility. In order to participate in the study, you must be at least 18 years old, a Canadian citizen, and able to read and write in English.

Compensation and potential benefits. Each person will be entered into a draw to win a \$100 Amazon gift card. Chances to win will be at least 1 in 550 depending on how many individuals participate in the survey. Responses from you and others will help researchers better understand how the formatting of information may alter the perceptions of those making legal decisions.

Potential risks. It is possible that you may experience some discomfort or minor distress due to the content of the mock risk assessment report as you will be reading a situation that involves crime (assault and robbery) and drug use. Please remember that participation in this survey is voluntary and you can skip any particular questions you do not feel comfortable answering or withdraw at any time. Contact information for services is available in the debriefing form if needed and can be accessed by clicking through to the end of the survey. This can be done without answering any further questions.

Right to withdraw. Your participation in this study is entirely voluntary. You may withdraw your participation at any point, and you have the right to refuse to complete certain questions without penalty. However, please note that it will be impossible to withdraw your participation after you have completed the survey because your responses are anonymous, and we will not be able to identify which responses were yours. In addition, if you would like to withdraw from the study but still would like to enter the

draw for the gift card, you will need to click through the rest of the survey in order to be re-directed to the draw.

Anonymity and confidentiality. All data collection is anonymous and confidential. This means that no identifying information, such as names or IP addresses, will be collected during study. **If you want to be considered for the draw, you will be re-directed to a separate page to provide your email address at the end of the survey. Note that your email address cannot be linked to your survey responses.**

All data collected will only be accessible to researchers working on this project and the survey company. The survey data are being collected online using the survey tool Qualtrics and will remain on these servers for the duration of the study (approximately 1 month). After all of the data are collected, they will be securely transferred from the Qualtrics server (located in Canada) to a server at Carleton University in Canada. The data will then be deleted from the Qualtrics server. Please note that once the data is downloaded from Qualtrics and expunged from their servers, it will no longer be identifiable.

Once the project is completed, all research data will be kept indefinitely and potentially used for other projects on this same topic or for teaching purposes. A subsequent data set, stripped of all potential identifying information, may subsequently be made available to other researchers or deposited online in keeping with Open Access rules of peer-reviews journals. If you would like a copy of the finished research project, you are invited to contact the researcher to request an electronic copy which will be provided to you.

The ethics protocol for this project was reviewed and cleared by the Carleton University Research Ethics Board-B. If you have any ethical concerns with the study, please contact CUREB-B (by phone at 613-520-2600 ext. 4085 or via email at ethics@carleton.ca).

Researcher contact information.

Natasha Maltais (Principal Investigator)
Department of Psychology
Carleton University
Email: natasha.maltais@carleton.ca

Julie Blais (Supervisor)
Department of Psychology and Neuroscience
Dalhousie University
Email: julie.blais@dal.ca

Please click “I Agree” to indicate that you understand the information above and would like to participate in the study. Or, select “I Disagree” if you do not wish to continue with the survey.

Appendix J

STUDY 2: DEBRIEFING FORM

Title. Effect of risk assessment on legal decision-making (Study 2)

Date of ethics clearance. July 17, 2020 (CUREB-B #113188); Expires on July 30, 2021

What are we trying to learn in this research?

This research explores the effect of different ways of communicating risk-relevant information on legal decision-making. More specifically, participants were randomly assigned to different conditions that provided either more or less information about the Psychopathy Checklist-Revised (PCL-R), a tool meant to assess the presence of psychopathic traits. We also changed whether the individual was considered moderate risk or high risk.

We are interested in learning how the communication of psychopathy information alters the perceptions of mock jurors. Specifically, we want to see how providing more descriptive information about psychopathy (e.g., scoring procedure, relevance to the current case, case management and treatment implications) affects decisions that are typically made in the criminal justice system, compared to when the more typical information about psychopathy (e.g., total score) is provided. Further, we wanted to see how the risk of the offender altered responses. The conditions with no psychopathy information given were included to help determine if the inclusion of psychopathy information influenced decisions over the other information provided in the mock risk assessment reports.

Why is this important to scientists or the general public?

Previous research has shown that jurors' perceptions of psychopathy can negatively influence trial outcomes. These findings are further complicated by the lack of standards for how psychopathy-related information should be presented in risk assessment reports, which can lead to inconsistencies and misinterpretation of information by jurors. The current study explores how different ways of communicating psychopathy evidence affects legal decisions and will hopefully provide some insight into a problem identified by past research. The ultimate goal is to begin developing best practice guidelines for the use of psychopathy information.

Where can I learn more?

To learn more about this topic, please refer to the following sources:

The following website contains good information on psychopathy as a construct:
www.hare.org

Berryessa, C. M., & Wohlstetter, B. (2019). The psychopathic “label” and effects on punishment outcomes: A meta-analysis. *Law and Human Behavior*, 43, 9-25. <https://doi.org/10.1037/lhb0000317>

Viljoen, J. L., McLachlan, K., & Vincent, G. M. (2010). Assessing violence risk and psychopathy in juvenile and adult offenders: A survey of clinical practices. *Assessment*, 17, 377–395. <https://doi.org/10.1177/1073191109359587>

Is there anything I can do if I found this experiment to be emotionally upsetting?

If you are experiencing any sort of emotional, mental, or physical distress after participating in this study, you can contact a live, trained crisis responder by texting: HOME to 686868

For more crisis lines, visit www.nowmattersnow.org/help-line.

What if I have questions later?

If you have any remaining concerns, questions, or comments about the experiment, please feel free to contact either the principal investigator, Natasha Maltais (natasha.maltais@carleton.ca) or the research supervisor, Dr. Julie Blais (julie.blais@dal.ca).

If you have any ethical concerns with the study, please contact the Carleton University Research Ethics Board-B (by phone at 613-520-2600 ext. 4085 or via email at ethics@carleton.ca).

Thank you for participating in this research!

Appendix K*Comparisons Between Study 1 and Study 2 Demographic Variables*

	Study 1	Study 2	<i>p</i>
	%		
Gender (Women)	61.39	77.10	< .001
Racial/Ethnic background			.007
White/Caucasian	84.17	89.02	
Asian	6.96	1.87	
Middle Eastern	2.53	0.70	
Black/African-Canadian	1.27	0.47	
Indigenous	1.27	3.50	
East Indian	-	0.93	
Hispanic/Latinx	-	0.47	
Other	3.80	3.04	
Highest level of education completed			.649
Elementary school	1.90	-	
Secondary/high school	29.11	25.41	
Technical/community college	32.91	32.24	
Bachelor's Degree	26.58	29.41	
Master's Degree	7.59	9.18	
Professional degree or doctorate	1.90	3.76	
Any law or legal study courses (Yes)	15.19	27.34	.002
Any psychology courses (Yes)	29.75	51.40	< .001
	<i>M</i>		
Age	53.27	38.28	< .001
Political leaning	5.25	4.79	.022

Note. *p*-values < .05 are in bold. Political leaning was measured using a 10-point Likert scale where 1 = left leaning and 10 = right leaning.