

**Factors Influencing Parole Decision Making:
Demographic Characteristics, Cognitive Style, and Offender Type**

Renée Gobeil

**Thesis submitted to
Faculty of Graduate Studies and Research
Carleton University
In partial fulfillment of the requirements for
the degree of Master of Arts**

August 2006

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Your file *Votre référence*
ISBN: 978-0-494-18264-2
Our file *Notre référence*
ISBN: 978-0-494-18264-2

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Abstract

Though parole release decisions have important implications, to date there has been little research on the factors influencing these decisions; the current study addressed this scarcity. Findings demonstrated that of the three factors investigated – demographic characteristics, cognitive style, and offender type – offender type was virtually the only one related to parole decisions in a sample of 31 parole board members from Canada and New Zealand. Specifically, women offenders were more likely than male offenders to be granted release. Results also demonstrated a moderating effect of perceived likelihood of successful sentence completion on this relationship, most notably for the women and sexual offenders. Finally, the results offered preliminary evidence of the use of decisional heuristics among board members, with case reviews focusing on specific information known to be related to parole outcome. Use of such heuristics, though seemingly adaptive, may have important implications from a legal perspective.

Acknowledgements

I thank the members of my committee – Dr. Craig Bennell, Dr. Shelley Brown, and Dr. Ralph Serin – for their input, suggestions, and understanding of data collection difficulties. I also appreciate Dr. Ron Saunders taking the time to act as my external examiner. I owe special thanks to my supervisor, Dr. Ralph Serin, for his guidance, patience, and his genuine enthusiasm for this project.

I am grateful to Jean Sutton (National Parole Board) and to Judge David Carruthers (New Zealand Parole Board) for their interest in and support of this project. Sharon Ridout (Canada) and Sandy Gill (New Zealand) provided invaluable assistance with the logistics of recruitment and participation at each site while Matt DiGiuseppe created the computerized application and answered innumerable questions about its functioning. Appreciation is also extended to all board members who completed the study despite heavy demands on their time.

Finally, thanks to my family and friends for their support throughout this work. Papa and matante Cécile offered practical help in the form of feedback on key sections of the manuscript; Papa also reminded me often of his pride. Momma Bear listened willingly and provided encouragement every time we spoke. Phil, perhaps most usefully, showed me by example that graduate studies and a rich life can be successfully combined, which encouraged me to maintain a semblance of balance throughout. Scott, of course, cheered mightily when extra participants were recruited; thanks.

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Factors Influencing Parole Decision Making:

Demographic Characteristics, Cognitive Style, and Offender Type

Release decisions made by parole boards have extensive and far-reaching consequences. Not only do parole board members have to consider the merits of the applications before them, but they must also weigh the societal costs of any erroneous release and the monetary burden of any offender unnecessarily remaining incarcerated. Moreover, most parole boards' guiding principles indicate that decisions must be made as liberally as possible, taking into account public safety and the estimated probability of recidivism. For example, the statement of core values of the National Parole Board indicates that applications for discretionary release must be 'decided in a manner that is deemed least restrictive, consistent with the imperatives of public protection and effective management of risk' (National Parole Board, 2003, par. 15). These multiple and sometimes conflicting goals contribute to the difficulty of parole board members' tasks. Plainly, their responsibilities involve a careful balancing act.

Despite the unmistakable significance of parole board release decisions, little is known about the factors influencing such decisions. As such, research in this area is warranted. The present study was one of the first to explore factors influencing release decision making using a sample of parole board members – in this case, drawn from the National Parole Board (Canada) and the New Zealand Parole Board. The specific purpose of this investigation was to examine how the demographic characteristics and cognitive styles of individual decision makers, as well as the types of offender cases being considered, impact the release decisions made. In order to provide context for this

issue, a brief review of factors relating to decision making (both in general and within parole boards specifically) and of cognitive styles will be presented.

Decision Making

As previously mentioned, little is currently known about the factors – relating to both the decision maker and to the case – influencing parole release decisions. Not only has there been little academic research in the domain, but parole board documents themselves do little to clarify the situation. Specifically, the Policy Manual of the National Parole Board (NPB), though it provides an extensive list of case aspects to be considered in approaching a release decision, offers no guidelines on how to assimilate the various factors (National Parole Board, 2005a). Moreover, in a recent review of 244 offenders' NPB release decisions, Hannah-Moffat (2005) concluded that NPB members' decisional summaries offer little information on the factors considered and the decisional processes followed. The decisional guidelines of the New Zealand Parole Board (NZPB) are similarly broad. Though this board has adopted a three-step approach called Structured Decision Making, the process is quite general, and may result in considerably different processes based on personal interpretation (New Zealand Parole Board, 2002).

Due to the paucity of research in the area of parole decision making in the Canadian and New Zealand contexts, researchers are forced to review the literature on decision making in general, as well as to infer from the related fields of correctional staff release recommendations and parole and probation decision making in the United States and the United Kingdom. This body of literature shows that release decision making is a complex domain and that the factors influencing such decisions are considerably more intricate than would perhaps be imagined.

Research on decision making in general reveals that decision making processes vary both across individuals and across situations. Variations include the relative weight assigned to specific information, as well as the types of information considered (Conley & Zimmerman, 1982; Giles & Mullineux, 2000). Moreover, whereas decision makers in a variety of contexts sometimes engage in very thorough reviews of all available information, they more commonly engage in decisional ‘shortcuts’ – that is, they may unconsciously engage in a cost-benefit analysis resulting in the choice of a less systematic decision making strategy, depending on the characteristics of the particular situation (Payne, Bettman & Johnson, 1993). Though these researchers have found that a decision maker’s perception of the decisional situation’s importance influences the effort and time spent in coming to a decision, it does not impact the choice of decision making strategy. In other words, in an important situation (presumably, parole release decisions would qualify), decision makers will work hard at and spend more time in reaching decisions, but will not be more likely to choose a better strategy to do so. In contrast, Sieber (1974) found that in situations where a decision was perceived as important, decision makers engaged in less comprehensive reviews of available information before coming to a decision than they did in situations where the decision was thought to be less important. The above suggests that not only does the importance of a situation not in and of itself inform better decision making strategies, but also that individuals adapt their decision making strategies in different ways when making important decisions.

‘Shortcuts’ such as those mentioned above are types of decisional heuristics. Heuristics are alternate ways of processing or evaluating information, usually more rapid than thorough reviews, that are learned through previous decision making experience.

Though the use of heuristics can be both adaptive (e.g., Dhimi, 2003) and maladaptive (e.g., Grove, Zald, Lebow, Snitz & Nelson, 2000), there are indications that the use of heuristics in parole decision making may be more problematic than useful (Fong, Lurigio & Stalans, 1990; Grove et al., 2000).¹

This is a difficult reality given an additional challenge facing parole board decision makers: the sheer volume of release decisions required. For example, within the 2004-2005 fiscal year, the NPB made release decisions for nearly 22,000 cases (National Parole Board, 2005b), while the NZPB did so for about 9000 cases (New Zealand Parole Board, 2005). Given this volume, decision makers are forced to work under considerable time pressure. Research on parole decision making in the United Kingdom shows that lack of available time is related to a tendency to both simplify information searches and to review relatively fewer facets of any given case (Hawkins, 1983).

Several other studies suggest that this tendency to focus on limited information applies to parole decision making in several ways. Specifically, one study on parole release decisions in the United Kingdom found that in 80% of the cases where parole was denied, the sole characteristic considered by the decision makers was whether the offender's attitude was perceived to have improved during the period of incarceration (Bottomley, 1973). Similarly, in an investigation of American parole decisions, researchers found that offenders beyond the age of 50 were significantly more likely to be released on parole than their younger counterparts, despite there being no differences in terms of either their index offences or their eventual parole outcomes (McCarthy & Langworthy, 1987). Another American study found that parole decision makers'

¹ Interested readers are referred to Serin's (2004) review for a discussion of specific types of heuristics which may impact release decision making.

recommendations were predominantly based on reports of the institutional conduct of the offenders being considered for release (Carroll, Wiener, Coates, Galegher & Alibrio, 1982). Finally, studies conducted both with American parole decision makers (Turpin-Petrosino, 1999) and Canadian students (Lloyd, 2005) indicated that the type of offense committed was the only influential factor in predicting release decision, despite offenders being assessed as being at similar levels of risk to re-offend.

This research reveals that considerable numbers of parole decision makers rely on small subcomponents of the information available to them in making release decisions. This may seem acceptable, given that the information focused on is that which has previously been found to be linked to recidivism (Gendreau, Goggin, & Law, 1997; Gendreau, Little, & Goggin, 1996; Verbrugge, Nunes, Johnson, & Taylor, 2002). It should be remembered, however, that these are not the only factors found to be related to parole outcome and should therefore not be the only ones considered in reaching release decisions.

Similarly, release decision makers have often been found to base their release decisions on others' documented release suggestions. Dhimi (2003), who found a strong tendency to base decisions on file information such as police and prosecution recommendations among judges assessing bail requests in the United Kingdom, termed this 'passing the buck' (p. 175). With regards to parole, researchers have found that even after statistically controlling for information to which both case analysts and parole board members have access, such as offender files (which would presumably lead to strong decisional concordance rates between the two groups), the case analysts' recommendations had a unique and significant ability to predict the parole board

members' decisions (Carroll et al, 1982). A Canadian study investigating concordance rates between case management officers' recommendations and NPB release decisions came to a similar conclusion (Samra-Grewal, Pfeifer & Ogloff, 2000). This tendency to rely on others' suggestions is so strong, in fact, that researchers have found that documented parole decision recommendations are more closely linked to final parole decisions than are stated information weighting guidelines (Carroll & Burke, 1990). Together, these findings suggest that, in the absence of a clear strategy, parole decision makers may be ascribing inappropriate weight to some file items, including previous recommendations, and disregarding others.

Research also indicates that after release decision makers have made preliminary decisions, exposing them to additional, discrepant, information does not cause respondents to alter their decisions (Wilkins, Gottfredson, Robison & Sadowsky, 1973, in Metchik, 1988). Moreover, the researchers found that the participants were not aware of the limited scope of their decision making processes; instead, they believed they were utilizing decision making strategies considerably more complex than those actually used.

Decision makers across a variety of fields seem to engage in similar self-deception when it comes to their confidence regarding their decisions. It is well accepted that individuals are often overconfident about their decisional accuracy (e.g., Kleitman & Stankov, 2001; Thompson & Mason, 1996). In fact, in a meta-analytic review of a variety of two-choice decisional studies unrelated to parole, Lichtenstein and colleagues (1982) reported that participants' ratings of decisional confidence are almost 20% higher than their rates of accuracy, indicating a high degree of overconfidence. This trend towards overconfidence could also play a role in parole decision making. This tendency

is thought to vary by individual, but to be stable intra-individually across situations (West & Stanovich, 1997).

Another inter-individual variable thought to be associated with release decision making accuracy is length of relevant experience. Unfortunately, this relationship is unclear. On the one hand, Grove and colleagues (2000) found, in a broad meta-analysis contrasting judgment making strategies in many research areas (including, but not limited to, parole outcome and recidivism), that there was no difference between novice and experienced professionals' judgments. Conversely, in a narrower study focused on probation officers' decisions, Fong, Lurigio, and Stalans (1990) found that more experienced probation officers were less susceptible to certain maladaptive decisional heuristics than were novices, and therefore predicted recidivism more accurately. The true relationship between length of relevant experience and accuracy in release decisions remains to be determined.

The above review could be interpreted to suggest that current decision making processes are inadequate. In fact, in some fields, findings such as these have led to the development of mechanical or actuarial decision making processes which eliminate or minimize the influence of many individual variables, including personal biases (Grove & Meehl, 1996). For example, in the field of risk assessment, such findings have led to the implementation of very successful actuarial prediction methods (e.g., Hanson, 2005; Monahan et al., 2000). Preliminary research of a model for structured NPB release decision making, modified to be actuarial in nature for study purposes, suggests that such a method may also be promising in this area as well (Gobeil, 2005). Generally, actuarial methods are more accurate, liberal, reliable, and consistent than clinical methods (e.g.,

Grove et al., 2000). In fact, meta-analytic comparisons of the accuracies of actuarial and clinical decision making schemes have led one researcher to make the claim that basing decisions solely on clinical impressions is both professionally irresponsible and unethical (Meehl, 1997).

Nonetheless, actuarial instruments are not universally embraced. One reason for this is the legal requirement that each case be decided solely on its own merit (*CCRA*, 1992; *Parole Act 2002*, 2002). This may also be due to the difference between the perceived seriousness of certain acts and the statistical likelihood of their reoccurrence. Consider, for example, the cases of a violent offender and of a property offender. Though the violent offender is less likely to reoffend than is the property offender, and is therefore a better release risk, the relative seriousness of the violent offender's act makes most decision makers more reluctant to grant release, relative to the property offender.

Moreover, research indicates that when analyses are conducted to statistically control for the contribution of an actuarial tool in parole decision making, NPB members' decisions continued to make a significant contribution to the prediction of offenders' parole outcome (Wormith & Goldstone, 1984). This suggests that NPB members are able to intuitively access some component of the decision making equation that is beyond the grasp of actuarial instruments. Collectively, these findings indicate that there is no consensus regarding the preferred method of parole decision making.

The above review indicates that the realm of decision making is quite complex. Both in general, and in the field of parole release decision making specifically, decisions are related to a number of factors; these include the decision making strategy used, the information considered, reliance on heuristics, and time constraints. Little is known

about what role these factors (and others) play in parole decision making. Clearly, it is necessary to increase researchers' understanding of this interplay. As such, one of this study's goals was to explore parole decision making in order to illuminate the factors influencing board members' decisions and to add to the scarce academic literature on current decisional practices.

Cognitive Styles

Research indicates that there is considerable personal variability in terms of the factors that are considered in making a release decision. In one study, the investigators found that even when parole board members arrived at the same decisions, they differed in terms of the relative weight they attributed to various file components, in terms of the way they accessed and organized file information, and in terms of the information they used to explain their decisions (Conley & Zimmerman, 1982). Similarly, Samra-Grewal and colleagues (2000) found that Canadian case management officers utilized different file information in reaching the same release recommendations, and Giles and Mullineux (2000) found that probation officers in the United Kingdom differed in terms of the file components they examined in reaching equivalent treatment recommendations. Collectively, these studies indicate that individual differences play an important role in decision making.

One source of individual difference in decision making, and in thinking processes generally, is cognitive style, or way of mentally organizing, interpreting, and evaluating stimuli. Research on cognitive style has been extensive. One of the better known historical examples of this is the post World War II research into the so-called Authoritarian Personality, which examined those cognitive characteristics associated with

a tendency to utilize stereotypes and an openness to fascist and anti-democratic propaganda (Adorno, Frenkel-Brunswick, Levinson & Sanford, 1950). Since then, considerable attention has been paid to a variety of cognitive styles, including intolerance of ambiguity (Martin & Westie, 1959), cognitive rigidity (Rehfishch, 1958), and dogmatism (Rokeach, 1960). Problematically, however, the majority of these measures of cognitive style are complex and multidimensional. Many have political or other judgmental overtones, and most are content-specific. Collectively, these characteristics make it difficult to interpret results of studies using these measures.

Nonetheless, the idea underlying these scales – that is, that individuals differ in terms of how they think, how much they think, and how they organize and evaluate cognitive stimuli – has continued to be researched. More unidimensional and content-generic scales have been developed, and recently, two independent researchers have integrated three of these measures into a tripartite conceptualization of information processing style (Blais, Thompsom & Baranski, 2005; Judice, 1997). The three cognitive styles considered in this conceptualization are need for cognition, personal need for structure, and personal fear of invalidity.

Need for cognition (NFC). The Need for Cognition Scale (Cacioppo & Petty, 1982; Cacioppo, Petty & Kao, 1984) measures the tendency to engage in, and to enjoy, cognitively challenging tasks. An important finding regarding this cognitive style is that those persons high in NFC execute basic cognitive tasks such as arithmetic and anagrams more ably than do those lower in NFC (Cacioppo, Petty, Feinstein & Jarvis, 1996). In comparison to those low in NFC, high NFC participants also engage in more explanatory thinking and consequently have better recall of the information they process (Lassiter,

Briggs & Bowman, 1991; Lassiter, Briggs & Slaw, 1991). Additionally, individuals high in NFC are less likely to rely on secondary cues associated with the information they process (e.g., the attractiveness or nominal 'expert' status of the presenter of the information) and more likely to attend to the substance of issues (e.g., the strength and relevance of arguments) than are their low NFC counterparts (Cacioppo et al., 1996; Petty & Jarvis, 1996). Moreover, a strong positive correlation ($r = .47$) exists between NFC and objectivism – that is, a tendency to root one's judgments in empirical findings and rational thought (Leary, Shepperd, McNeil, Jenkins & Barnes, 1986). Similarly, a strong negative correlation exists between NFC and a measure of impulsive problem solving style (Kelly, 2005), indicating that those high in NFC are more likely than their lower NFC counterparts to plan their problem solving approach.

Research also shows that individuals high in NFC are generally less likely than their lower NFC counterparts to utilize certain heuristics – that is, thinking 'shortcuts'. Kassin and colleagues (1990) found that high-NFC individuals are less susceptible to the recency bias than are low-NFC individuals. In other words, whereas low-NFC persons are likely to make decisions or judgments in accordance with the most recently presented information, those high in NFC are less likely to do so. Additionally, persons high in NFC are also less prone to using the correspondence bias than are their low-NFC counterparts; whereas those individuals low in NFC often explain others' behaviour in terms of stable dispositions rather than situational constraints, high-NFC individuals expend more cognitive energy correcting for situational constraints, and are thus less vulnerable to this bias (D'Agostino & Fincher-Kiefer, 1992).

One exception to these findings indicating that those high in NFC use heuristics less than their lower-NFC counterparts, however, is the primacy bias; in contrast to the findings regarding the recency bias reviewed above, some research indicates that individuals high in NFC are likely to make judgments in accordance with the earliest information presented (Kassin et al., 1990; Petty & Jarvis, 1996). Nonetheless, the above illustrates that high NFC is generally associated with the use of fewer heuristics. While some heuristics are useful and have been linked to increased efficiency in decision making (e.g., the matching heuristic; Dhimi, 2003), it is plain that those described above are less adaptive.

In the context of decision making specifically, high-NFC individuals, as compared to low-NFC individuals, are less likely to use heuristics when called upon to process information under time pressure (Verplanken, 1993), are more likely to vary their information processing strategies depending on the situational requirements (Levin, Huneke & Jasper, 2000), and are more thorough in reviewing information prior to making a decision (Bailey, 1997). Collectively, these results indicate that individuals high in NFC may be more adaptive decision makers than their lower NFC counterparts. This is consistent with individuals' self-perceptions. Heppner and colleagues (1983) found that high NFC persons perceive themselves to be more effective problem solvers than do low NFC persons. Consequently, they are thought to be more confident in their decisions (Blais et al., 2005).

In sum, then, high NFC is associated with accuracy in cognitive tasks², more efficient processing of information, and reduced reliance on heuristics and cognitive shortcuts. Moreover, as compared to their lower-NFC counterparts, individuals high in NFC are more objective and are more adaptive decision makers.

Personal need for structure (PNS). The second cognitive style is measured by the Personal Need for Structure Scale (Thompson, Naccarato, Parker & Moskowitz, 2001). PNS is defined by Thompson and her colleagues as a need for clarity and certainty; those high in this style are characterized by discomfort with ambiguity, generation of few hypotheses when processing information, and high judgmental confidence. This style is also associated with the habitual use of relatively simplistic cognitive structures, or ways of organizing and categorizing information (Neuberg & Newsom, 1993).

Individuals high in PNS are more likely than their low-PNS counterparts to utilize stereotypes and to base judgments on previous knowledge, as well as to fail to integrate new information into existing structures (Judice, 1997; Thompson et al., 2001), especially when under time pressure (Kaplan, Wanshula & Zanna, 1993). This tendency was also evident in a study wherein participants were told that they would be required to justify their judgments to others (Schaller, Boyd, Yohannes & O'Brien, 1995); surprising, as this 'accountability' manipulation usually leads to more thorough and comprehensive evaluations of information (Tetlock, 1983, 1985; Tetlock & Boettger, 1989). Collectively, the above led Thompson and her colleagues (2001) to conclude that PNS may not be the ideal style in situations where it is necessary to rapidly assimilate new information and reconsider opinions in light of divergent evidence.

² It should be noted that this refers to cognitive tasks with an objectively definable correct response, such as an arithmetic problem; though it seems plausible that high NFC will also be associated with greater accuracy regarding more subjective cognitive tasks (specifically, release decisions), this remains to be seen.

High-PNS individuals have also been found to be more susceptible than their lower-PNS counterparts to the confirmation bias (Neuberg & Newsom, 1993). That is, those individuals high in PNS are likely to interpret ambiguous information in such a way that it be made to conform to their cognitive structures. Moreover, the authors suggest that such individuals would expend considerable cognitive energy in attempting to refute any structure-inconsistent information.

Other features associated with a high PNS are the development of 'set' on a cognitive task and more frequent spontaneous trait inferences. Specifically, when encountering a series of tasks which can all be solved in the same way, high-PNS individuals are more likely than their lower-PNS counterparts to both learn the solving method rapidly and to persist in attempting to use this method even when new tasks are presented for which it is no longer effective (Schultz & Searleman, 1998). Moskowitz (1993) has also found that when persons high in PNS process vignettes describing others, they are more likely than those lower in PNS to spontaneously ascribe traits to the characters of the vignettes. Both of these tendencies might be due to a desire to integrate new information into existing cognitive structures.

The above review indicates that high PNS is linked to the use of simple cognitive structures, a reliance on stereotypes, and difficulty in rapidly assimilating new information. Additionally, research suggests that as compared to individuals low in PNS, those high in PNS will expend considerable effort in finding interpretations for new information that ensure that this information is in line with existing structures.

Personal fear of invalidity (PFI). The final cognitive style is measured by the Personal Fear of Invalidity Scale (Thompson et al., 2001). PFI, which has been studied

much less than NFC and PNS, is characterized by concern with the cost of decisional errors. As such, those high in PFI are more likely than their lower-PFI counterparts to delay when making decisions, to see numerous alternative solutions, and to vacillate between various decisional options (Blais et al., 2005; Thompson et al., 2001).

PFI has been linked to the decisional 'termination' threshold – that is, the subjective point at which an individual perceives that sufficient information has been processed to allow decisions to be made with confidence – with those high in PFI having a higher threshold than their lower PFI counterparts (Judice, 1997). Consequently, as compared to those low in PFI, those high in PFI attempt to gather more information prior to making a decision, and are less confident in their decisions once they are reached (Thompson & Zanna, 1995).

An overview of each cognitive style is presented in Table 1. Although the three cognitive styles could be conceptualized as being related (e.g., NFC and PNS being opposite ends of a continuum), studies indicate limited overlap between the constructs. Correlations between NFC and PNS have ranged from $r = -.30$ to $r = .01$, with a median of $r = -.22$ (Neuberg & Newsom, 1993; Petty & Jarvis, 1996; Schaller et al., 1995). The magnitude of the relationship between PNS and PFI has been similar, with correlations ranging from $r = .14$ to $r = .26$, median $r = .21$ (Neuberg, Judice & West, 1997; Thompson et al., 2001). Finally, correlations between NFC and PFI have been small, and consistently non-significant, with a range of $r = -.08$ to $r = -.02$, median $r = -.05$ (Thompson & Zanna, 1995). These relationships indicate that NFC, PNS, and PFI are distinct constructs that explain unique components of cognitive style. For example, an individual could be simultaneously high in NFC and in PNS. Such an individual would

be marked by an enjoyment of thinking, but likely only thinking which is consistent with pre-existing cognitive structures. Such an individual might display a moderate, context-dependent use of heuristics and high decisional confidence.

Table 1. *Overview of Cognitive Styles*

Feature	Cognitive Style		
	Need for Cognition	Personal Need for Structure	Personal Fear of Invalidity
Brief Definition	Tendency to engage in and enjoy thinking	Need for clarity and certainty	Concern with cost of decisional errors
Marked by	Efficient information processing, less reliance on heuristics	Reliance on simple structures and heuristics	Higher 'decisional threshold', less decisional confidence
Measure	Need for Cognition Scale (Cacioppo et al., 1984)	Personal Need for Structure Scale (Thompson et al., 2001)	Personal Fear of Invalidity Scale (Thompson et al., 2001)

The Present Study

The objective of this study was to examine how decision makers' demographic and cognitive style characteristics, as well as type of offender case being considered, were related to aspects of release decision making for parole board members employed by the National Parole Board or New Zealand Parole Board. The specific aspects of parole decision making examined were release decision, breadth of information being considered, and decisional confidence. The study was divided into four main sections; specific research questions for each section are presented below.

Research Questions

Parole decision making. Given that so little is known about the factors influencing parole board members' decision making, the first component of this study consisted of an exploration of three decision making variables: release rate, breadth of information accessed, and decisional confidence rating. Specifically, these variables were explored for differences by a number of demographic variables (parole board membership, gender, length of parole experience, and professional background). As so little is presently known regarding release decision making, no specific hypotheses concerning differences in these domains were formulated.

Impact of offender type on parole decision making. Previous researchers have found that type of crime committed influences release decisions; it was therefore expected that the type of offender case being considered would play a role in parole decision making in this study. As such, exploratory analyses were conducted on the relationship between the six offender types reflected in the vignettes (female offender, male Aboriginal offender, male sex offender, male violent offender, male domestic violence offender, and non-violent male offender) and the decision making variables of release rate, breadth of information accessed, and decisional confidence rating. Though this component of the study was largely exploratory, two specific comparisons were included: the parole decision making variables were compared for male and female offenders and for violent and non-violent offenders. Once again, no specific hypotheses were formulated.

Impact of cognitive style on parole decision making. The literature reviewed above shows that cognitive style plays a role in decision making. As such, it was

expected that differences in board members' release decisions would be associated with their scores on the cognitive style measures. Three hypotheses were proposed:

H. 1: It was expected that cognitive style would be related to release decisions.

Specifically, the magnitude of the relationship between cognitive style and release decision was expected to be greatest for need for cognition, followed by personal need for structure and personal fear of invalidity.

H. 2: Mean breadth of information accessed and cognitive style were expected to be related. Decision makers who are high in personal fear of invalidity and in need for cognition were expected to access more information than those high in personal need for structure, who were expected to rely more on past knowledge and heuristics.

H. 3: Decisional confidence and cognitive style were expected to be related.

Individuals high in need for cognition and high in personal need for structure were expected to have considerable confidence in their judgments, whereas those scoring high in personal fear of invalidity were expected to be less confident. Of the three styles, personal fear of invalidity was expected to have the strongest relationship with decisional confidence.

Moderating role of likelihood of success. It was expected that the likelihood with which participants assessed offenders would remain crime-free until warrant expiry would moderate the relationships of offender type and cognitive style with the parole decision making variables (i.e., impact the magnitude and / or direction of the relationships). For offender type, no specific hypotheses regarding this moderating effect were formulated. For cognitive style, however, the following hypothesis was generated:

H. 4: It was expected that the magnitude of the impact of likelihood of success on the relationships between the cognitive styles and the parole decision making variables would be larger for personal fear of invalidity and need for cognition than for personal need for structure.

Parole Boards

As parole boards typically employ relatively few individuals, it was necessary to recruit members from two parole boards in order to ensure appropriate numbers of participants. The NPB and NZPB were chosen as samples of convenience, but as can be seen in Table 2, are sufficiently similar in terms of guiding principles, risk assessment, and decisional strategies to be appropriately combined.

Table 2. *Overview of National and New Zealand Parole Boards*

Feature	National Parole Board	New Zealand Parole Board
Guiding Principles	<ul style="list-style-type: none"> • Least possible restrictions / detention • Protection of society • Facilitation of offender's return to society as a law-abiding citizen 	<ul style="list-style-type: none"> • Least possible restrictions / detention • Community safety (likelihood of further offending; nature and seriousness of any likely further offending)
Population	Offenders serving 2+ years	Offenders serving 2+ years ^a
Parole Eligibility	<ul style="list-style-type: none"> • Determinate sentence: lesser of 1/3 of sentence or 7 years • Life sentence: after 10 to 25 years, set at sentencing 	<ul style="list-style-type: none"> • Determinate sentence: after serving 1/3 of sentence • Life sentence: after 10 years, unless otherwise indicated at sentencing
Information Considered by Board	<ul style="list-style-type: none"> • Initial risk assessment (e.g., offence history, statistical risk assessment, victim information) • Institutional behaviour • Evidence of change / insight • Program performance • Release plan • Oral hearing, usually 	<ul style="list-style-type: none"> • Offender's offence(s), sentence, previous offending • Victims' submissions • Special reports such as psychological assessments • Progress on sentence plan • Release plan and special conditions recommended • Oral hearing
Risk Assessment	Statistical assessment of risk of recidivism is calculated at intake	Statistical assessment of risk of recidivism is calculated at conviction
Decision Making	Substantially subjective (broadly guided clinical judgment)	Substantially subjective (broadly guided clinical judgment)

Note. Sources for the above information were: CCRA, 1992; Coebergh, Bakker, Anstiss, Maynard & Percy, 2001; National Parole Board, 2006; New Zealand Parole Board, 2002; *Parole Act 2002*, 2002.

^aThough the NPB also considers the cases of offenders sentenced to less than two years in those provinces without independent parole boards, such cases were not included in this study.

Method

Participants

A total of 31 participants completed this study. Of these, 22 were NPB members and 9 were NZPB members. The recruitment process differed slightly by parole board. For both, initial contact was made at the executive level in order to ensure organizational interest. Within the NPB, regional chairs were then given the opportunity to view the study materials and provide feedback and suggestions on the study; they were subsequently sent a memorandum asking for their support regarding the study. Board members were then solicited directly using a second memorandum. Within the NZPB, on the other hand, there were no regional chairs, and members were therefore solicited directly via memorandum after informal discussions with a contact person nominated by the board's chairperson.

Materials

All materials were available in both English and French, and participants chose their preferred language. As none of the measures were originally available in French, they were professionally translated. The English versions of all measures are presented in Appendix A; copies of the French versions are available from the author. All materials were presented electronically in order to facilitate participant responding and minimize or eliminate data recording errors.

Background Questionnaire. Each participant was asked to provide information on a number of demographic variables. Specifically, participants were asked to indicate their gender, their age (by choosing among four categories³), their professional background (by choosing among three categories: law, criminal justice, correctional

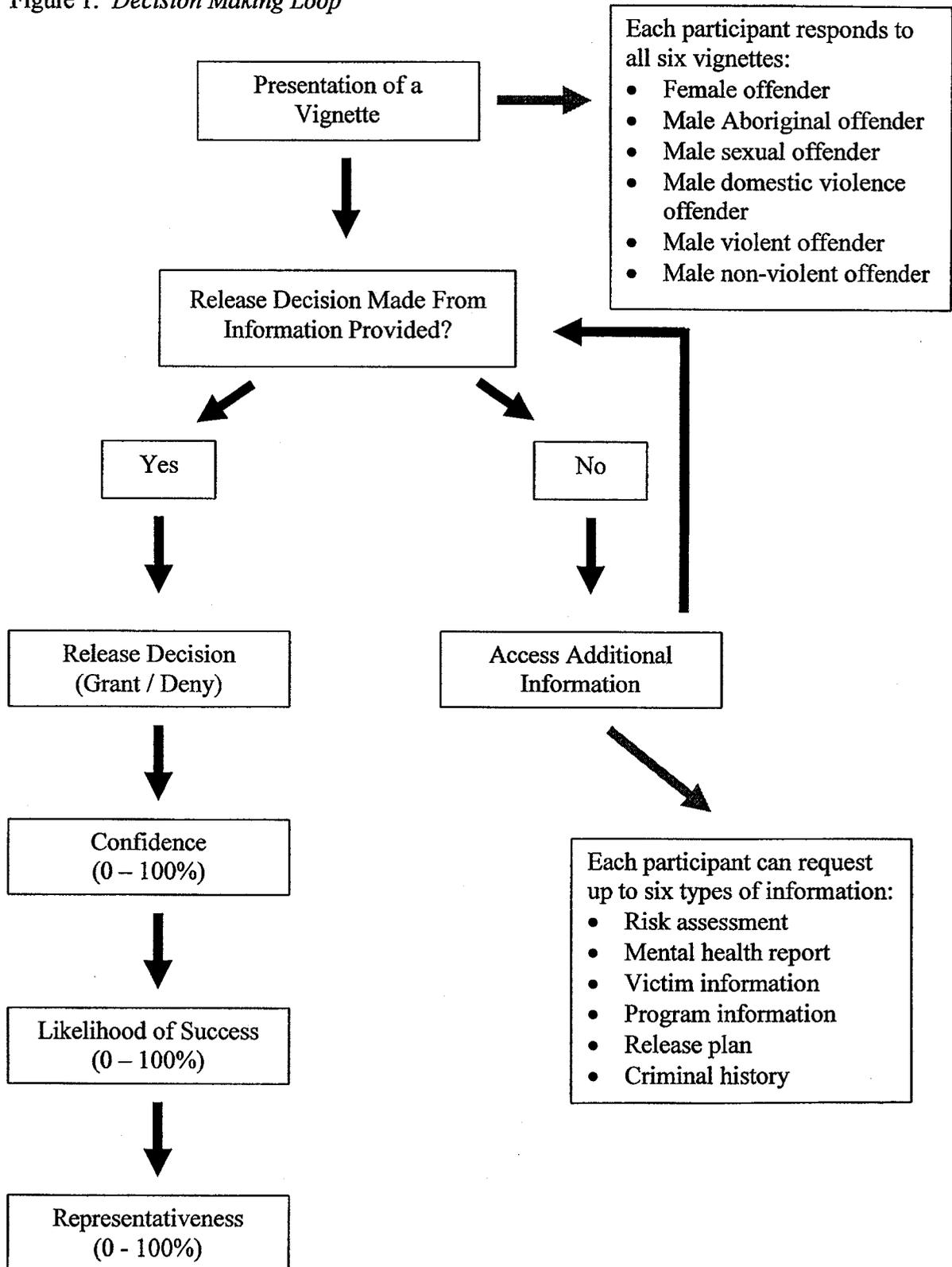
³ Six categories were provided, but only the four which were selected by participants were retained.

service; human service delivery [teacher, social worker, non-governmental organization]; and other), and their length of experience with the parole board. The latter was input by respondents, but was then categorically coded as *limited* (less than 2 years), *moderate* experience (greater than 2 but less than 5 years), or *extensive* (5 years or more).

Case-Based Vignettes. This measure, developed by Serin (2005), involves the randomized presentation of six release decision vignettes. Vignettes differ in terms of the offender type; each participant responded to vignettes involving a female offender, a male Aboriginal offender, a male sexual offender, a male violent offender, a male domestic violence offender, and a male non-violent offender. Besides varying in terms of actor, the vignettes were made to be very similar; all vignettes include comparable content areas (e.g., indication of risk level, correctional service staff recommendation) and were approximately equal in word count. As some terms in the vignettes would not be familiar to the members of the NZPB, they were changed for this sample (e.g., ‘impaired driving’ was changed to ‘excessive breath alcohol’); reference to specific statistical risk assessment instruments were also altered for the New Zealand context (e.g., ‘SIR-R1’ to ‘Risk of Reconviction Scale’).

A decision loop was utilized for each vignette, and is presented in Figure 1. After being presented with the vignette, participants either made a release decision directly, or requested more information pertaining to one or more of six domains (risk assessment, mental health report, victim information, program information, release plan, and criminal history). The additional information available in each of the six domains was not substantively useful, nor did it differ from what was presented in the vignette itself.

Figure 1. *Decision Making Loop*



Note. Adapted with permission from Serin, 2005.

Once the participants had accessed all the information they desired and made a release decision, three follow-up questions were presented. Specifically, for each vignette, respondents were asked to provide a decisional confidence rating, a rating of the likelihood of the offender's successful warrant completion, and a rating of the degree to which this case was representative of those typically encountered in parole board decision making.

Responses were scored both across all six vignettes and individually for each. First, five variables were calculated across all vignettes for each participant: percentage of releases granted (ranging from 0 to 100%), participant mean breadth of information accessed (ranging from 0 to 6), participant mean confidence (ranging from 0 to 100%), participant mean likelihood of success (ranging from 0 to 100%), and vignette mean representativeness (ranging from 0 to 100%).

The data were then reorganized to allow analyses by vignette type, providing a dichotomous *grant / deny release* variable in addition to the vignette equivalent of each of the above: percentage of participants granting release (ranging from 0 to 100%), vignette mean breadth of information accessed (ranging from 0 to 6), vignette mean confidence (ranging from 0 to 100%), vignette mean likelihood of success (ranging from 0 to 100%), and vignette mean representativeness (ranging from 0 to 100%).

Need for Cognition Scale. Cacioppo and Petty (1982) originally developed a 34-item scale to measure need for cognition, but later created an 18-item version (Cacioppo, Petty & Kao, 1984). Some research suggests that longer measures can include redundant items which do not substantively contribute to score reliability (e.g., Clark & Watson, 1995), and indeed, the 18-item version was found to be more efficient than was the 34-

item version (Cacioppo et al., 1984). Consequently, this study utilized the 18-item version. Examples of items included in the scale are ‘Thinking is not my idea of fun’ (reverse-scored) and ‘The notion of thinking abstractly is appealing to me’. Though the scale was originally rated on a nine-point Likert-type scale ranging from *strongly disagree* to *strongly agree*, a variety of scoring methods have been used, ranging from the nine-point scale to dichotomous *yes* or *no* scoring; no significant differences arise depending on scoring scheme (Cacioppo et al., 1996). Given this finding, this study utilized a six-point Likert-type scale, both in order to be consistent with the PNS and PFI scales and in line with Guy and Norvell’s (1977) suggestion of omitting neutral midpoints on Likert-type scales. Total scores range from 18 to 108, with higher scores representing higher need for cognition.⁴

The 18-item NFC measure has demonstrated excellent internal consistency, ranging from $\alpha = .81$ to $\alpha = .97$, median $\alpha = .89$ (see Cacioppo et al., 1996), a seven-week test-retest reliability of $r = .88$ (Sadowski & Gulgoz, 1992), and excellent convergent and divergent validity (see Cacioppo et al., 1996). Though some researchers have found the NFC to be multidimensional (Lord & Putrevu, 2006; Tanaka, Panter & Winborne, 1988), these results have been inconsistent. Moreover, most researchers have found that the scale is unidimensional (Bors, Vigneau & Lalande, 2006; see also Cacioppo et al., 1996). No gender differences have been found on scores on the NFC (Cacioppo & Petty, 1982; Lassiter, Briggs & Bowman, 1991; Tanaka et al., 1988), although both education and age have been found to have small but significant relationships with NFC (Spotts, 1994). The

⁴ Though some of the research on cognitive styles dichotomizes respondents as high and low on the cognitive style (e.g., Cacioppo et al., 1996), this approach was not used here, as it results in much of the variance in scores being ignored.

relationship between NFC and social desirability has been found to be weak and non-significant (Cacioppo & Petty, 1982).

Personal Need for Structure Scale. This scale includes twelve items such as 'I find that consistent routine enables me to enjoy life more' and 'I don't like situations that are uncertain' (Thompson et al., 2001). Most researchers have eliminated one of the questions ('I enjoy being spontaneous') due to concerns about social desirability (e.g., Neuberg & Newsom, 1993); this study followed suit. Items are rated on a six-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. Total scores on this measure range from 11 to 66, with higher scores indicating a higher need for structure.

Internal consistency reliabilities for the PNS Scale are quite good, ranging from $\alpha = .77$ to $\alpha = .91$, median $\alpha = .86$ (Neuberg & Newsom, 1993; Thompson et al., 2001). Additionally, the scale has demonstrated a twelve-week test-retest of $r = .76$ and strong convergent and divergent validity (Neuberg & Newsom, 1993). Though a two-factor interpretation of the scale (including Desire for Structure and Response to Lack of Structure subscales) has been reliably found (Neuberg & Newsom, 1993), most researchers have used the measure's total score (e.g., Kaplan et al., 1993, Moskowitz, 1993), and this study did likewise. No studies assessing the relationship of PNS to gender, education, or age were found. The relationship between PNS and social desirability is weak and non-significant (Neuberg & Newsom, 1993).

Personal Fear of Invalidity Scale. This 18-item scale includes such items as 'Sometimes I see so many options to a situation that it is really confusing' and 'I wish I did not worry so much about making errors' (Thompson et al., 2001). Again, items are rated on a six-point Likert-type scale ranging from *strongly disagree* to *strongly agree*.

Total scores range from 14 to 84, with higher scores representing higher personal fear of invalidity.

The scale's internal consistency coefficients are satisfactory, ranging from $\alpha = .79$ to $\alpha = .88$, median $\alpha = .83$ (Neuberg et al., 1997; Thompson et al.). No test-retest reliabilities have been reported. There is less support in the form of convergent and divergent validity for the PFI Scale than for the NFC and PNS scales, but preliminary findings are encouraging (see Thompson et al., 2001). No studies were found assessing the relationship of this unidimensional measure to gender, education, age, or social desirability.

Procedure

As previously mentioned, participants were recruited via memoranda requesting their participation and explaining the purpose of the study. All participants were provided with individual (randomly assigned) usernames and passwords to access the secure websites where the study was conducted. Because of the utilization of secure, password-protected websites, participants were able to participate in the study at their convenience. Furthermore, the use of individual usernames and passwords prevented duplicate responding. Separate websites were used for the NPB and NZPB participants in order to accommodate the changes in terminology to the Case-Based Vignettes required for the NZPB members.

Once participants had accessed the site, they were presented with an informed consent form explaining their rights and anonymity, as well as providing contact information for the primary researcher, should they have any questions. Respondents were asked to indicate their consent by clicking on the appropriate button on-screen.

Afterwards, participants were presented first with the background questionnaire and the six vignettes (in randomized order), then the measures of cognitive style. The latter measures were completed after the decision making tasks in order to reduce potential demand characteristics. The three cognitive style scales were randomly combined into one measure (using a random number table) in order to reduce transparency. Upon completion, participants were presented with a debriefing providing further information on the study, as well as contact information for the researchers.

Respondents required approximately thirty to sixty minutes to complete the vignettes and the combined cognitive style measure, but there were no time constraints. A 'quit' option was provided throughout data collection, and respondents were able to discontinue their participation at any time by clicking on the appropriate button. If they wished to do so, they were able to return at a later time to complete any unanswered questions. Participants were also able to skip any individual items or cases within the study, but were made aware of any non-response in case the failure to answer a given question was unintentional.

Analyses

All analyses were conducted using SPSS version 11.0. Prior to any analyses, data were examined and cleaned. Specifically, variables were examined for data entry errors and missing data, for the presence of univariate and multivariate outliers, and for normality, linearity, homoscedasticity, homogeneity of variance, multicollinearity, and singularity.

A series of descriptive statistics were calculated in order to examine the sample composition. Univariate t-tests and chi-square tests of independence were used to

explore differences between the members of the two parole board on demographic characteristics. Additional descriptive statistics were then calculated to examine scores on the decision making and cognitive style measures. Correlational analyses were used to assess the relationships amongst these measures, while a series of univariate t-tests and one-way analyses of variance were used to explore differences in these variables associated with participant demographic characteristics.

In order to assess the impact of offender type on the parole decision making variables, a direct binary logistic regression and one-way analyses of variance were used. Chi-square tests of independence and one-way analyses of variance with contrast weights were then calculated to compare more specific offender groups. In order to assess the relationships between scores on the measures of cognitive style and the parole decision making variables, standard linear multiple regressions were calculated.

Finally, in order to assess the role of likelihood of success (i.e., likelihood of remaining crime-free) in the relationships of each of offender type and cognitive style with the parole decision making variables, a direct binary logistic regression and linear and quadratic multiple regressions including the interaction terms of the independent variables with likelihood of success were used (Cohen, Cohen, West & Aiken, 2003).

As with any study involving multiple analyses conducted using the same independent variables, it was necessary to correct for the possibility of making a Type I error (i.e., concluding that an effect is significant when, in actuality, it is not). As such, Bonferroni or Tukey corrections (as appropriate) were used to adjust significance levels for individual tests in order to ensure that the family-wise level of significance not exceed .05 (Neter, Kutner, Nachtstein, & Wasserman, 1996).

Results

Data Screening

Verification of out-of-range values and plausible means and standard deviations was used to assess the possibility of data entry errors; no errors were detected. Data were then assessed for missing values. While none were found for most variables, two cases had missing values for demographic information (one participant did not provide gender data while another did not provide age data). Additionally, seven cases skipped either the domestic violence offender ($n = 4$) or the non-violent offender vignette ($n = 3$); this was due to an error in the computerized presentation which resulted in a number of participants receiving the additional information corresponding to the non-violent offender vignette when completing the domestic violence offender vignette.⁵ As this error impacted only the additional information presented, which was not substantially informative, it was decided not to replace these values nor delete the corresponding responses of cases where both vignettes were completed.

Dichotomous and categorical variables were assessed for extremely uneven distributions (variable levels with memberships of 10% or less); no such distributions were identified. Continuous variables were assessed for normality (skewness and kurtosis) and for the presence of univariate outliers. Three outliers were detected, and were recoded to the next highest value (Tabachnik & Fidell, 2001); these transformations eliminated all non-normality. A summary of these transformations, as well as the frequency distributions of categorical variables and means, standard deviations, and ranges of continuous variables, are presented in Appendix B.

⁵ This problem was corrected as soon as it was detected and impacted only the first few participants to complete the study.

Calculation of Mahalanobis distance values resulted in the identification of one multivariate outlier. However, as Cook's distance, DFFIT and DFBETA values all indicated that this case was not inappropriately influential, it was retained for further analyses (Stevens, 2002). All variables were also assessed for linearity and homoscedasticity through the use of bivariate scatterplots, and for homogeneity of variance through Levene's test. No violations were detected. Finally, for those variables to be used in multiple regression analyses (NFC Scale scores, PNS Scale scores, and PFI Scale scores) an inter-correlation matrix was calculated to screen for multicollinearity and singularity. No problems with these assumptions were detected.

Sample Composition. A total of 31 participants completed this study. Of these, 22 were NPB members and 9 were NZPB members. As can be seen in Table 3, slightly over half the sample was male, and most participants were between the ages of 45 and 64 (74%). Similar proportions of participants had limited, moderate, and extensive experience working with the parole board, though the results of a chi-square analysis of independence reveal that the length of parole board experience was significantly different for members of the NPB and NZPB parole boards, with most NPB participants having either limited or extensive experience and a much larger proportion of NZPB participants having moderate experience. Finally, the proportions of participants with professional backgrounds in law / criminal justice / correctional service and human service delivery were equal overall. Though the former was more common among NZPB participants and the latter more common among NPB participants, this difference was not statistically significant.

Table 3. *Participants' Demographic Characteristics*

Demographic Variable	NPB Participants % (n / 22)	NZPB Participants % (n / 9)	All Participants % (n / 31)	<i>t</i> / χ^2
Gender				-0.74
Male	55% (12)	67% (6)	58% (18)	
Female	41% (9)	33% (3)	39% (12)	
Unspecified	5% (1)	0% (0)	3% (1)	
Age Group				5.20
35 – 44	9% (2)	11% (1)	10% (3)	
45 – 54	32% (7)	33% (3)	32% (10)	
55 – 64	50% (11)	22% (2)	42% (13)	
65 +	5% (1)	33% (3)	13% (4)	
Unspecified	5% (1)	0% (0)	3% (1)	
Experience				12.03**
Limited (< 2 yrs)	46% (10)	11% (1)	36% (11)	
Moderate (2 – 5 yrs)	14% (3)	78% (7)	32% (10)	
Extensive (\geq 5 yrs)	41% (9)	11% (1)	32% (10)	
Background				4.12
Law, criminal justice, correctional service	32% (7)	67% (6)	42% (13)	
Human service delivery	46% (10)	33% (3)	42% (13)	
Other	23% (5)	0% (0)	16% (5)	

Note. Percentages for each variable may not sum to 100 due to rounding.

** $p < .01$; analyses do not include 'unspecified' cases.

Descriptive Statistics

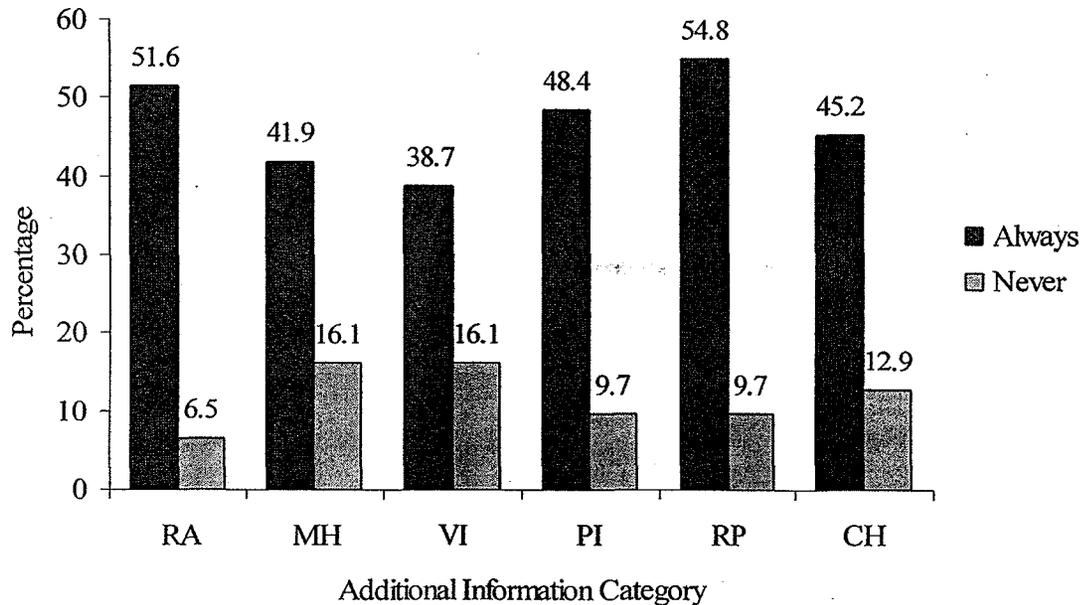
As previously mentioned, the mean, standard deviation, and range of continuous variables are presented in Appendix B. This section will provide a brief description of these data for the three parole decision making variables (release rate, breadth of

information accessed, and decisional confidence)⁶ as well as for the measures of cognitive style (Need for Cognition Scale, Personal Need for Structure Scale, and Personal Fear of Invalidity Scale).

Dependent variables. The mean release rate was 59.4%, though some participants always denied release and others always granted release. The width of the standard deviation (25.7) associated with this mean value indicates that there was considerable variability in participants' release decisions.

On average, participants accessed approximately four types of additional information ($M = 4.2$; $SD = 2.0$), though some did not access any and some accessed all six. This value suggests that participants generally engaged in relatively thorough, though not exhaustive, information reviews. The individual additional information areas accessed by participants were also examined. Figure 2 provides a summary of the proportion of participants who accessed each additional domain area for all vignettes (*always*) and for no vignettes (*never*). Notably, risk assessment and release plan information were accessed consistently by the greatest proportion of participants and ignored consistently by the smallest proportion of participants. Conversely, the mental health and victim information areas were accessed consistently by the smallest proportion and ignored consistently by the largest proportion of participants. This indicates that risk assessment and release plan information were considered more frequently, and mental health and victim information considered less frequently, in reaching release decisions.

⁶ Due to the number of descriptive statistics associated with each of the separate vignettes, these will not be described here. These statistics can be seen in Appendix B and are discussed in more detail below.

Figure 2. *Additional Information Areas Accessed*

Note. RA = Risk assessment; MH = Mental health report; VI = Victim information; PI = Program information; RP = Release plan; CH = Criminal history.

Mean decisional confidence ratings, in turn, ranged from 61.7 to 98.3%, with a mean of 76.6% ($SD = 10.4$). This value reveals that most participants were moderately confident in their release decisions. As a confidence rating of 50% can be interpreted as having no inclination towards granting or denying release (i.e., the participant assesses any given release decision as having equal chances of being correct or incorrect), these results indicate that none of the participants consciously resorted to guessing.

Differences in decision making variables by demographic characteristics. A series of exploratory analyses were conducted to see if differences in percentage of releases, participant mean breadth of information accessed, or participant mean confidence were associated with any demographic variables. As can be seen in Table 4, independent sample t-tests indicated that these variables did not differ by parole board

membership or by gender. The difference in decisional confidence ratings between NPB and NZPB participants, however, approached significance, $t(29) = 2.36, p = .025$ (equivalent to $p = .075$ after the application of the Bonferroni correction), with NPB members typically being more confident in their release decisions than their NZPB counterparts.

The results of a series of one-way analyses of variance revealed that participants from different professional backgrounds differed in their decisional confidence, $F(2, 28) = 5.71, p < .017$. Post hoc comparisons using Tukey's honestly significant difference criterion indicated that participants with a background in a field other than law, criminal justice, correctional service, or human service delivery displayed higher decisional confidence than did those with a background in one of these fields. It should be noted that as no NZPB members indicated *other* as their professional background response, this finding is not related to the trend (mentioned above) for NPB members to provide higher confidence ratings than their NZPB counterparts.

It was originally planned to conduct subsequent analyses separately by any demographic characteristics which were associated with differences on the dependent variables. However, the sub-sample of participants who indicated having an *other* professional background was too small ($n = 5$) to allow for separate analyses.

Table 4. *Decision Making Variables by Demographic Characteristics*

Demographic Variable	Mean (SD)		
	Release Percentage	Information Accessed	Decisional Confidence
Parole Board			
NPB	59.4 (23.3)	4.2 (2.1)	79.3 (10.8)
NZPB	59.3 (32.4)	4.3 (1.8)	70.2 (6.0)
	<i>t</i> 2.36	-0.12	2.36
Gender^a			
Male	55.6 (17.0)	3.5 (2.4)	80.6 (11.0)
Female	64.3 (28.9)	4.7 (1.6)	74.7 (9.4)
	<i>t</i> -0.94	-1.66	1.55
Age Group^a			
35 – 44	73.3 (23.1)	5.8 (0.2)	70.9 (6.2)
45 – 54	66.7 (26.5)	4.4 (2.0)	78.2 (9.4)
55 – 64	47.7 (20.1)	3.8 (2.1)	78.3 (12.4)
65 +	58.3 (31.9)	4.0 (2.2)	69.2 (5.2)
	<i>F</i> 1.61	0.90	1.18
Experience			
Limited	56.4 (28.9)	3.9 (2.1)	76.9 (11.2)
Moderate	60.0 (32.6)	4.0 (2.3)	74.5 (9.8)
Extensive	59.4 (25.7)	4.8 (1.5)	78.5 (10.8)
	<i>F</i> 0.12	0.65	0.35
Background			
Law, justice, corrections	63.9 (20.0)	5.1 (1.1)	74.4 (8.5)
Human service delivery	55.4 (32.0)	3.6 (2.4)	74.0 (11.0)
Other	58.0 (23.9)	3.8 (2.3)	89.2 (1.8)
	<i>F</i> 0.12	2.03	5.71*

^a One participant did not provide data for this demographic variable.

* $p < .017$ (Bonferroni correction: $.05 / 3$).

Independent variables. Participants' scores on the measures of cognitive style were also examined. The mean score for the NFC Scale was 65.0 ($SD = 4.6$), while scores on the PNS Scale averaged 38.9 ($SD = 4.6$) and those for the PFI Scale averaged 50.4 ($SD = 4.9$). As the possible range differed for each scale, these values were difficult to interpret. For ease of understanding, the mean scores were divided by the number of items in each measure, yielding a mean rating on the original six-point Likert scale ranging from *strongly disagree* to *strongly agree*. These recalculated scores were very similar across measures, with a mean rating of 3.6 for the NFC Scale, of 3.5 for the PNS Scale, and of 3.6 for the PFI Scale. These mean ratings fall almost exactly at the midpoint between *somewhat agree* and *somewhat disagree* on the scale, indicating that across all participants, there is no bias towards high or low scores on these measures.

Comparisons to previous research results (Blais et al., 2005) indicated that these mean scores are consistent with those found with earlier samples. Specifically, for Blais and colleagues' previous sample of 419 adult Canadians, mean ratings (converted to the same metric as above) were of 3.9 on the NFC scale, of 3.6 on the PNS Scale, and of 3.3 on the PFI scale. The largest difference between the two samples was of 0.3 units.⁷

Differences in cognitive style variables by demographic characteristics.

Exploratory analyses were also conducted to determine if scores on the measures of cognitive style displayed any differences attributable to demographic characteristics. As can be seen in Table 5, no such differences were found.

⁷ Comparison across studies using standardization of the variables was also considered, but the present method was preferred as the retention of the metric associated with the Likert-like scale facilitated interpretation of the mean values.

Table 5. *Cognitive Style Variables by Demographic Characteristics*

Demographic Variable	Mean (SD)		
	NFC Scale	PNS Scale	PFI Scale
Parole Board			
NPB	64.2 (4.84)	38.8 (4.4)	50.6 (4.8)
NZPB	66.9 (3.5)	39.1 (5.2)	49.9 (5.4)
<i>t</i>	-1.49	-0.16	0.36
Gender^a			
Male	65.8 (4.4)	39.8 (3.8)	52.4 (4.6)
Female	64.8 (4.7)	38.4 (5.1)	49.0 (4.8)
<i>t</i>	0.54	0.75	1.93
Age Group^a			
35 – 44	65.0 (4.58)	35.3 (4.5)	52.3 (7.6)
45 – 54	64.1 (6.2)	39.1 (5.7)	51.1 (4.9)
55 – 64	65.5 (4.0)	39.6 (3.6)	50.3 (3.8)
65 +	64.8 (2.9)	38.3 (5.2)	46.0 (5.5)
<i>F</i>	0.15	0.71	1.36
Experience			
Limited	64.6 (5.4)	39.1 (4.5)	50.9 (5.7)
Moderate	66.2 (4.9)	39.7 (5.8)	48.9 (5.5)
Extensive	64.3 (3.5)	37.9 (3.5)	51.3 (3.1)
<i>F</i>	0.49	0.39	0.69
Background			
Law, justice, corrections	66.2 (4.8)	38.1 (5.1)	51.3 (3.8)
Human service delivery	63.5 (4.6)	39.7 (4.8)	49.5 (6.2)
Other	65.6 (3.8)	39.0 (2.4)	50.4 (3.5)
<i>F</i>	1.18	0.39	0.45

^a One participant did not provide data for this demographic variable.

All results non-significant.

Intercorrelations. Correlations were also calculated across all measures both by vignette and across vignettes; these are shown in Appendix C. Applying the Bonferroni correction to this inter-correlation matrix resulted in a significance level of $p < .00025$ ($.05 / 178$). Due to the limitations of the data analysis software⁸, an alpha of $p < .001$ was used to approximate this value. These analyses revealed that the assessed likelihood of the offender staying crime-free was positively related to release decision for each of the woman offender, sex offender, and violent offender vignettes, with a greater likelihood of success being associated with a greater likelihood of being released. This relationship approached significance when calculated across all vignettes as well.

In the case of the sex offender vignette, positive relationships were also found between decisional confidence and each of release decision and assessed likelihood of success, indicating that all three variables increased or decreased together. This relationship was unique to the sex offender vignette; correlations between decisional confidence and release decisions for each of the other vignettes, as well as across vignettes, were of relatively small magnitude and did not approach significance.

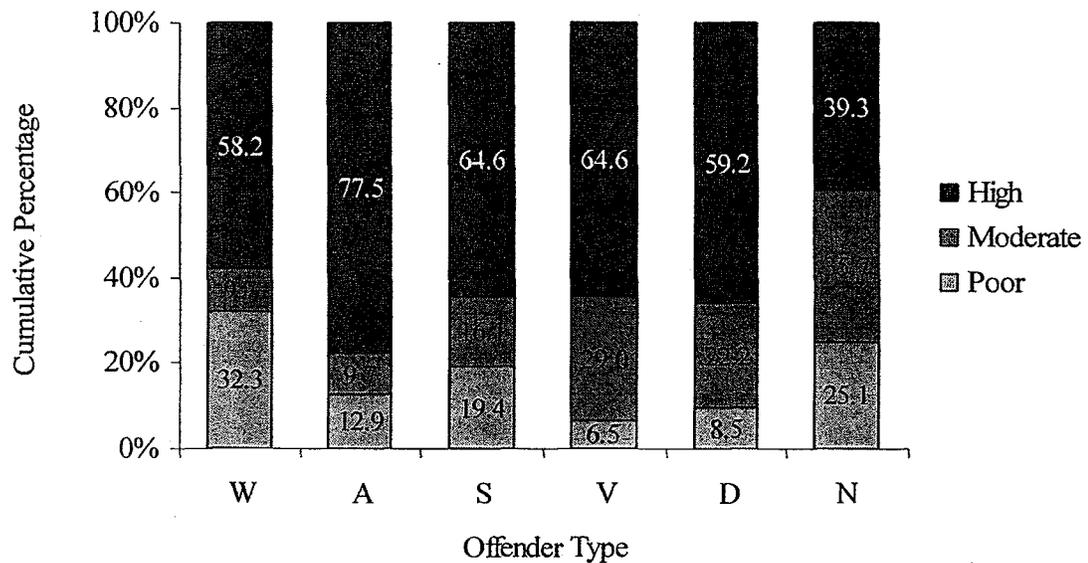
Parole Decision Making and Offender Type

Representativeness of offender vignettes. Prior to conducting analyses on the relationship between decision making variables and offender type, the representativeness ratings of the vignettes (each depicting a distinct offender type) were examined. As can be seen in Figure 3, for all vignettes except the non-violent offender one, approximately 60% or more of participants perceived the vignettes to be representative of their daily

⁸ SPSS provides significance values to three decimal points only.

cases.⁹ Notably, the Aboriginal offender vignette was perceived as highly representative by over three quarters of respondents. Conversely, however, over a quarter of participants indicated that the non-violent offender vignette and the woman offender vignette were not representative of their typical cases.

Figure 3. *Vignette Representativeness Ratings*



Note. W = Woman offender; A = Aboriginal offender; S = Sex offender; V = Violent offender; D = Domestic violence offender; N = Non-violent offender.

As the measure was originally developed in the NPB context, the representativeness ratings provided by NPB and NZPB respondents were compared. Surprisingly, the mean representativeness rating of NZPB respondents ($M=78.1$; $SD=11.6$) was significantly higher than the mean rating of their NPB counterparts ($M=57.6$; $SD=18.9$), $t(29) = -3.01, p < .01$. As can be seen in Table 6, NZPB ratings were higher than NPB ratings for each individual vignette, with particularly notable differences for the woman

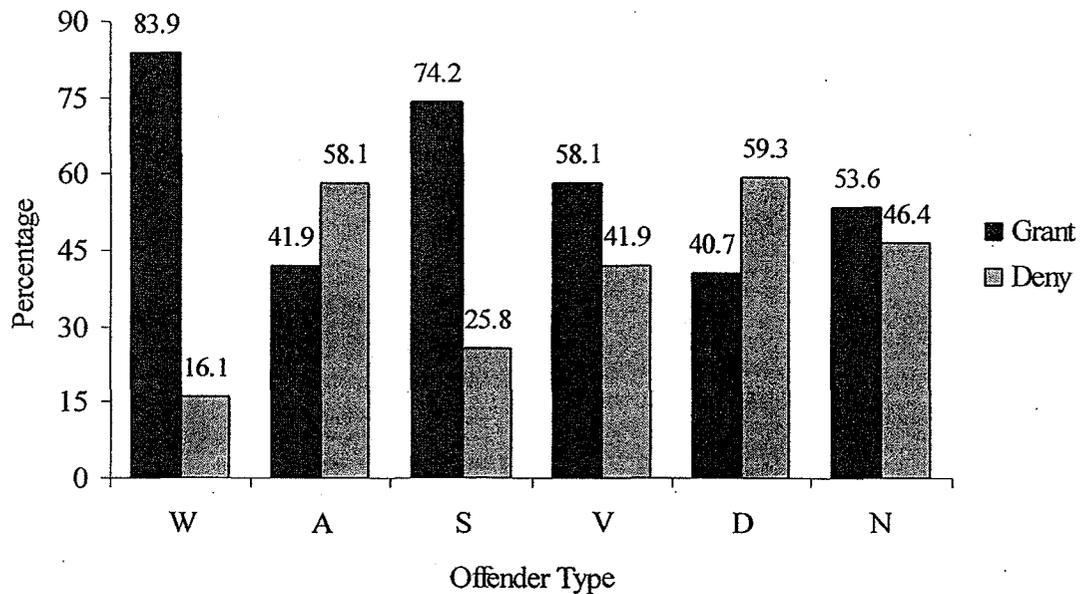
⁹ Cutoff levels for the representativeness ratings were chosen by the researcher as follows: 70% or higher indicates that a vignette is highly representative; 50 or 60% indicates that a vignette is moderately representative; lower than 50% indicates that a vignette is poorly representative.

offender and non-violent offender vignettes. Tukey-corrected post hoc comparisons, however, were unable to detect significant differences by parole board on individual vignettes.

Table 6. *Vignette Representativeness by Parole Board*

Vignette	Mean (SD)	
	National Parole Board	New Zealand Parole Board
Woman offender	49.6 (30.6)	78.9 (17.6)
Aboriginal offender	65.9 (23.2)	75.6 (11.3)
Sex offender	60.0 (25.3)	82.2 (17.9)
Violent offender	65.9 (17.1)	77.8 (13.9)
Domestic violence offender	54.4 (26.6)	76.6 (10.5)
Non-violent offender	47.4 (28.6)	73.3 (13.2)

Differences in decision making variables by offender type. The dependent variables of release decision, vignette mean breadth of information accessed, and vignette mean decisional confidence rating were explored for differences by type of offender. The proportions of participants who chose to grant and to deny release for each vignette (type of offender) are displayed in Figure 4. Despite the measure being designed so that the level of risk was equal in each vignette, the release rate was considerably higher for the woman offender and sex offender vignettes than for the others. Conversely, the release rate was notably lower for the Aboriginal offender and domestic violence offender vignettes.

Figure 4. *Release Decisions by Offender Type*

Note. W = Woman offender; A = Aboriginal offender; S = Sex offender; V = Violent offender; D = Domestic violence offender; N = Non-violent offender.

A direct binary logistic regression was used to examine the statistical significance of these differences. Six effect-coded variables representing the vignettes were entered into a model to predict the dichotomous release decision (*grant* or *deny*). Comparison of this model to the reduced model including only the constant was significant, $\chi^2(5, N = 179) = 19.73, p < .001$ (equivalent to $p < .003$), which indicates that the set of independent variables was able to differentiate release decisions. The success of differentiation was moderate, with 77% of *grant* decisions and 47% of *deny* decisions correctly identified, for an overall success rate of 65%. The value found for Nagelkerke R^2 (.14) was weak to moderate.

As can be seen in Table 7, only one of the independent variables contributed significantly to the prediction of release decision. Specifically, a significant Wald test ($z = 5.93, p < .017$) was obtained for the woman offender vignette. Due to the effect-coding necessitated by the lack of reference category among the vignettes, the odds ratio of 2.12 cannot be meaningfully interpreted.¹⁰ Nonetheless, these results confirm the graphical indications, above, that the woman offender vignette was more likely to receive a *grant* release decision than were the other vignettes.

Table 7. *Logistic Regression of Release Decision on Offender Type*

Offender Type	B	S.E.	Odds Ratio	95% C.I.	
				Lower	Upper
Women offender	0.75	0.31	2.12*	1.16	3.89
Aboriginal offender	-0.23	0.26	0.79	0.47	1.32
Sex offender	0.46	0.28	1.58	0.91	2.73
Violent offender	0.91	0.26	1.10	0.66	1.83
Domestic violence offender	-0.26	0.27	0.77	0.45	1.32

Note. Reference category in calculating odds ratios is 'grant'.

* $p < .017$ (Bonferroni correction: $.05 / 3$).

Differences by offender type in vignette mean breadth of information accessed and vignette mean decisional confidence were also examined. As can be seen in Table 8, one-way analyses of variance, using vignette type as the independent variable, revealed that neither of these decision making variables differed by offender type.

¹⁰ The odds ratio in an effect-coded logistic regression expresses the deviation of a given variable from the average of the logits; in cases where the average of the logits is not meaningful (as here), the odds ratio cannot be interpreted (Tabachnik & Fidell, 2001).

Table 8. *Decision Making Variables by Offender Type*

Offender Type	Mean (SD)	
	Information Accessed	Decisional Confidence
Woman offender	4.1 (2.2)	76.5 (12.3)
Aboriginal offender	3.9 (2.4)	76.8 (13.5)
Sex offender	4.4 (2.2)	76.5 (18.2)
Violent offender	4.4 (2.0)	77.4 (12.1)
Domestic violence offender	4.6 (2.2)	75.9 (15.8)
Non-violent offender	4.2 (2.4)	76.1 (18.3)
	<i>F</i>	
	1.56	0.08

All results non-significant.

Contrasts of offender groups. Two contrasts, defined a priori, were also examined. The first compared the woman offender vignette to all other vignettes, while the second compared the violent offender vignettes (i.e., violent offender and domestic violence offender) vignettes to the others. In all cases, the dependent variables were release decision, mean breadth of information accessed, and mean decisional confidence. As two contrasts were calculated for each of the three dependent variables, the significance level used for these analyses was $p < .008$ (.05 / 6).

To compare these offender groups on release decision, two chi-square analyses of independence were calculated. While the woman offender vignette was found to be more likely to receive a *grant* release decision than the other vignette types, $\chi^2(1, N = 179) = 9.44, p < .008$, no difference was found in release decision for violent and non-violent offenders, $\chi^2(1, N = 179) = 3.02, p = ns$. Consistent with findings from the previous

section, these findings indicate that women offenders were more likely to be granted release than were other types of offenders.

A series of four one-way analyses of variance were then conducted using contrast weights in order to compare these offender groups on mean breadth of information accessed and mean decisional confidence. For mean breadth of information accessed, neither the woman offender contrast, $t(173) = -0.36, p = ns$, nor the violent offender contrast, $t(173) = -0.87, p = ns$, was significant. Similarly, neither the woman offender contrast, $t(173) = -0.23, p = ns$, nor the violent offender contrast, $t(173) = -0.25, p = ns$, was significant for the mean decisional confidence comparisons. Taken together with the above findings, these results indicate that breadth of information accessed and decisional confidence are not impacted by offender type.

Post hoc comparison of Aboriginal and violent offenders. It was recognized that the effects of gender and ethnicity in the woman offender and Aboriginal offender vignettes may have been confounded with the offense types described in the vignettes. As the woman offender was described as having been convicted of drug-related offences, there was no appropriate comparison among the other offender types which could serve to disentangle gender and offense type. The Aboriginal offender, on the other hand, was described as having been convicted of both violent and property crimes. As such, post hoc comparisons of the Aboriginal offender to the violent offender were conducted. A chi-square test of independence indicated that these two vignettes did not differ in terms of release decisions, $\chi^2(1, N = 31) = 1.61, p = ns$. Paired sample t-tests also indicated that neither mean breadth of information accessed, $t(30) = -1.63, p = ns$, nor decisional confidence, $t(30) = -0.28, p = ns$, differed for these two offender types. This suggests that

there were no differences in the parole decision making variables between the vignettes representing an offender of Aboriginal ethnicity and an offender of unspecified ethnicity who had committed similar offenses.

Parole Decision Making and Cognitive Style

Relation of cognitive style to decision making variables. A series of analyses were undertaken to see whether scores on the measures of cognitive style (NFC Scale, PNS Scale, and PFI Scale) were related to the decision making variables. As previously mentioned, correlations amongst these variables were non-significant (see Appendix C). Additionally, three linear multiple regressions were calculated with each of release rate, participant mean breadth of information accessed, and participant mean decisional confidence as the dependent variables in turn. Scores on the cognitive style measures were the independent variables.¹¹

Models for each of release rate, $R^2_{adj} = .08$; $F(3, 27) = 1.81$, $p = ns$, breadth of information accessed, $R^2_{adj} = .02$; $F(3, 27) = 0.73$, $p = ns$, and decisional confidence, $R^2_{adj} = .07$; $F(3, 27) = .31$, $p = ns$, were all non-significant and essentially non-predictive. Unstandardized and standardized regression coefficients for these models are presented in Table 9. The results suggest that scores on the measures of cognitive style are not related to these parole decision making variables.

¹¹ For all multiple regressions with continuous independent variables, the applicability of a linear regression model was assessed by plotting the model's standardized residuals against the predicted outcome scores (Stevens, 2002). Where a linear model was found to provide a poor fit to the data, curve estimation procedures were used to determine a more appropriate model.

Table 9. *Multiple Regressions of Decision Making Variables on Cognitive Style*

Independent Variable	B	S.E. B	95% C.I. for B		β
			Lower	Upper	
Release Rate					
Need for cognition	-0.01	0.01	-0.03	0.02	-0.10
Personal need for structure	0.02	0.01	0.00	0.04	0.35
Personal fear of invalidity	0.01	0.01	-0.01	0.03	0.26
Information Accessed					
Need for cognition	-0.11	0.08	-0.28	0.05	-0.27
Personal need for structure	0.04	0.08	-0.20	0.13	-0.09
Personal fear of invalidity	0.02	0.07	-0.14	0.18	0.06
Decisional Confidence					
Need for cognition	-0.17	0.44	-1.07	0.74	-0.07
Personal need for structure	0.11	0.44	-0.78	1.01	0.05
Personal fear of invalidity	0.39	0.42	-0.47	1.25	0.18

All results non-significant.

Moderating Role of Likelihood of Success.

A number of analyses were also conducted to see if assessed likelihood of success (i.e., likelihood of the offender remaining crime-free until warrant expiry) impacted the relationships between the decision making variables and either of offender type or cognitive style measure scores. Specifically, the analyses in the two above sections were replicated with likelihood of success added to the analyses.

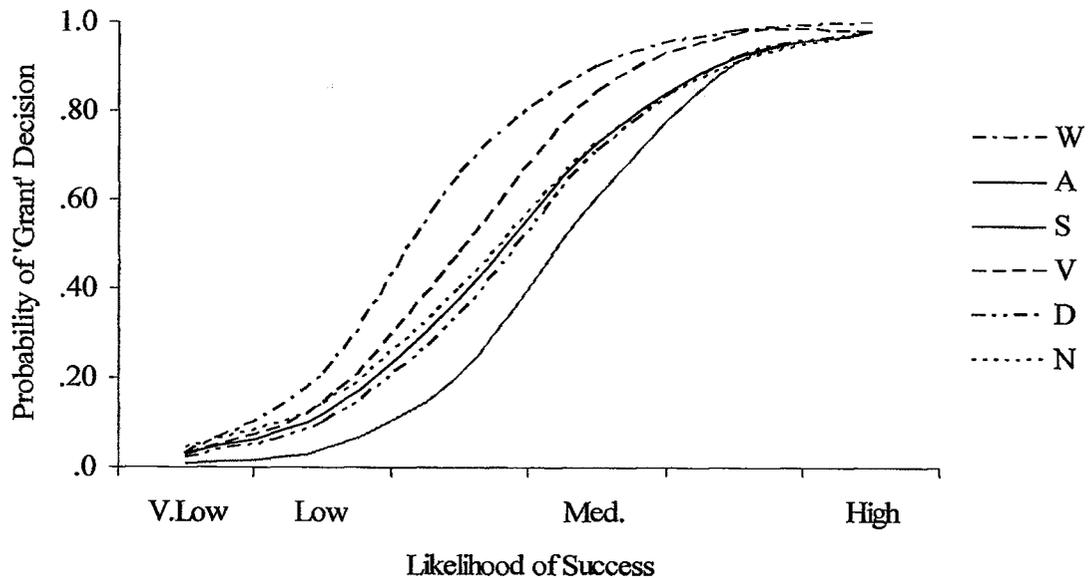
Parole decision making and offender type. For release decision, a second binary logistic regression was calculated using an expanded set of independent variables. In

addition to the effect-coded vignette variables, likelihood of success and the interaction terms resulting from these variables were included. The first block included the effect-coded vignette variables and likelihood of success. In the second block, the interaction terms for these two variables were entered. Comparison of the full model including the interaction terms to a reduced model without these terms was significant, $\chi^2(6, N = 179) = 61.03, p < .001$ (equivalent to $p < .003$), indicating that the interaction of offender type and likelihood of success adds to the ability of the model to predict discriminate release decision. The overall differentiation rate for this full model was 84%, with a 91% success rate for *grant* decisions and a 74% success rate for *deny* decisions. Similarly, the variance accounted for by the full model was higher than that of the reduced model without the interaction terms, Nagelkerke $R^2 = .49$ and $.41$ respectively.

The unstandardized coefficients and odds ratios associated with the full regression model are included in Appendix D. In this model, only likelihood of success was significantly related to release decision, with a Wald test of $z = 16.11, p < .001$ (equivalent to $p = .003$). Notably, however, the Wald tests for both the interaction of the sex offender vignette by likelihood of success, $z = 4.93, p < .03$, and for the interaction of the violent offender vignette by likelihood of success, $z = 4.83, p < .03$ (both equivalent to $p < .09$) approached significance. In order to better understand the moderation effect represented by these values, the unstandardized regression coefficients were used to calculate the probabilities of receiving a *grant* release decision for each offender type with increasing levels of assessed likelihood of success, as per the guidelines of Flom and Strauss (2003). As can be seen in Figure 5, there was considerable (though non-significant) variation in the relationship between probability of receiving a *grant* decision

and likelihood of success by offender type. The differences in probability of receiving a *grant* decision were particularly striking in comparing the woman offender and the sex offender vignettes. Conversely, the probabilities displayed approximately the same relationship with likelihood of success for the Aboriginal offender, domestic violence offender, and non-violent offender vignettes.

Figure 5. *Probability of 'Grant' Decision as a Function of Likelihood of Success and Offender Type*



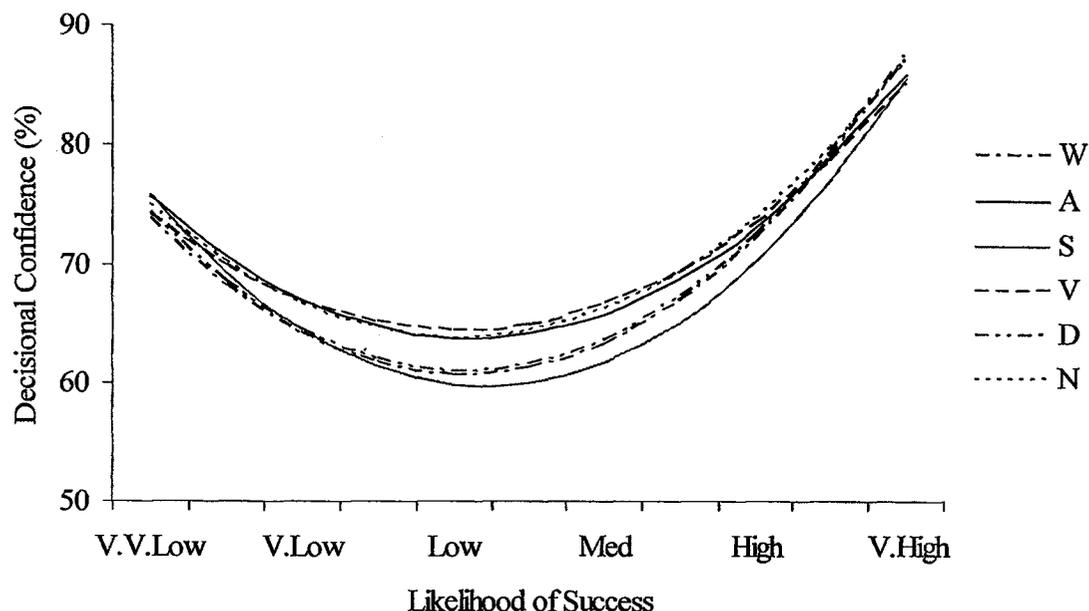
Note. W = Woman offender; A = Aboriginal offender; S = Sex offender; V = Violent offender; D = Domestic violence offender; N = Non-violent offender. Likelihood of success values are graduated by increments of 0.5 *SD*, ranging from $M - 1.5 SD$ to $M + 1 SD$.

The impact of likelihood of success on the relationships of vignette mean breadth of information accessed and mean decisional confidence with offender type was also assessed. Standard multiple regressions were calculated, using the same independent

variables as above. The addition of the interaction terms did not significantly increase the accuracy of the regression model for mean breadth of information accessed, $R^2_{change} = .03$; $F(5, 167) = 1.08$, $p = ns$. (The regression coefficients for this model can be seen in Appendix D.)

For mean decisional confidence, on the other hand, plots of the standardized residuals against the predicted values associated with a linear regression indicated that this model did not appropriately represent the relationships among variables. Curve estimation procedures suggested the use of a quadratic model. Using such a model, the addition of the interaction terms did not increase differentiation accuracy, $R^2_{change} = .02$; $F(5, 164) = 0.33$, $p = ns$, and only the squared likelihood of success variable contributed significantly to this model, $B = 0.02$, $p < .003$ (equivalent to $p < .01$). Again, the unstandardized regression coefficients (available in Appendix D) were used to create a graphical representation of this model. Though the regression function produced in this way (Figure 6) did not reveal any moderation effect, it was notably asymmetrical (i.e., did not reach the same height for low and high likelihood of success values). As such, post hoc analyses were conducted to determine if there was a difference in decisional confidence by release decision. (The positive correlation mentioned previously between likelihood of success and release decision indicates that *deny* decisions are associated with low likelihood of success ratings, and *grant* decisions with high likelihood of success ratings.) The difference between mean decisional confidence ratings for *grant* and *deny* decisions was significant only for the sex offender vignette, $t(28) = -3.91$, $p < .001$ (equivalent to $p < .006$), with those choosing to grant release for this offender being significantly more confident in their decisions than those choosing to deny release.

Figure 6. *Decisional Confidence as a Function of Likelihood of Success and Offender Type*



Note. W = Woman offender; A = Aboriginal offender; S = Sex offender; V = Violent offender; D = Domestic violence offender; N = Non-violent offender. Likelihood of success values are graduated by increments of 0.5 *SD*, ranging from $M - 3 SD$ to $M + 2 SD$.

Taken together with the results of the preceding analysis, these findings reveal that there is a significant interaction effect between likelihood of success and offender type in the regression of release decision, though not in the regressions of breadth of information accessed or decisional confidence. There was also a difference in decisional confidence by release decision for the sex offender vignette.

Parole decision making and cognitive style. In order to assess the impact of assessed likelihood of success on the relationships between the measures of cognitive style and the decision making variables, linear multiple regressions were calculated with each of release rate, mean breadth of information accessed, and mean decisional

confidence as the dependent variables in turn. Again, models including the interaction terms of likelihood of success by cognitive style were compared to those not including the interaction terms.

The addition of the interaction terms did not increase the predictive ability of the models for any of release rate, $R^2_{change} = .13$; $F(3, 23) = 0.18$, $p = ns$, breadth of information accessed, $R^2_{change} = .16$; $F(3, 23) = 1.67$, $p = ns$, or decisional confidence, $R^2_{change} = .03$; $F(3, 23) = 0.29$, $p = ns$. (Again, the regression coefficients for these models appear in Appendix D). These results indicate that there was no interaction effect of likelihood of success and cognitive style in the regressions of the parole decision making variables.

Additional Analyses

Analyses by parole board. As previously mentioned, a trend towards statistical significance was detected in the relationship between parole board membership and decisional confidence. Due to this trend, a series of post hoc analyses were conducted separately for members of each parole board. Specifically, the analyses in the *parole decision making and offender type* and *parole decision making and cognitive style* sections were replicating by parole board. Due to the corrections to significance level required to maintain the family-wise level of .05, none of these analyses produced significant findings. However, most of these results were similar across the two boards.

Surprisingly, the one exception to this similarity was not with regards to decisional confidence (as might be expected given the trend detected for this variable), but to release decision. Specifically, separate multiple regressions of percentage of releases granted on scores on the cognitive style measures differed in terms of individual

independent variables, though models for both the NPB, $R^2_{adj} = .26$; $F(3, 21) = 3.50$, $p = ns$, and the NZPB, $R^2_{adj} = .32$; $F(3, 8) = 0.10$, $p = ns$, were non-significant overall. As can be seen in Table 10, the standardized and unstandardized regression coefficients for these regressions reveal that scores on the Personal Need for Structure Scale were significantly predictive of release decision for the NPB members only. This finding provides a preliminary indication that the relationships between cognitive style and release decision specifically, and perhaps parole decision making variables generally, may differ by parole board. However, this result should be interpreted quite cautiously, both because individual predictors are not usually considered in the interpretation of multiple regression analyses which are found to be non-significant at the model level and because of the post hoc nature of this analysis.

Table 10. *Multiple Regressions of Percentage of Releases Granted on Cognitive Style by Parole Board*

Independent Variable	<i>B</i>	<i>S.E. B</i>	95% C.I. for <i>B</i>		β
			Lower	Upper	
National Parole Board					
Need for cognition	-0.01	0.01	-0.03	0.01	-0.16
Personal need for structure	0.03	0.01	0.01	0.05	0.59*
Personal fear of invalidity	0.02	0.01	0.00	0.04	0.39
New Zealand Parole Board					
Need for cognition	-0.02	0.05	-0.14	0.10	-0.20
Personal need for structure	0.00	0.03	-0.08	0.08	-0.03
Personal fear of invalidity	0.01	0.03	-0.06	0.09	0.22

* $p < .008$ (Bonferroni correction: $.05 / 6$).

Power. Post hoc analyses were also conducted to assess whether failure to find significant results was attributable to insufficient power. Using Cohen's (1988) conventions, and using a corrected significance level of $p = .017$, it was found that while this study had sufficient power to detect large mean differences, $(\beta - 1) = 0.99$, its power to detect moderate and weak mean differences was considerably lower, at $(\beta - 1) = 0.68$ and $(\beta - 1) = 0.27$ respectively. These results indicate that it is possible that small or moderate effects, though statistically undetected, may nonetheless exist in this dataset.

Discussion

Overview

This study analyzed the influences of parole board members' demographic characteristics and cognitive styles, as well as the type of offender case being considered, on the release decisions made, the amount of information reviewed prior to making a decision, and the decisional confidence of parole board members in two jurisdictions. In addition to extending the scarce body of literature in the area of release decision making, this study assessed the applicability of findings from the broader area of general decision making.

The present findings indicate that of the three factors investigated – demographic characteristics, cognitive style, and offender type – offender type was virtually the only one related to any of the parole decision making variables investigated. This is consistent with previous findings that offence type is the factor most predictive of release decision making (Turpin-Petrosino, 1999). Nonetheless, there was considerable variability in the decisions made by the board members which was not accounted for by offender type.

Previous findings in the area of general decision making revealed that there were considerable inter-individual differences in the decisions reached in a given situation (Conley & Zimmerman, 1982). The present results confirm this finding in the realm of parole decision making, as there was considerable variability in the decisions made by the board members, despite their having been presented with the same information. Consistent with other findings from general decision making research, this variability was also present, though to a lesser extent, in the amount of information accessed (Giles &

Mulineux, 2000) and in the decisional confidence (West & Stanovich, 1997) of the board members.

Notably, of the participant demographic characteristics examined, only professional background explained any of this variability in the parole decision making variables. Previous researchers' findings that length of experience was linked to release decision making (Fong, Lurigio & Stalans, 1990) were not confirmed. Rather, this study found that those board members who did not have a professional background in law, criminal justice, correctional service, or human service delivery were more confident in their release decisions than were their counterparts. As the exact professional background of these members is not known, the reason for this difference is unclear. It is possible, however, that this is attributable to the presumably lesser experience in relevant fields of those board members who chose the *other* option for professional background. Research indicates that individuals are often unaware of errors in judgment; and that a misperception of oneself as not having made errors of judgment may lead to higher confidence ratings (Perfect, 2004; Trafimow & Sniezek, 1994). It is possible that due to more limited professional experience in the field, those with other backgrounds have either not yet been provided with feedback about their decisions or have not considered feedback, and therefore have higher ratings of confidence.

The results of the present study also revealed that not all case information was considered to the same extent in reaching a release decision. More specifically, information pertaining to risk assessment and release plan was accessed by most participants, while information pertaining to mental health and victim impact was accessed by fewer participants. These discrepancies indicate that the sources of

information which the boards' respective policy guidelines and legislative requirements highlight for consideration in reaching a release decision are not attended to with comparable frequency (CCRA, 1992; National Parole Board, 2005a; New Zealand Parole Board, 2002; *Parole Act 2002*, 2002).

Nonetheless, when considered in the context of a large body of correctional research, this differential attention is explainable. Specifically, extensive investigation of the correlates of criminal conduct and recidivism has been undertaken in recent decades (e.g., Andrew & Bonta, 2003). This research has led to the conclusion that an offender's mental health status – one of the areas less accessed by board members in this study – is not related to recidivism (Porporino & Motiuk, 1995)¹², while risk assessment (Nafekh & Motiuk, 2002) and release plan (Samra-Grewal, Pfeifer & Ogloff, 2000) – are accessed more consistently – are. In this light, the stronger focus on factors known to be important in predicting parole outcome may be attributable to board members' knowledge of previous findings.

Board members may also use their knowledge of offender types in reaching parole decisions. Though this study found that the type of offender case being considered did not impact either the amount of information reviewed or decisional confidence, links were found between offender type and the release decisions themselves. Specifically, a significantly higher proportion of women offenders than other offenders were granted release¹³. Though participants were not asked to provide explanations for their release

¹² Despite there being no link between mental health and recidivism, mental health is related to parole outcome, as offenders with mental health issues have their discretionary releases revoked for technical reasons more often than their counterparts without such issues (Porporino & Motiuk, 1995).

¹³ As previously mentioned, however, gender was confounded in this vignette with offence type (specifically, drug-related offences). Though previous research on the link between gender and recidivism

decisions, this difference is likely associated with previous findings that women typically have better parole outcomes – that is, they return to custody (either due to revocation or to re-offense) less frequently – than do male offenders (Grant & Gillis, 1999; Hannah-Moffat, 2005).

A number of other non-significant differences were also detected regarding release decisions by offender type. Notably, a high proportion of board members granted release when considering the sex offender vignette; conversely, relatively high proportions denied release when considering the Aboriginal and domestic violence offender vignettes. Again, these results are consistent with the existing literature on parole outcomes and recidivism. Specifically, there is evidence that Aboriginal offenders, relative to non-Aboriginal offenders, typically have poor parole outcomes (Bonta, Lipinski & Martin, 1992; Jackson, 1989). Studies of the relative rates of recidivism of different offender types have also found that sex offenders have relatively low rates (Langan & Levin, 2002) and domestic violence offenders have relatively high rates of recidivism (Klein, 1996). As such, these non-significant differences in release decisions by offender type are consistent with previous findings.

These differences in release decisions by offender type are particularly interesting given the design of the assessment measure used in this study. Specifically, the vignettes were deliberately designed to reflect constant levels of risk across offender types. Given this, two possible interpretations of the difference in release rates are possible. First, it is possible that the board members failed to attend to, or to incorporate into their decisions, indications of the offenders' level of risk. Given that risk assessment information was

(Gendreau, Goggin & Little, 1996) supports attributing the detected difference to the effect of gender, it is also possible that it be due to offence type or a combination of gender and offence type.

consistently ignored by a smaller proportion of participants than was any other information category, however, this explanation seems unlikely.

An alternative possibility is that the difference in release decisions by offender type be attributable to board members' interpretation of the offenders' level of risk. There are indications that a designation of a specific level of risk has a different meaning depending on the type of offender to whom it is applied (e.g., to a woman offender as opposed to a male offender; Hardyman & Van Voorhis, 2004). While this explanation may be appropriate in explaining the discrepancy for those types of offenders for whom no statistical scale applied in these vignettes (i.e., the woman and Aboriginal offenders), it is worrisome for those offenders whose risk ratings were anchored by estimates derived from instruments known to be valid and reliable (Nafekh & Motiuk, 2002; Kropp & Hart, 2000). Moreover, the finding that the woman offender and the Aboriginal offender vignettes embodied the extremes of the range of percentage of releases granted suggests that the absence of actuarial estimates of risk may be associated with more variability in release decisions.

As previously mentioned, offender type explained only a moderate proportion of the variance in the release decisions. This study also examined whether the board members' cognitive style influenced the parole decision making variables. No evidence for such influence was detected; as such, there was no support for any of the study's specific hypotheses. It is possible, however, that relationships do exist between the measures of cognitive style and the parole decision making variables, but that they were of insufficient magnitude to be detected in this sample.¹⁴

¹⁴ As previously mentioned, the study's power to detect findings with small and moderate effect sizes was relatively low.

Findings from this study are consistent with this possibility. Though the present findings do not provide support for any relationships among the measures of cognitive style and the parole decision making variables, in some cases, the relative magnitude of these relationships for each cognitive style (as represented by standardized regression coefficients) were consistent with expectations. Specifically, need for cognition (NFC) was found to be more strongly related to the amount of information accessed than either of the other two cognitive styles, as was partly expected given the tendency of individuals high in this cognitive style to engage in thorough reviews of available information (Bailey, 1997). It had been expected that the relationship between personal fear of invalidity (PFI) and the amount of information accessed would be of comparable magnitude, given the tendency for people high in this cognitive style to have difficulty reaching a decision (Judice, 1997), but such a result was not found.

Additionally, the magnitude of the relationships between the cognitive styles and decisional confidence was also consistent with expectations. Specifically, of the three cognitive styles, PFI had the strongest relationship with decisional confidence. This is consistent with previous findings that those high in PFI are marked by low decisional and judgmental confidence (Thompson & Zanna, 1995). Personal need for structure (PNS) and NFC had relatively weak relationships with decisional confidence.

These relative magnitudes, together with findings from previous research on cognitive style in general decision making, combine to suggest that it would be premature to conclude that there are no relationships between cognitive style and the parole decision making variables. Moreover, it is possible that the cognitive styles influence parole decision making in ways which were not examined during the present study. For

example, previous researchers have found that in group decision making tasks (not related to parole), persons high in NFC enter into discussions earlier (Henningesen & Henningesen, 2004) and play a larger role in influencing decisional outcome than do their counterparts who are lower in NFC (Shetowsky, Wegener & Fabrigar, 1998).

Shetowsky and colleagues further found that within group decision making tasks, those individuals high in NFC were perceived by their fellow decision makers to be more persuasive, to generate more valid arguments supporting their position, and to generate a greater quantity of arguments supporting their thinking than individuals low in NFC.

These findings offer further support for the possibility of a relationship between cognitive style and parole decision making. Again, however, none of the differences in relative magnitude described above were significant. As such, a replication of this study with a larger sample size and an expanded decision making procedure would be useful in providing more definitive information in this area.

On the other hand, the current study was able to provide information on the moderating role of the board members' perceptions of the offenders' likelihood of staying crime-free until warrant expiry (i.e., likelihood of success) on the parole decision making variables. Though no interaction effect involving likelihood of success was found for the relationships between cognitive style and parole decision making, such an effect was detected with regards to the relationship of offender type with release decision. In other words, the relationship between offender type and the parole decision making variables differed according to the board member's perception of the offender's likelihood of successful warrant completion.

It is important to underscore, however, that moderation effects are assessed statistically by the detection of an interaction between two factors – in this case, type of offender and likelihood of success. The detection of this interaction does not provide information on the mechanics of the moderation effect (Baron & Kenney, 1986). Therefore, while it was hypothesized that likelihood of success would moderate the relationship between offender type and release decision, an alternative interpretation of this finding is that offender group membership moderates the relationship between perceived likelihood of success and the parole decision making variables. In fact, the indications that offender type is the most important predictor of release decisions (both within this study and elsewhere), combine to provide support for the latter explanation.

Implications

Taken together, the present findings provide preliminary indications that board members use their existing knowledge, either obtained from previous practical experience or from an understanding of research on parole outcomes, to guide their release decision making. Specifically, the present results indicate that grant rates are higher for offender types known to be good release risks, lower for those known to be poor risks, and that reviews of file information focus on that information which is most linked to parole outcome. If these findings are replicated among parole board members, it would provide further support for previous findings that parole decision makers focus on specific, albeit limited, information (e.g., Bottomley, 1973; Carroll et al., 1982; Lloyd, 2005; McCarthy & Lagnworthy, 1987; Turpin-Petrosino, 1999).

Previous researchers have found that time pressure increases the tendency to reduce the information reviewed in reaching parole release decisions (Hawkins, 1983).

It is quite possible that the somewhat abbreviated considerations of file information displayed in this study result from decision making strategies learned in actual parole decision making situations, which involve limited time for each case (National Parole Board, 2005b; New Zealand Parole Board, 2005). Within this context, parole board members seem to have developed decisional heuristics ('short-cuts') which allow them to process information more rapidly by focusing on that information which has proven most relevant to parole outcome in the past. As previously mentioned, decisional heuristics can be both adaptive (e.g., Dhimi, 2003) and maladaptive (e.g., Grove et al., 2000). In a context of significant time pressure, however, it would seem that the board members' strategy would be adaptive. Specifically, if there is only time for consideration of a limited amount of information, it seems intuitively appropriate that this information be that which has previously been found to be most associated with recidivism and parole outcome.

Nonetheless, these decisional strategies, if replicated, may be seen as problematic for two inter-related reasons. First, the guiding principles and legislative requirements of both the NPB and the NZPB indicate that certain information must be considered in reaching release decisions (*CCRA*, 1992; National Parole Board, 2005a; New Zealand Parole Board, 2002). For both boards, this information includes victim impact statements and mental health reports, which were the two types of additional information accessed least consistently by the board members in this study. These results, if also found in actual parole decision making practice, would suggest that parole board members are not fully following guidelines and legislation pertaining to information reviews.

Secondly, both the NPB and the NZPB have a legal requirement to decide each case on its own merit (*CCRA*, 1992; *Parole Act 2002*, 2002). In this context, it would arguably be appropriate to consider the outcomes of previous parole decisions in conjunction with a full review of the file of the offender presently being considered. It is questionable, however, whether focusing exclusively on those components of the present offender's file corresponding to information found to be relevant for *previous* offenders would be in accordance with this legislation. Though it is beyond the scope of this study to offer recommendations relating to these preliminary indications, this area may require further attention from the bodies responsible for compliance with guidelines and legislation in the respective boards.

As mentioned, the present research also confirmed the existence of differences in release rates across offender types, as has previously been found elsewhere (National Parole Board, 2005b). What is unique about the present findings, however, was the discovery that these differences were maintained when both risk ratings (as assigned by the researcher) and likelihood of successful warrant completion (as perceived by the board members) were the same across vignettes. As previously stated, this is consistent with previous indications that risk is perceived as a gendered and relative construct (Hardyman & Van Voorhis, 2004). These findings lead to a number of suggestions. First, they lend support to calls for the development of actuarial measures of risk of recidivism which are culture- and gender-sensitive to better anchor decisions for those offenders with whom the present measures cannot appropriately be used (e.g., Hannah-Moffat & Shaw, 2001). Secondly, it may be beneficial for parole boards to formulate more specific definitions of what is meant by each risk rating, and what release decisions

would appropriately correspond to such ratings. Finally, and similarly, these results underscore the importance of the development and use of a standardized decision making model for use by parole board members (e.g., Serin, 2005). Failure to address the latter two concerns could, if the present findings are replicated, lead to challenges as to the accuracy or fairness of release decisions.

Finally, in this researcher's opinion, the present findings suggest that further investigation of the relationships between cognitive style and parole decision making is necessary. Future findings in this area may have practical implications for the parole boards, particularly if the degree to which a member is characterized by a style is found to be linked to the accuracy of release decisions. Though it is thought that cognitive style is a relatively stable personality construct (e.g., Cacioppo & Petty, 1982), it is possible that it is simply one that is slow to change. As mentioned previously, both the NFC Scale and the PNS Scale exhibit high test-retest reliabilities in the short term (Neuberg & Newsom, 1993; Sadowski & Gulgoz, 1992; no test-retest reliabilities were found for the PNS Scale). Longer term test-retest reliabilities are infrequently available. In the case of NFC Scale, however, a three-year test-retest reliability of $r = .66$ has been reported (Cacioppo et al., 1996), suggesting that individuals' level of this cognitive style can change over time. Consequently, parole board trainers may choose to target, over the long term, certain cognitive behaviours which characterize cognitive styles which are found to be associated with the most appropriate decision making. For instance, they may train board members to adapt the tendencies associated with their cognitive style in order to better meet the requirements of the decision making process.

If this proves to be too time-consuming, or if the cognitive styles prove to be insufficiently malleable, an understanding of the interaction of release decision making with cognitive style may nonetheless be valuable to the boards. Though a comprehensive program of research would be necessary to justify it, it may eventually be suggested that cognitive style be included in the interview and assessment stages of the board member selection and appointment process. This would allow the NPB and the NZPB to ensure that their members possess the cognitive styles most conducive to accurate and fair release decision making.

Strengths and Limitations

Methodology and study design. As is typical of research in a relatively new area, this study was somewhat exploratory in nature, and was therefore marked by a number of methodological and design-related limitations. The principal limitation was the small sample size. The population of parole board members is limited, and there has recently been an increase in the number of surveys and other studies targeting members of the NPB (e.g., Thomas & Serin, 2005); it is possible that this pool of potential participants has reached a 'research saturation point', resulting in a lowering of their interest in and willingness to participate in research. Regardless of the reason, the number of board members (especially NPB members) who participated in the study was lower than anticipated, leading to a number of further concerns. First, caution must be used in generalizing the present results to those board members who did not participate – it is possible that those members who chose to participate in the study differ in some way from those who did not. Secondly, the sample size / outcome variable ratio was relatively low for the multiple regressions across vignettes (i.e., the regressions of mean

breadth of information accessed and mean decisional confidence on scores on the measures of cognitive style), which means that these findings may generalize poorly to other samples. Last, the small sample size resulted in relatively weak power, making it difficult to interpret the study's results with high confidence.

The difficulty in identifying significant results associated with this low power was further compounded by an additional methodological limitation. Specifically, multiple analyses were computed using the same independent variables. As previously mentioned, statistical corrections were used to control family-wise significance levels across analyses. Such corrections, however, increase the likelihood of making a Type II error – that is, of failing to find support for an effect which does in fact exist. Taken together with the issue of power, this difficulty may have seriously limited the likelihood of finding evidence of relationships that may in fact exist in this sample.

This inability to find evidence of relationships may also be related to the study's reliance on self-report measures. It has been recognized for some time that self-reported data is often marked by biases associated with deliberate or unconscious self-misrepresentation, including social desirability bias (Mills & Hogan, 1978; Sax, 1997). Though the role of social desirability has been found to be statistically insignificant in responding to the NFC Scale and the PNS Scale (Cacioppo & Petty, 1982; Neuberg & Newsom, 1993), no literature on such relationships between social desirability and the PFI Scale or the Case-Based Vignettes was available. Moreover, previous findings indicating that the influence of social desirability was not problematic were based on student populations. It is possible that the board members were more apt to attempt to portray themselves favourably than students. It is likely, however, that the participants'

awareness of their anonymity served to minimize any potential problems associated with socially desirable responding, thereby protecting the study's findings.

Despite these limitations, this study had a major design-related strength. Careful planning was involved in ensuring that no potential participants were excluded. Given the small number of parole board members, it was important that study results be as representative of the composition of the two boards as possible. By recruiting from the entire population of NPB members in Canada and of NZPB members in New Zealand (i.e., from all regions), and by providing materials in both French and English, the study's sampling strategy did not exclude any potential participants. This ensured that the findings would not be limited to members from specific regions or those selected in some other way. (Though it should not be forgotten that, as mentioned previously, caution must be exercised in generalizing to those members who did not participate in the study.)

The study had an additional strength. The study was the first, to this researcher's knowledge, to assess these specific components of release decision making using a sample of parole board members. As such, the data collected may serve both as preliminary normative data within these boards and as a secondary source contrast for research with alternate samples. This may be particularly useful if future researchers focus on parole decision makers in a variety of jurisdictions; such studies may eventually lead to the identification and adoption of best practices from a variety of sources.

Case-Based Vignettes. Strengths and limitations were also associated with the use of the Case-Based Vignettes. This was the first use of this measure, and it was noted that it confounds offender type with gender and ethnicity. That is, the woman and Aboriginal offender vignettes differed from the others both in terms of gender / ethnicity and in

terms of the offense described in the vignette. Though post hoc analyses attempted to account for confounds with regards to the Aboriginal offender, no such analyses were possible for the woman offender. As such, conclusions regarding these offender vignettes must be made tentatively.

Study conclusions were also impacted by the representativeness of the vignettes. Given that the measure was developed in collaboration with a number of NPB members, the vignettes were expected to be similar, overall, to cases which board members encounter professionally¹⁵. In contrast to expectations, the vignettes were not uniformly rated as being representative of those encountered professionally. Specifically, the non-violent offender vignette, and, to a lesser extent, the woman offender vignette, were rated as particularly unrepresentative; these vignettes may require refinement. The reason for these lower than anticipated ratings is unknown, though it is possible that it be associated with the presentation of information, both in terms of presentation style (computerized versus paper) as well as in terms of concision and organization of information.

Conversely, the representativeness ratings in this study also point to one of the measure's strengths – applicability of the measure with a parole board other than the NPB. For each vignette, the representativeness ratings provided by the NZPB members were quite high, indicating that the measure can appropriately be used with this group. This applicability is likely due to the process used in the measure's development. During development, Serin (2005) incorporated the feedback of a number of NPB members in an

¹⁵ Actual parole decision making involves the review of each offender's file in conjunction with a summary of the file produced by non-member board employees. Full files can be extensive, and summaries are typically between ten and 25 pages in length. Though decisions are often reached based solely on this review, a hearing is sometimes also held. In this situation, after having independently reviewed the offender's file, two or three board members interview the offender and then reach a decision jointly. A written decisional summary is then produced as a record of the review and the factors considered in the decision making process (National Parole Board, 2005a).

iterative process. As such, the measure approximates, as closely as possible, the information which the members encounter daily. Despite the unexpected representativeness findings, described above, this close approximation of the information contained in case summaries strengthens the study's construct validity, and, in doing so, provides a strong argument for generalizing study findings to the actual release decision making in which board members engage.

A second strength associated with the instrument was its use of a computerized presentation format. In addition to facilitating participation and data collection, and minimizing or eliminating data entry errors, this format can easily be adapted for other studies and for other uses. Specifically, the format would be of considerable utility in the training of new board members. In this context, the computerized presentation would facilitate case-based learning, which is recognized as a superior learning strategy when applied to realistic decision making situations (Jarz, Keinz & Walpoth, 1997).

Specifically, trainees would have the opportunity to practice their decision making strategies and receive feedback on their final decisions, as well as on how such decisions compare to those made by more experienced board members. Though no research was found on trainees' perceptions of case-based learning in parole decision making specifically, evaluations have found that trainees in other fields are generally enthusiastic about the method and perceive that the method enhances learning (Dochy, Segers, van den Bossche & Struyven, 2005; Shokar, Bulik & Baldwin, 2005).

Future Directions

Further research in parole decision making should address the above limitations and expand on some of the ideas presented in this study. Of particular interest would be

an examination of gender and ethnicity which disentangles these factors from offender type. Specifically, it would be beneficial to conduct an examination of parole decision making variables which explicitly examines the impact of gender and Aboriginal status (the two most discrepant vignettes in terms of release decision in the current study). To do so, future researchers could have board members consider vignettes which differ only in terms of the offender's gender or ethnicity. Similarly, future researchers may wish to supplement the existing vignettes with ones portraying offenders with specific characteristics, such as mental health issues. Again, the presence of such factors could be manipulated in order to assess their unique impact, while controlling for offence type.

The present results also suggest the value in a modification of the current design which would allow for better examination of the influence of cognitive style. A study involving a larger sample size and an expanded decisional task would better be able to assess the relationships between cognitive style and the parole decision variables, and thereby provide more definitive information on whether any such relationships exist.

A direct examination of the causal relationships presumed to explain this study's findings would also be informative. A study designed to experimentally assess these relationships would broaden our understanding, suggest further areas of study and of intervention, and allow for the testing of assumed relationships. For instance, such a study would provide clarification of the moderation effect identified between offender type and likelihood of success. An experimental design would also reduce concern regarding the impact of demographic and other participant factors on the outcome.

Finally, future researchers should attempt to link the present findings to decisional accuracy. While the present findings shed light on certain components of the decision

making process (e.g, information considered, importance of offender type in decision), they do not address accuracy in parole decision making. A replication of the current study using non-hypothetical cases, for which the outcome is known, would serve to increase the relevance of the present study, particular with regards to board member training. It would also be informative to examine the relationships between decisional accuracy and the use of the decisional heuristic(s) suggested earlier.

Conclusion

There is presently little research on the factors influencing release decisions made by members of parole boards. To date, attention has been mainly focused on decision making in broader contexts; of those studies addressing parole decision making specifically, very few included participants from Canada and New Zealand. As such, the current study, which addressed the role of the demographic characteristics and cognitive styles of individual release decision makers, as well as the type of offender case being considered, served to augment the scarce academic knowledge in this area.

Though the present study confirmed previous findings that the type of offender case being considered was significantly related to the release decision, there was virtually no evidence of relationships between either the board members' demographic characteristics or their cognitive styles and release decision making. Perhaps more interestingly, however, the findings from this study provided preliminary indications of the use of decisional heuristics among parole decision makers. Specifically, the patterns of results detected in this study suggested that board members focused on specific, though limited, information in reaching their release decisions; the information considered, however, was information which had previously been found to be related to

recidivism and parole outcomes. Such decisional heuristics may have developed as an adaptive response to the time pressures associated with decision making in the board members' usual responsibilities. Nonetheless, such strategies require further investigation and consideration within the framework of regulatory guidelines and legislated requirements.

The present research serves as a first step towards better understanding the factors influencing and the processes underlying release decision making among parole board members. Continued research in this area may have many practical consequences, including increases in public safety and in transparency and equity in the decisions rendered. Given these impacts, it is surprising that so little research has focused on this area; with this study, this omission begins to be addressed.

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Appendix A: Measures

Background Questionnaire

1. Please indicate your gender.

- Male Female

2. Please indicate your age.

- 18-24 25-34 35-44 45-54 55-64 65+

3. Please indicate the number of years you have worked for the parole board.

4. Please choose, from the options below, the one which is most reflective of your professional background.

- Law, criminal justice, correctional service
- Human service delivery (teacher, social worker, non-government organization)
- Other

Case-Based Vignettes (Serin, 2005)**Woman Offender****Part I - Vignette**

This is the case of a 34 year-old woman offender who is serving 6 years for possession of narcotics for the purpose of trafficking. Police information indicates she was arrested during an undercover operation transporting drugs for her boyfriend. She pleaded guilty and co-operated with police. She has served 3 years and has applied for day parole release. Presently she is in medium security. She has 2 prior provincial sentences for fraud, theft over \$1000 and 2 breaches of probation. She is a single mother and her 6 year-old daughter has been a ward of the Children's Aid Society since age 12 months. She has had no contact with her daughter, although she believes she may try and re-establish contact once her life is straightened out.

She had 2 institutional misconducts in the first 6 months, one for refusing a direct order and one for disrespectful language. The former related to refusing to end a phone call to her boyfriend, the latter was simply an argument. Initially she was somewhat difficult, but has shown an improvement since. She has a serious drug problem (cocaine) and is currently finishing programming. Further, she has been attending psychological counseling to deal with sexual abuse she suffered as an adolescent. Reports indicate she has made good progress. She has been doing academic upgrading and eventually hopes to go to community college.

Reports on file indicate she is a moderate risk to re-offend (no statistical scale applies). She has residency confirmed at a CRC and plans to attend Narcotics Anonymous upon release. Overall, current programming reports are reasonably positive.

CSC is recommending day parole release and the CRC is supportive.

Part II - Additional information**a) Risk Assessment**

While structured risk instruments such as the SIR-R1 cannot be used with women offenders, the offender's variety of offenses (drugs, fraud, theft), her breaches of probation, and the initial institutional misconducts all suggest she is *not* a low risk offender.

b) Mental Health Information

No formal diagnosis has been provided, but her psychological counseling has focused on dealing with being sexually assaulted by a step-father from ages 12 to 14. Initially she sought respite through alcohol use, but shortly thereafter she ran away from home. She

believes her addictions relate to her experiences being abused. She lacks several of the key criteria for a diagnosis of borderline personality disorder.

c) Victim Information

There is no victim information. Her lawyer described the offender as a victim in this crime given the history of sexual abuse and the role of her boyfriend in having her trafficked in cocaine. The sentence length relates to the large quantity of drugs seized and her initially unrepentant presentation to the courts.

d) Program Information

Reports on file indicate she has actively participated in the substance abuse program. She completes homework assignments and interacts well with others. She reports that she has gained a great deal from her involvement in the program. She missed one class due to illness, but sought out the assignment from the program officer.

e) Release Plan

She realizes that in order to make a better life she must sever her antisocial ties and become self-sufficient. Academic upgrading will situate her to go to community college – she has always had an interest in working with children. She believes she can be accepted as a mature student once she has high school equivalency, which she expects to attain in 6 months. She also knows that drugs were a key escape for her and feels Narcotics Anonymous, with its combination of support and accountability, will assist her to avoid relapse. She has had regular contact with the CRC and they are supportive of residency.

f) Criminal History

Court information suggests that her criminal involvement began shortly after she ran away from home. Initially she lived briefly on the streets and then bounced from one negative relationship to another. Criminality has been acquisitive (frauds, thefts, drugs) to secure money for drugs and to live. The seriousness of her crimes has escalated with involvement with more criminally involved male partners. The breaches were simply a result of new charges while on probation.

Aboriginal Offender

Part I - Vignette

This is the case of a 35 year-old male Aboriginal offender serving a 5 year 6 month sentence for multiple offenses (theft, impaired driving, assault causing bodily harm, fail to appear x 2, and break and enter x 4). The majority of his crimes have been committed while under the influence or to secure money for alcohol. He has served 3 years and has applied for day parole release to an Aboriginal CRC. He has a prior provincial and federal sentence for essentially property crimes due to alcohol problems. He failed to receive a parole release during either previous sentence and had refused programming. Early during his current sentence he had several institutional charges (under the influence, fighting). Initially he refused to participate in programming but subsequently acquiesced. He has regularly been seen by an Elder for the past year and has participated in Sweat ceremonies. His Elder noted early resistance but feels he has made progress and is on the path. He would like to see the offender supported to sustain these changes. Post-treatment reports from Search of the Warrior indicate recent improved effort and modest gains. He is currently attending Alcoholics Anonymous. Prior to coming to prison he had not considered Native spirituality issues.

Reports on file indicate he is a moderate risk to re-offend (no statistical scale applies). He has residency confirmed at a CRC and plans to attend but indicates he will take a Native substance abuse program in the community. Overall, current programming reports are reasonably positive. He has had no contact with his family for many years although he is considering returning to his community following day parole.

CSC is recommending day parole release and the CRC is supportive.

Part II - Additional information

a) Risk Assessment

While structured risk instruments such as the SIR-R1 cannot be used with Aboriginal offenders, the offender's variety of offenses (theft, impaired driving, assault, fail to appear and break and enter) his prior provincial and federal incarcerations, and his institutional misconducts all suggest he is *not* a low risk offender.

b) Mental Health Information

No formal diagnosis has been provided, but Elder counseling has focused on dealing with resistance, anti-authoritarian attitudes and recognizing the importance of Native spirituality. Alcohol abuse is seen as being related to his lifestyle impulsivity, not mental health concerns.

c) Victim Information

The only victim information relates to the assault. This occurred in a bar during an altercation with another patron. Words were exchanged over a perceived slight and the offender assaulted the other person. The victim suffered a bloody nose, a slight concussion and dental damage when he fell against a table but did not go to the hospital. The break and enters all occurred when the offender broke into nearby cottages during the winter months, gaining access by snowmobile.

d) Program Information

Reports on file indicate he has participated in the Search of the Warrior (a specific Aboriginal program). Initially the offender refused to participate in programs but his Elder convinced him of the merits of participation. Overall, improvements have been noted with better participation in terms of completion of homework assignments and interaction with others. He reports has gained a great deal about Native spirituality from his involvement in the Aboriginal-specific programming.

e) Release Plan

He realizes that in order to make a better life he must sever his antisocial ties and become self-sufficient. Employment and substance abuse are key areas he intends to address upon release. He realizes that alcohol was a convenient explanation for his criminality and feels his new-found spirituality will guide him in the future. He will continue Native substance abuse programming in the community with Aboriginal staff at the CRC. He has had regular contact with the CRC and they are supportive of residency.

f) Criminal History

Court information suggests that his criminal involvement began as a juvenile and has continued somewhat intermittently since. Including his earliest crimes, he was drinking during the commission of his crimes or committed crimes to secure money for alcohol. Not all of his crimes were committed with accomplices, although the most recent break and enters into cottages involved a co-accused. Criminality has been acquisitive (frauds, thefts, drugs) to secure money for alcohol and to live. The density of his crimes has escalated with a more severe addiction.

Sex Offender

Part I – Vignette

This is the case of a 37 year-old male offender serving a 6 year sentence for sexual assault against his two daughters. At the time of the offenses, 6 years ago, they were 12 and 13 years old. There is no prior criminal history. He has served 3 years and has applied for day parole release to a CRC.

The offenses came to light 18 months after their commission during a period of marital instability and work difficulties. He and his wife separated at that time. She quickly filed for divorce and they are now divorced. She wants no contact with the offender. The pre-sentence report indicates that the offender, an accountant, was increasingly depressed and abusing alcohol to cope with marital issues. Initial fondling of his daughters led to sexual intercourse. The assaults occurred over a 3 year period. The daughters told a friend who told her parents who reported it to the police. When accosted, he immediately made a culpable statement to the police.

In his current sentence he has had one minor incident when he attempted to contact his daughters. He indicates he was writing to ask forgiveness. This was part of a assignment in his sex offender program, but he was not expected to mail the letter. Post-treatment reports are positive. He has regularly been attending Chaplaincy programs and Alcoholics Anonymous. Reports on file suggest the alcohol abuse was related to poor coping with negative affect.

Reports on file indicate he is a moderate risk to re-offend (SIR-R1). He has residency confirmed at a CRC in a community approximately 100 km from his wife's home. Overall, current programming reports are reasonably positive.

CSC is recommending day parole release and the CRC is supportive.

Part II - Additional information

a) Risk Assessment

His SIR-R1 score of -5 indicates that half of offenders will re-offend within 3 years of release. The offender's involvement with both his daughters over a 3 year period, with escalation of the intrusiveness of the assaults, and his abuse of alcohol also suggest he is *not* a low risk offender. Further, his effort to contact his daughters while he was incarcerated is viewed as problematic.

b) Mental Health Information

No formal diagnosis has been provided, but depressive symptoms were reported to be an antecedent to his sexual assaults. It appears the marital instability and work difficulties increased stress, which resulted in depression that he managed through alcohol abuse.

These factors combined to lead to his sexual exploitation of his daughters. There was no evidence of paraphilia in the pre-sentence psychiatric report.

c) Victim Information

Victim impact information is provided by both his daughters and his ex-wife. The daughters describe feelings of betrayal and disappointment. Both continue in counseling to address issues of trust and their school grades have markedly deteriorated. His ex-wife remains angry at her husband and feels guilty that she didn't notice any signs of the abuse. The family is opposed to any contact with the offender, despite his involvement in counseling.

d) Program Information

Reports on file indicate he has actively participated in the sex offender program with reasonably positive reports. He completes homework assignments and interacts well with others. The program staff feels he may still rationalize his crime using external factors such as depression and alcohol. The offender reports he has found strength from his renewed faith through Chaplaincy programs. He has also regularly attended Alcoholics Anonymous since his admission to prison.

e) Release Plan

He has several leads regarding employment and realizes he cannot live in the same city as his family. He will participate in a sex offender maintenance program and seek psychological counseling as recommended by his parole officer. He has had regular contact with the CRC and they are supportive of residency.

f) Criminal History

There is no prior criminal history. Trial information did indicate a 12 hour suspension from driving when caught in a R.I.D.E. program 2 years prior to his arrest. He was on bail for 14 months prior to his trial. He pleaded guilty.

Violent Offender

Part I – Vignette

This is the case of a 34 year-old male who is serving 6 years for armed robbery (x3). Victim impact statements indicate the store clerks were threatened and still experience trauma-related symptoms. He has 2 prior provincial sentences for robbery and weapons charges and he has a Youth Criminal Justice record for thefts and escapes. The motive for the robberies appear to have been financial - he has no job skills, was unemployed, and was using drugs with friends on a daily basis. Most of his friends have been involved with the courts, although he has had no contact with them since his most recent incarceration.

In his current sentence he initially had several incidents (fighting, contraband), but after 6 months he had made a marked improvement. At admission he had been recommended for academic upgrading, Cognitive Living Skills, Anger Management and Substance Abuse programming. After 40 months he has attained a Grade 10 level and completed the programs. Reports on file are reasonably positive regarding his participation and performance. He believes difficulty in finding employment and hanging out with friends were key factors in his crimes. He has continued support from his mother and an older brother. His brother is married, works as a mason, and has offered the offender accommodation. Both feel the offender has matured and that he is trying to set realistic goals. They also feel he needs structure upon release in order to succeed.

Reports on file indicate he is a moderate risk to re-offend (SIR-R1). He has residency confirmed at a CRC within 30 minutes of his brother's home. Overall, current programming reports are reasonably positive.

CSC is recommending day parole release and the CRC is supportive.

Part II - Additional information

a) Risk Assessment

His SIR-R1 score was -4 meaning that 50% of offenders will re-offend within 3 years of release. This is not an estimate of violent recidivism. The prior provincial sentences, Young Offender crimes, escapes, and varied crimes all suggest he is *not* a low risk offender. Further, the institutional incidents are disconcerting.

b) Mental Health Information

No formal diagnosis has been provided. Some psychological reports have suggested he would likely meet the criteria for antisocial personality disorder given the antisocial history and attitudes, plus substance abuse and impulsivity

c) Victim Information

The victim impact information indicates that during the robberies the offender was verbally abusive and threatening. In fact he indicated that if they identified him that he would seek them out and harm them. All victims were young and report trauma-related symptoms in terms of fear, sleep problems, and anxiety. The offender now realizes he was out of control and that the current sentence stopped him before he did serious harm to someone when committing a crime.

d) Program Information

Reports on file indicate he has actively participated in education as well as anger management and cognitive skills programs. In fact, he has made considerable progress, attaining a Grade 10 which should assist in employment and completing all programs on his correctional plan. He has maintained contact with his family who he feels will be an important support upon his release.

e) Release Plan

He realizes that in order to make a better life he must sever his antisocial ties and become self-sufficient. His academic upgrading will help with employment and living at a halfway house will provide the structure he needs initially upon release. His family will provide support given that he will be living close by. Eventually he hopes to work with his brother and learn a trade as a mason. He expects his parole officer will require him to take maintenance programs upon release. He has had regular contact with the CRC and they are supportive of residency.

f) Criminal History

He has a serious and escalating criminal history as evidenced by his Young Offender history, the 2 prior provincial sentences, and the robberies. He has strong ties with antisocial peers and has just completed the various programs identified in his correctional plan. The institutional misconducts are seen as a continuation of his antisocial behaviour. More recently he has turned things around by taking programs.

Domestic Violent Offender

Part I - Vignette

This is the case of a 36 year-old man serving a 6 year sentence for assault (x2) and harassment. Alcohol abuse had led to prior arrests for impaired driving and two incidents of assault against a previous partner. Pre-sentence reports indicate that the offender was involved in a conflicted relationship during which time police were called. The situation became increasingly problematic with his partner moving to a woman's shelter and him harassing her with phone calls. Victim impact statements indicate she remains fearful that he will try to find her. His prior crimes include fines and probation for assaults and impaired driving. Described on file as a strong-willed individual, he has worked in numerous jobs, rarely staying more than 2 years. He has maintained positive contact with his brother during his incarceration.

In his current sentence he initially had a couple of minor verbal incidents with other offenders but these have not persisted. At admission he had been recommended for Substance Abuse and Family Violence programs. After 36 months he has completed both programs without major problems. Reports on file are reasonably positive regarding his participation and performance. Staff feels he still is somewhat resentful but the offender states his past is his past and he intends to move forward.

Reports on file indicate he is a low risk to re-offend (SIR-R1) but a specialized risk scale that measures the likelihood of future spousal assault (the SARA) places him in the moderate risk category. He has residency confirmed at a CRC within 30 minutes of his brother's home. Overall, current programming reports are reasonably positive.

CSC is recommending day parole release and the CRC is supportive.

Part II - Additional information

a) Risk Assessment

His SIR-R1 score is +6, meaning that 2 out of 3 offenders will not re-offend within 3 years of release. The SARA, however places him in the moderate risk category because of the harassment conviction and two prior domestic assaults. Alcohol abuse is also a risk factor. He is *not* considered a low risk to re-offend against a partner.

b) Mental Health Information

No formal diagnosis has been provided. Similar to other spousal assaulters, he sometimes presents as somewhat controlling and dismissive of his partners' views.

c) Victim Information

There is only victim information for the most recent relationship. His partner left him and went to a women's shelter; the harassment charges resulted from his finding her and calling her repeatedly. During their time living together he had been verbally abusive and on more than one occasion hit her with his fist. She was never admitted to hospital for her injuries. The victim remains fearful that he is resentful that he is in prison and concerned that he try to find her upon release. For this reason she has changed her name and has moved to an undisclosed location.

d) Program Information

Reports on file indicate he has participated in the substance abuse and family violence programs as required by his correctional plan. He did all that was asked of him, but staff felt that at times his commitment was questionable. He reports he has better learned how to "fight fair" in relationships and he doesn't expect further conflict in future relationships. His view is that it takes two to have an argument and he is ready to move on.

e) Release Plan

He realizes that he must start a new life and is looking forward to the challenge. His only community support is his brother. Employment has never been a problem for the offender and he is willing to take any job in order to re-establish himself in the community. He has had regular contact with the CRC and they are supportive of residency.

f) Criminal History

Court information suggests that his criminal involvement began in his mid-20s. Essentially all crimes involved alcohol or domestic disputes or both. Of the prior assaults, one involved a partner and one was an argument in a bar that escalated into a fight. The seriousness of his domestic violence has escalated from verbal abuse to assaults. In the current crime he pleaded guilty to assault charges and the threatening charges were withdrawn.

Non-Violent Offender

Part I – Vignette

This is the case of a 36 year-old man serving a 6 year sentence for fraud (x6), conspiracy, and breach (x3). Although alcohol abuse has been noted, and led to prior arrests for impaired driving, the principal incentive for these crimes appears to have been financial. Pre-sentence reports indicate that the offender was involved in a series of business ventures that were intended to defraud vulnerable people from their savings. The offender and two co-accuseds promised a variety of products to investors, none of which were provided. They moved across Canada with their scheme and used the internet, as well. Victim impact statements indicate many of the investors lost their life savings as a result of their trusting his claims. He has one assault when he was aged 19, for which he received a 30 day sentence. Otherwise, his prior crimes include fines and probation for impaired driving and fraud and one breach of recognizance. He is described on file as a charismatic and verbally convincing individual.

In his current sentence he has had a couple of minor incidents where he was caught providing three-way telephone services to offenders for a small fee. Once detected, he stopped. At admission he had been recommended for Cognitive Living Skills and Substance Abuse programming. After 36 months he has completed both programs without major problems. Reports on file are reasonably positive regarding his participation and performance. Staff feel he is certainly saying the right things but are hesitant given the nature of his criminal history.

Reports on file indicate he is a moderate risk to re-offend (SIR-R1). He has residency confirmed at a CRC. Overall, current programming reports are reasonably positive.

CSC is recommending day parole release and the CRC is supportive.

Part II - Additional information

a) Risk Assessment

His SIR-R1 score is 0, meaning that 2 out of 3 offenders will not re-offend within 3 years of release. The offender's variety of offenses (fraud, breach, and assault), his organized criminal activity, and the initial institutional misconducts all suggest he is *not* a low risk offender.

b) Mental Health Information

No formal diagnosis has been provided. The offender has been described as narcissistic, self-serving and callous. He believes his problems result from early childhood problems regarding punitive parents and a lack of affection.

c) Victim Information

The victim information indicates many people lost significant sums of money. For a good number this represented their life savings and they are devastated. A lawyer is determining whether a class action civil suit is possible.

d) Program Information

Reports on file indicate he has actively participated in the programs. He completes homework assignments and interacts well with others. Indeed, he often takes a lead role in the class.

e) Release Plan

He realizes that in order to make a better life he must sever his antisocial ties and become self-sufficient through law-abiding means. He has taken an interest in welding and ironwork. He has completed market research via the internet and believes he could do quite well opening his own business as an artist. Eventually he would travel to arts and craft shows and do custom pieces. He believes he has learned the error of his ways. He has had regular contact with the CRC and they are supportive of residency.

f) Criminal History

Court information suggests that his criminal involvement began with an assault. Specific details regarding his criminality are unclear given his relatively few convictions. It appears that other than the assault and an impaired driving conviction, other convictions have been fraud-related. There is one breach when he absconded after he convinced his boss to post bail. The current breaches occurred when he failed to adhere to a court condition not to run his own business while on bail for the current charges.

Vignette Follow-Up Questions

You have chosen to [grant / deny] release.

How confident are you in your decision?

Please rate your level of confidence in having made the most appropriate release decision.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

How would you rate the offender's likelihood of success?

Please rate how likely you feel it would be that the offender, if released, would remain crime-free until warrant expiry.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

How would you rate the representativeness of this case?

Please rate how representative this case is of those which you encounter in the course of your daily work.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Need for Cognition Scale (Cacioppo & Petty, 1984)

1. I would prefer complex to simple problems.
2. I like the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun. ^a
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. ^a
5. I try to anticipate and avoid situations where there is a likely chance that I will have to think in depth about something. ^a
6. I find satisfaction in deliberating hard and for long hours.
7. I only think as hard as I have to. ^a
8. I prefer to think about small, daily projects than long-term ones. ^a
9. I like tasks that require little thought once I've learned them. ^a
10. The idea of relying on thought to make my way to the top appeals to me.
11. I really enjoy a task that involves coming up with new solutions to problems.
12. Learning new ways to think doesn't excite me very much. ^a
13. I prefer my life to be filled with puzzles that I must solve.
14. The notion of thinking abstractly is appealing to me.
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort. ^a
17. It's enough for me that something gets the job done; I don't care how or why it works. ^a
18. I usually end up deliberating about issues even when they do not affect me personally.

^a Items are reverse scored.

Personal Need for Structure Scale (Thompson et al., 2001)

1. It upsets me to go into a situation without knowing what I can expect from it.
2. I'm not bothered by things that interrupt my daily routine.^a
3. I enjoy having a clear and structured mode of life.
4. I like to have a place for everything and everything in its place.
5. I find that a well-ordered life with regular hours makes my life tedious.^a
6. I don't like situations that are uncertain.
7. I hate to change my plans at the last minute.
8. I hate to be with people who are unpredictable.
9. I find that a consistent routine enables me to enjoy life more.
10. I enjoy the exhilaration of being in unpredictable situations.^a
11. I become uncomfortable when the rules in a situation are not clear.

^a Items are reverse scored.

Personal Fear of Invalidity Scale (Thompson et al., 2001)

1. I may struggle with a few decisions but not very often. ^a
2. I never put off making an important decision. ^a
3. Sometimes I become impatient over my indecisiveness.
4. Sometimes I see so many options to a situation that it is really confusing.
5. I can be reluctant to commit myself to something because of the probability that I might be wrong.
6. I tend to struggle with most decisions.
7. Even after making an important decision I want to continue to think about the pros and cons to make sure that I am not wrong.
8. Regardless of whether others see an event as positive or negative I don't mind committing myself to it. ^a
9. I prefer situations where I do not have to decide immediately.
10. I rarely doubt that the course of action I have selected will be correct. ^a
11. I tend to continue to evaluate recently made decisions.
12. I wish I did not worry so much about making errors.
13. Decisions rarely weigh heavily on my shoulders. ^a
14. I find myself reluctant to commit to new ideas but find little comfort in remaining with the tried and true.

^a Items are reverse scored.

Appendix B: Description of Data and Transformations

Variable	Distribution / Violation	Original Distribution / <i>M (SD)</i> [Range]	Correction	Revised Distribution / <i>M (SD)</i> [Range]
<u>Demographic Variables</u>				
Parole board	No violation	'NPB' = 71%	N/A	N/A
Gender	No violation	'Male' = 58%	N/A	N/A
Age group	No violation	All categories > 10%	N/A	N/A
Experience	No violation	All categories > 10%	N/A	N/A
Background	No violation	All categories > 10%	N/A	N/A
<u>Cognitive Style Scales</u>				
Need for Cognition Scale	Normal dist.	65.0 (4.6) [56 – 73]	N/A	N/A
Personal Need for Structure Scale	Normal dist.	38.9 (4.6) [28 – 49]	N/A	N/A
Personal Fear of Invalidity Scale	Normal dist.	50.4 (4.9) [38 – 62]	N/A	N/A
<u>Case-based Vignettes (across vignettes)</u>				
Percentages of releases granted	Normal dist.	59.4 (25.7) [0 – 100]	N/A	N/A
Information accessed	Normal dist.	4.2 (2.0) [0 – 6]	N/A	N/A
Decisional confidence	Normal dist.	76.6 (10.4) [61.7 – 98.3]	N/A	N/A
Likelihood of success	Normal dist.	57.1 (14.7) [26.0 – 96.7]	N/A	N/A
Representativeness	Normal dist.	63.6 (19.4) [18.3 – 95.0]	N/A	N/A
<u>Case-based Vignettes (by vignette)</u>				
<i>Woman Offender</i>				
Release decision	No violation	'Grant' = 84%	N/A	N/A

(table continues)

Variable	Distribution / Violation	Original Distribution / $M(SD)$ [Range]	Correction	Revised Distribution / $M(SD)$ [Range]
Information accessed	Normal dist.	4.1 (2.2) [0 – 6]	N/A	N/A
Decisional confidence	Normal dist.	76.5 (12.3) [60 – 100]	N/A	N/A
Likelihood of success	Normal dist.	60.3 (20.1) [10 – 90]	N/A	N/A
Representativeness	Normal dist.	58.1 (30.4) [10 – 100]	N/A	N/A
<i>Aboriginal Offender</i>				
Release decision	No violation	'Grant' = 42%	N/A	N/A
Information accessed	Normal dist.	3.9 (2.4) [0 – 6]	N/A	N/A
Decisional confidence	Normal dist.	76.8 (13.5) [50 – 100]	N/A	N/A
Likelihood of success	Normal dist.	46.8 (23.9) [10 – 100]	N/A	N/A
Representativeness	Normal dist.	68.7 (20.8) [20 – 100]	N/A	N/A
<i>Sex Offender</i>				
Release decision	No violation	'Grant' = 74%	N/A	N/A
Information accessed	Normal dist.	4.4 (2.2) [0 – 6]	N/A	N/A
Decisional confidence	Negative skew Platykurtic 1 outlier	76.5 (18.2) [10 – 100]	Recoded outlier to next highest value (recoded <50 to 50)	77.7 (14.3) [50 – 100]
Likelihood of success	Negative skew Platykurtic 1 outlier	75.5 (19.1) [10 – 100]	Recoded outlier to next highest value (recoded <40 to 40)	76.5 (16.2) [40 – 100]
Representativeness	Normal dist.	66.5 (25.2) [10 – 100]	N/A	N/A
<i>Violent Offender</i>				
Release decision	No violation	'Grant' = 58%	N/A	N/A

(table continues)

Variable	Distribution / Violation	Original Distribution / $M(SD)$ [Range]	Correction	Revised Distribution / $M(SD)$ [Range]
Information accessed	Normal dist.	4.4 (2.0) [0 – 6]	N/A	N/A
Decisional confidence	Normal dist.	77.4 (12.1) [50 – 100]	N/A	N/A
Likelihood of success	Normal dist.	47.7 (25.0) [0 – 90]	N/A	N/A
Representativeness	Normal dist.	69.4 (17.0) [30 – 100]	N/A	N/A
<i>Domestic Violence Offender</i>				
Release decision	No violation	'Grant' = 41%	N/A	N/A
Information accessed	Normal dist.	4.6 (2.2) [0 – 6]	N/A	N/A
Decisional confidence	Normal dist.	75.9 (15.8) [50 – 100]	N/A	N/A
Likelihood of success	Normal dist.	56.7 (25.0) [10 – 100]	N/A	N/A
Representativeness	Normal dist.	63.3 (25.7) [10 – 100]	N/A	N/A
<i>Non-violent Offender</i>				
Release decision	No violation	'Grant' = 54%	N/A	N/A
Information accessed	Normal dist.	4.2 (2.4) [0 – 6]	N/A	N/A
Decisional confidence	Skew (neg.) Platykurtic 1 outlier	76.1 (18.3) [10 – 100]	Recoded outlier to next highest value (recoded <50 to 50)	77.5 (14.0) [50 – 100]
Likelihood of success	Normal dist.	55.4 (27.4) [0 – 100]	N/A	N/A
Representativeness	Normal dist.	55.7 (27.4) [10 – 100]	N/A	N/A

Appendix C: Correlations amongst Measures

Measure	2.	3.	4.	5.	6.	7.	8.
Across Vignettes							
Case-based Vignettes							
1. Percentage of releases granted	.37 [†]	.13	.47 ^{††}	-.15	-.07	.32	.19
2. Information accessed	--	.05	.17	.09	-.25	-.08	.01
3. Decisional confidence		--	.26	-.07	-.04	.03	.16
4. Likelihood of success			--	.14	.14	.23	.28
5. Representativeness				--	.34	-.07	-.06
6. Need for cognition					(.84)	-.06	.22
7. Personal need for structure						(.78)	-.14
8. Personal fear of invalidity							(.70)
By Vignette							
Case-based Vignettes							
<i>Woman offender (N = 31)</i>							
1. Release decision (1 = 'grant')	.47 ^{††}	.02	.63*	.24	.29	.13	.27
2. Information accessed	--	.07	.11	.18	-.26	-.13	-.03
3. Decisional confidence		--	.28	-.28	-.17	-.22	.01
4. Likelihood of success			--	.22	.36 [†]	.14	.31
5. Representativeness				--	.24	.09	-.01
<i>Aboriginal offender (N = 31)</i>							
1. Release decision (1 = 'grant')	.13	-.24	.37 [†]	-.23	-.04	.41 [†]	-.07
2. Information accessed	--	.14	.26	-.16	-.12	-.03	.12
3. Decisional confidence		--	-.14	-.04	-.21	-.33	-.23
4. Likelihood of success			--	.19	.15	.37 [†]	.20
5. Representativeness				--	.41 [†]	-.21	.12
<i>Sex offender (N = 31)</i>							
1. Release decision (1 = 'grant')	-.06	.64*	.65*	.06	-.26	.33	.11
2. Information accessed	--	.03	-.24	.14	-.25	-.08	-.01
3. Decisional confidence		--	.58*	.06	-.11	.05	.21
4. Likelihood of success			--	.01	-.23	.08	-.10
5. Representativeness				--	.18	-.11	-.16

(table continues)

Measure	2.	3.	4.	5.	6.	7.	8.
<i>Violent offender (N = 31)</i>							
1. Release decision (1 = 'grant')	-.10	-.18	.72*	.12	-.06	.08	.16
2. Information accessed	--	-.22	-.06	.23	-.38 [†]	-.15	.00
3. Decisional confidence		--	-.24	-.01	.04	.04	.15
4. Likelihood of success			--	.19	.18	.06	.36 [†]
5. Representativeness				--	.35	-.21	.01
<i>Domestic violence offender (N = 27)</i>							
1. Release decision (1 = 'grant')	.21	-.07	.48 [†]	-.17	.05	.08	.01
2. Information accessed	--	-.38	.16	.05	-.21	-.04	-.01
3. Decisional confidence		--	.29	-.03	.04	.06	-.08
4. Likelihood of success			--	-.09	.17	.29	.31
5. Representativeness				--	.19	.01	-.39 [†]
<i>Non-violent offender (N = 28)</i>							
1. Release decision (1 = 'grant')	.24	-.12	.23	-.20	-.20	.06	.12
2. Information accessed	--	.06	-.10	-.02	-.19	-.03	-.01
3. Decisional confidence		--	-.13	.05	.13	.21	.22
4. Likelihood of success			--	-.03	-.14	-.10	-.08
5. Representativeness				--	.33	-.05	.14

Note. The internal consistency (Cronbach's alpha) coefficients of the cognitive style measures appear in parentheses on the diagonal of the 'Across Vignettes' section.

[†] $p < .05$. ^{††} $p < .01$.

* $p < .001$. (Bonferroni correction: $.05 / 196 = .00025$; .001 used to approximate this level of significance due to limitations of the statistical software used.)

Appendix D: Regression Coefficients for Models Including
Likelihood of Success and Interaction Terms

Table D1. *Logistic Regression of Release Decision on Likelihood of Success and Offender Type*

Independent Variable	B	S.E.	Odds Ratio	95% C.I.	
				Lower	Upper
Women offender	-1.64	1.32	0.19	0.01	2.60
Aboriginal offender	-0.58	0.67	0.56	0.15	2.09
Sex offender	-3.40	1.63	0.03	0.00	0.81
Violent offender	-2.14	1.13	0.12	0.01	1.08
Domestic violence offender	-1.23	0.85	0.29	0.06	1.56
Likelihood of success	0.19	0.05	1.21**	1.10	1.33
Women offender x likelihood	0.05	0.03	1.05	1.00	1.10
Aboriginal offender x likelihood	0.01	0.01	1.01	0.99	1.03
Sex offender x likelihood	0.05	0.02	1.05	1.01	1.10
Violent offender x likelihood	0.05	0.02	1.05	1.01	1.10
Domestic violence off. x likelihood	0.02	0.01	1.02	0.99	1.04

Note. Reference category in calculating odds ratios is 'grant'.

** $p < .003$ (Bonferroni correction: $.01 / 3$).

Table D2. *Multiple Regression of Information Accessed on Offender Type and Likelihood of Success*

Independent Variable	<i>B</i>	<i>S.E. B</i>	95% C.I. for <i>B</i>		β
			Lower	Upper	
Women offender	-0.66	0.81	-2.26	0.93	-0.23
Aboriginal offender	-1.05	0.66	-2.25	0.26	-0.36
Sex offender	1.13	1.10	-1.03	3.29	0.39
Violent offender	-0.42	0.70	-1.33	1.25	-0.14
Domestic violence offender	-0.09	1.31	-1.90	0.98	-0.02
Likelihood of success	0.02	0.03	-0.04	0.08	0.23
Women offender x likelihood	0.01	0.01	-0.02	0.04	0.24
Aboriginal offender x likelihood	0.02	0.01	-0.01	0.04	0.38
Sex offender x likelihood	-0.01	0.02	-0.04	0.02	-0.30
Violent offender x likelihood	0.00	0.01	-0.02	0.02	0.04
Domestic violence off. x likelihood	0.01	0.01	-0.01	0.04	0.24

All results non-significant.

Table D3. *Multiple Regression of Decisional Confidence on Offender Type and Likelihood of Success*

Independent Variable	<i>B</i>	<i>S.E. B</i>	95% C.I. for <i>B</i>		β
			Lower	Upper	
Women offender	0.91	5.87	-10.69	12.51	0.05
Aboriginal offender	0.93	4.70	-8.36	10.21	0.05
Sex offender	4.67	17.00	-28.90	38.24	0.27
Violent offender	-2.41	4.43	-11.17	6.34	-0.14
Domestic violence offender	1.28	5.74	-10.05	12.61	0.07
Likelihood of success	-1.76	0.72	-3.18	-0.35	-3.28
Likelihood of success, squared	0.02	0.01	0.01	0.03	3.61**
Women offender x likelihood	-0.18	0.23	-0.63	0.27	-0.68
Aboriginal offender x likelihood	-0.02	0.19	-0.41	0.36	-0.08
Sex offender x likelihood	-0.33	0.52	-1.34	0.69	-1.32
Violent offender x likelihood	0.14	0.19	-0.24	0.51	0.48
Domestic violence off. x likelihood	-0.18	0.23	-0.63	0.27	-0.65
Women offender x likelihood ²	0.002	0.00	0.00	0.01	0.75
Aboriginal offender x likelihood ²	0.000	0.00	0.00	0.00	-0.01
Sex offender x likelihood ²	0.003	0.00	0.00	0.01	1.05
Violent offender x likelihood ²	-0.001	0.00	-0.01	0.00	-0.41
Domestic violence off. x likelihood ²	0.002	0.00	0.00	0.01	0.61

** $p < .003$ (Bonferroni correction: $.01 / 3$).

Table D4. *Multiple Regressions of Decision Making Variables on Cognitive Style Scores and Likelihood of Success*

Independent Variable	<i>B</i>	<i>S.E. B</i>	95% C.I. for <i>B</i>		β
			Lower	Upper	
Release Rate					
Need for cognition	-0.07	0.05	-0.17	0.03	-1.31
Personal need for structure	0.00	0.04	-0.08	0.08	-0.02
Personal fear of invalidity	0.08	0.04	0.00	0.16	1.49
Likelihood of success	-0.01	0.06	-0.14	0.12	-0.68
Need for cognition x likelihood	0.00	0.00	0.00	0.00	4.81
Personal need for structure x likelihood	0.00	0.00	0.00	0.00	0.48
Personal fear of invalidity x likelihood	0.00	0.00	0.00	0.00	-4.40
Information Accessed					
Need for cognition	-0.06	0.41	-0.91	0.79	-0.14
Personal need for structure	0.17	0.33	-0.51	0.84	0.38
Personal fear of invalidity	0.66	0.33	-0.02	1.35	1.62
Likelihood of success	0.93	0.55	-0.21	2.04	6.92
Need for cognition x likelihood	0.00	0.01	-0.02	0.01	-0.65
Personal need for structure x likelihood	-0.01	0.01	-0.01	0.01	-1.76
Personal fear of invalidity x likelihood	-0.01	0.01	-0.02	0.00	-5.28
Decisional Confidence					
Need for cognition	1.37	2.41	-3.62	6.36	0.60
Personal need for structure	1.02	1.91	-2.93	4.98	0.45
Personal fear of invalidity	-0.05	1.93	-4.05	3.96	-0.02
Likelihood of success	2.56	3.23	-4.12	9.24	3.61
Need for cognition x likelihood	-0.03	0.04	-0.12	0.06	-2.89
Personal need for structure x likelihood	-0.02	0.04	-0.09	0.05	-1.23
Personal fear of invalidity x likelihood	0.01	0.03	-0.07	0.08	0.43

All results non-significant.