CORRECTIONAL PROFESSIONALS' SELF-REPORTED ADHERENCE AND ATTITUDES TOWARD THE RISK-NEED-RESPONSIVITY (RNR) MODEL OF OFFENDER CASE MANAGEMENT

by

Cailey Alexis Gilmurray

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Supervisor:	Mary Ann Campbell, Ph.D., Department of Psychology
Supervisory Committee:	Enrico DiTommaso, Ph.D., Department of Psychology Lilly Both, Ph.D., Department of Psychology
Examining Board:	Margo Watt, Ph.D., Department of Psychology (St. Fx; Honourary Research Associate of the Psychology GAU) Rob Moir, Ph.D., Department of Economics

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Abstract

In Canada, the number of offenders on community supervision is high, with probation being one of the most common types of supervision. To properly manage these offenders in the community, it is important that correctional policies use evidence-based practices for crime prevention and reduction. In Canada, the Risk-Need-Responsivity model (RNR; Andrews, Bonta, & Hoge, 1990) forms the foundation of these evidence-based practices and treatment interventions. However, research suggests that "what works" does not always translate into practice (Bonta & Andrews, 2017). The goal of the current thesis was to examine attitudes and barriers that might influence the implementation of the RNR model among a sample of probation officers, parole officers, forensic/correctional psychologists, and correctional case managers recruited throughout North America. A sample of 99 professionals completed an online survey via email invites sent to criminal justice and professional organizations. Overall, the current study found that professionals have positive attitudes and a high level of knowledge about the principles of effective offender rehabilitation. Furthermore, both job satisfaction and RNR training were significant predictors of these positive attitudes. Professionals with positive attitudes were also more likely to adhere to the RNR principles in a high risk case vignette. Further research is needed on the factors that affect RNR adherence in practice. These findings are important because they will identify areas of need for training in best practices for effective offender rehabilitation. These findings inform RNR application procedures and training development for correctional staff.

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Correctional Professionals' Self-reported Adherence and Attitudes Toward the Risk Need Responsivity (RNR) Model of Offender Case Management

Between 2012 and 2013, the incarceration rate in Canada for both adult and youth offenders on any given day is an average of 41,409 individuals, which is approximately 118 persons in custody for every 100,000 people in the population (Statistics Canada, 2014). Although high, Canada has approximately one-sixth of the incarceration rate of the United States (716 per 100,000 individuals in a population; Statistics Canada, 2014). The number of adult offenders in 2013 on community supervision is even higher (N = 119,952). Probation[1,2] is one of the most common forms of community supervision in Canada, with approximately 61% (N = 98,051) of adult offenders within correctional services and 81% (N = 10,498) of youth offenders within correctional services under this form of correctional supervision on any given day (Statistics Canada, 2014).

Adult offenders are also serving other forms of community supervision, with Correctional Service Canada reporting supervision of an average of 7,895 offenders per day through day parole, full parole, and statutory release. Among youth offenders on community supervision (N = 11,534), approximately 3% (N = 404) are serving a portion of their custody and supervision order in the community, 3% (N = 327) are serving a deferred supervision and custody order, and 2% (N = 305) are in an intensive support and supervision program. In order to successfully manage these offenders in the community, correctional policies must be based on evidence-based practices for crime prevention and reduction, which include the use of risk/need assessment tools to guide intervention and case management plans (Haas & DeTardo-Bora, 2009).

The Risk-Need-Responsivity (RNR) model (Andrews, Bonta, & Hoge, 1990) forms the theoretical basis of many evidence-based practices and treatment interventions in Canada. This model identifies to whom, and at what intensity, service and supervision should be provided; what to target for change with intervention; and how to intervene using strategies shown to reduce criminal behaviour by means of individualized case plans that take into consideration a person's strengths and capacities. Many existing case-management tools are RNR based. Correctional professionals (e.g., probation/parole officers, correctional psychologists, and other mental health service providers involved in case management) are often mandated to follow policies in line with the RNR model and have been trained in the application of RNR principles and case management planning (Vitopoulous, Peterson-Badali, & Skilling, 2012). It also forms the basis of common case management tools used by these professionals for offenders.

Research suggests that correctional programming that adheres to the core principles of the RNR model is effective at reducing criminal behaviour (Andrews & Bonta 2010; Andrews, Zinger et al., 1990; Bonta & Andrews, 2017; Dowden & Andrews, 1999a). However, research has found that these RNR principles are not always adhered to by professionals in the field, and case management recommendations derived from RNR based risk/need assessment tools are often ignored in practice (i.e., Bonta, Rugge, Scott, Bourgon, & Yessine, 2008; Haas & DeTardo-Bora, 2009; Harris, Gingerich, & Whittaker, 2004; Luong & Wormith, 2011). These findings suggest that further research is needed to understand why professionals do not utilize the RNR principles in their work as intended. At present, little data is available on staff buy-in

with regard to RNR principles and how training can impact their utilization of these principles (Haas & Detardo-Bora, 2009). Thus, research is needed on their implementation and level of adherence by professionals in the real world (Miller & Maloney, 2013).

Given the paucity of research in both Canada and the United States on these issues, the main goal of the current thesis will be to evaluate North American correctional professionals' attitudes about the RNR model and identify possible barriers to adherence of these principles, such as personal characteristics (age, gender, personality), professional background (education, training), RNR specific perceptions and knowledge (attitudes about offender rehabilitation and RNR practices), and organizational issues (job stress, organizational commitment, job satisfaction). Understanding potential barriers can help agencies adapt their staff training programs and increase staff buy-in to the RNR model, which is important given that the RNR model is one of the most effective models of offender assessment and rehabilitation (Bonta & Andrews, 2017).

History of Offender Rehabilitation

In the 1970s, researchers began to doubt the notion of rehabilitation in correctional populations and support grew for the perspective that "nothing works" (Martinson, 1974). As a result of Martinson's negative review of the research, a punishment model became the dominant perspective in correctional settings (Andrews & Bonta, 2010). However, research shows that punishment (e.g., incarceration) is often not effective as a form of correctional rehabilitation because it is delayed in comparison to the immediate reinforcement that occurs after a criminal act (Andrews & Bonta,

2010). Andrews and Bonta (2006) found that when treatment was not provided to offenders, punishment actually led to enhanced feelings of mistreatment, increased association with other offenders, and had little effect on the major criminogenic needs that contribute to the risk of criminal behaviour. In addition, incarceration has been shown to either increase recidivism or have no effect (Andrews & Bonta, 2010).

Beginning in the 1980s and early 1990s, there was shift away from the "get-tough" movement and researchers began to focus on psychologically informed approaches of offender rehabilitation (Andrews, Zinger et al., 1990; Bonta & Andrews, 2017). This shift in focus was a result of an increased understanding of factors that work to decrease crime, as well as better identification of the personal risk factors for criminal behaviour. The RNR model of correctional assessment and treatment (Andrews & Bonta, 2010; Andrews, Zinger et al., 1990; Bonta & Andrews, 2010; Bonta & Andrews, 2017) is a set of principles that were developed with a specific focus on psychology as it applies to human behaviour, and in particular criminal behaviour. The RNR model is one of the leading models for the assessment and treatment of offenders used in Western Countries (Ward, Mesler, & Yates, 2007) and is conceptualized within the General Personality and Cognitive Social Learning (GPCSL) model (Andrews & Bonta, 2006). The GPCSL model explains criminal behaviour as being the result of an interaction between an individual's personality dispositions and how his/her criminal behaviour is shaped through social learning which contributes to the individuals' outlook on criminal behaviour and the anticipated consequences of such behaviour (Bonta & Andrews, 2007). Specifically, the offender is likely to engage in criminal behaviour when the rewards of this behaviour are perceived to outweigh the prosocial costs of engaging in

non-criminal behaviour. In addition, the RNR model recognizes that biological, personal, cultural, familial, and interpersonal factors interact with personality and environmental contingencies to increase the risk of criminal behaviour (Andrews, 2012).

Predictors of Criminal Behaviour

Development of the RNR model is strongly supported by numerous meta-analyses of the relevant literature focusing on predictors of criminal behaviour, as well as correctional treatment outcome research following RNR principles (Andrews, 2012). These programs have allowed researchers to further clarify the major, moderate, and minor risk factors for criminal behaviour (Bonta, Law, & Hanson, 1998; Gendreau, Little, & Goggin, 1996). Based on this research, Bonta and Andrews (2017) have identified eight risk/need factors for criminal behaviour and recidivism, which they have called "the central eight" criminogenic needs. Four of these risk factors: history of antisocial behaviour, antisocial personality pattern, antisocial cognition, and antisocial associates have been named the "Big Four" because they are most strongly associated with recidivism, with a predictive validity estimate (*r*) of .26 (Andrews & Bonta, 2006). The other four risk factors: family/marital circumstances, problems with school/work, poor use of leisure recreation, and substance abuse are moderately associated with recidivism, with a predictive validity estimate (*r*) of .17 (Andrews & Bonta, 2006). Seven of these risk factors can be addressed and targeted through intervention because they are dynamic (i.e., changeable) in nature. Criminal history cannot be targeted through intervention because it is a static risk factor (it can increase, but not decrease). It is important to highlight these risk factors for recidivism because a majority of risk assessment instruments are composed of these major and minor risk factors. It is these

dynamic risk factors that serve as the targets of intervention to reduce criminal behaviour.

The Risk-Need-Responsivity Model of Offender Rehabilitation.

The RNR model is a well-validated model of "what works" in offender rehabilitation; of the 15 principles in the model, its developers highlight three core principles (Andrews, 2012; Andrews & Bonta, 2010; Bonta & Andrews 2017). The *risk* principle involves two key aspects. First, the RNR model recognizes that instruments exist that allow for a reliable estimation of risk based on consideration of empirically identified risk factors that are assessed prior to service or supervision. Second, the risk principle calls for matching the intensity of supervision and rehabilitation services to an offenders' reoffending risk level. This principle suggests that intensive service should be reserved for higher risk individuals because they respond better to more, versus less, intensive services. In addition, this group tends to have more numerous or serious risk factors than lower risk offenders who do well with no or only minimal levels of interventions because such individuals are likely to abstain from future offending on their own with little to no guidance and support (Andrews & Bonta, 2010; Andrews, Zinger et al., 1990; Andrews & Dowden, 2006). Unfortunately adherence to the risk principle does not often occur in everyday practice and there tends to be pressure to focus intensive treatment resources on lower risk offenders, who are often viewed as more compliant and amenable to treatment (Bonta & Andrews, 2007). This practice is problematic given that exposing low risk offenders to more intensive services than warranted by their risk level has been shown to actually lead to negative outcomes (Andrews & Dowden, 2006).

An appropriate match between an offender's level of risk and treatment intensity is necessary to maximize risk reduction. For example, Andrews and Dowden (2006) found a 10% difference in recidivism rates among high-risk offenders when the appropriate treatment was delivered, in comparison to only a 3% reduction in recidivism when treatment was unnecessarily applied to low risk offenders. Furthermore, researchers have found that recidivism rates double (from 15 to 32%) when low risk offenders receive intensive services in comparison to minimal levels of treatment, whereas there is a reduction in recidivism by almost half (from 51% to 32%) when high risk offenders appropriately receive intensive treatment services (Bonta, Wallace-Capretta, & Rooney, 2000). Collectively, these results suggest that it is important to respect the risk principle.

The *need* principle highlights the importance of targeting offenders' criminogenic needs. These criminogenic needs are changeable (i.e., dynamic) risk factors for crime (Andrews & Bonta, 2010). These needs may be changed through intervention or occur naturally over time; changes in these needs have been shown to be related to changes in the risk of recidivism (Andrews & Bonta, 2010; Andrews, Bonta et al., 1990; Taxman & Thanner, 2006; Vieira, Skilling, & Peterson-Badali, 2009). Examples of criminogenic needs include antisocial cognitions and antisocial associates. Offenders may possess other needs that are not associated with criminal behaviour and these are referred to as non-criminogenic needs. Examples of non-criminogenic needs can include fear of official punishment, personal distress, living conditions, and poor self-esteem or ambition (Andrews & Dowden, 2006). In Canada, there are structured risk/need assessment tools that professionals use to identify the individualized

criminogenic needs profile of each offender. Andrews and Dowden found that when all criminogenic needs (excluding substance abuse) were targeted in treatment programs, high risk cases had significantly higher effect sizes for risk reduction than low risk cases. When professionals target criminogenic needs for intervention there tends to be a reduction in crime in comparison to non-significant effects or increased reoffending when non-criminogenic needs are targeted (Andrews, 2012). For example, prior research has found that an increased frequency of discussing probation conditions in probation officer-offender supervision sessions is related to increased criminal behaviour (Bonta et al., 2008). Overall, research suggests that as long as a program adheres to the three major principles of the RNR model, targeting one non-criminogenic need does not necessarily rule out positive risk reduction outcomes for an offender (Dowden & Andrews, 2004). Unfortunately, a majority of correctional and criminal justice professional training programs are not RNR based, fail to teach how to match interventions to the offender's risk level and criminogenic profile, nor stress the focus on criminogenic needs (Bonta et al., 2011).

The *responsivity* principle emphasizes both general and specific responsivity (Andrews & Bonta, 2010). General responsivity involves the application of social learning and cognitive- behavioural principles that emphasize skill building to influence an offender's behaviour. Specific responsivity advocates for the tailoring of intervention services to match an offender's specific learning needs, mental health issues, age, gender, personality, cognitive abilities, and other characteristics (Andrews & Bonta, 2010; Brooks Holliday, Heilbrun, & Fretz, 2012). The need and responsivity principles are both important because they recognize the capacity for change in an individual when

the correct interventions are applied to influence the target behaviour (Bonta & Andrews, 2007). For example, an offender may have antisocial cognitions and positive attitudes towards crime, but if a professional reframed their client's positive cognitions into prosocial values and attitudes they would be recognizing that change is possible within this individual.

Adherence with RNR principles determines the success of any correctional program, with several meta-analytic studies finding recidivism reductions of 26-30% when all three principles are followed in the design and implementation of the intervention (Andrews, Zinger et al., 1990; Dowden & Andrews, 1999a; 1999b; 2000). Other researchers have reported reductions in recidivism of up to 50% with adherence to all three principles (Andrews & Bonta, 2006). In addition, when all three principles are adhered to, recidivism reduction is evident in residential/custodial settings (17% reduction) and especially when delivered in community settings (35% reduction). In general, research shows that as adherence to these principles increases, the impact on offender recidivism also increases (Bonta & Andrews, 2017). Specifically, when only one principle is followed, the impact on recidivism is negligible (r = .02, k = 106), when two principles are followed the impact increases (r = .18, k = 84), and a robust effect on recidivism reduction is produced when three principles are followed (r = .26, k = 60; Bonta & Andrews, 2017). Importantly, research suggests that the RNR model is applicable to several populations, including women, youth, minority, and violent offenders and can be applied in both custodial and community settings (Andrews & Bonta, 2006; Andrews & Bonta, 2010; Dowden & Andrews, 1999a; 1999b; 2000; Vieira et al., 2009; Vitopoulos et al., 2012).

Andrews and Bonta (2006) found a 19% difference in recidivism rates when criminogenic needs were successfully addressed and a 23% difference in recidivism rates with adherence to the responsivity principle. However, research suggests that, within probation case management, adherence to the responsivity principle is the lowest of the three RNR principles (Bourgon, Gutierrez, & Ashton, 2012). This low adherence may be due to the inherent difficulty of implementing this principle in practice (Polaschek, 2012). Campbell, Dyck and Wershler (2014) suggested that probation officers may have challenges with using responsivity principles due to a lack of experience or exposure to evidence-based practices and skills for how to modify one's approach to accommodate a responsivity issue, and/or unfamiliarity with the types of rehabilitation supported within the RNR model. It was also noted that probation officers may not record these specific responsivity adjustments in their case records, making it difficult to capture use of this principle from file reviews.

Adherence to the RNR model is associated with the success rates of correctional agencies (Lowenkamp, 2004; Lowenkamp & Latessa, 2002). More specifically, agencies that employed standardized risk/need assessment tools modeled after the RNR principles had a greater effect on recidivism than agencies that did not employ these tools (correlations with effect sizes of .33 and .16; Lowenkamp, 2004). Andrews and Dowden (2005) found a higher effect size (*r*) of .26 for six indicators of program implementation and delivery when the RNR principles were adhered to versus a mean correlation (*r*) of -.01 when these programs did not adhere to the RNR principles. Some of these indicators included variables like training of staff, use of a specific model of treatment, and supervision of staff by clinical supervisors. Thus, the prevailing evidence

suggests that when programs adhere to the principles of risk, need, and responsivity, core correctional practices have a stronger effect, with the most robust effects being observed for community-based settings and small-scale demonstration projects that involved the staff in the design or delivery of the program (Dowden & Andrews, 2004).

In addition to the three core RNR principles, there are 12 remaining breadth principles relevant to this model of practice. The overarching principles (i.e., respect for the person and his/her normative context, use of psychological theory, and general enhancement of crime prevention services) highlight that services delivered should show respect for the person, be empirically-based, and seek to reduce criminal victimization (Andrews, 2012). Andrews also argued that professionals need to target a greater number of criminogenic needs in comparison to non-criminogenic needs, and assess an individual's strengths in order to enhance potential specific responsivity effects. Structured assessments should be well-validated and target the three core principles (risk, need, and responsivity), and these assessments should inform early intervention. The professional discretion, or override principle, suggests that professionals can deviate from risk tool recommendations, but only when they have enough evidence and justification to do so. Discretionary overrides can be allowed when there are circumstances a professional feels are not addressed by the tool (Andrews, Bonta et al., 1990) or when external factors, such as limited availability of programs, impacts the decision made by the professional (Gebo, Stracuzzi, & Hurst 2006; Shook & Sarri, 2007).

One of the most effective ways to decrease criminal behaviour is to work with offenders from the human service perspective, especially when these offenders are

serviced in the community (Andrews & Bonta, 2006). These organization principles reinforce the notion that community-based settings are the most ideal for delivery of the RNR model and these interventions are enhanced when delivered by competent staff with high-quality relationship and structuring skills (Andrews & Bonta, 2006). In addition, management should support staff with ongoing RNR training and research should be used to inform the delivery of services to individuals (Andrews, 2012). Strong structuring skills might include use of effective disapproval rather than harsh punishment and prosocial modeling within the context of high-quality relationships that are respectful and caring. Andrews has noted that adherence to organizational staffing, organizational management and use of the breadth principles increase program effect sizes when the core principles of the RNR model also have been followed.

Field Implementation of the Risk-Need-Responsivity Model. Although there is a considerable amount of research suggesting that the RNR model is associated with reduced recidivism, there is only limited research that examines the actual practice of case management with the RNR model. Specifically, one weakness of the RNR model is the limited testing that has been done on its transfer into practice in "real world" settings (Bonta & Andrews, 2007). One of the few studies examining the application of the RNR model by Dowden and Andrews (2004) found that the mean effect size (*r*) of RNR-based demonstration programs was higher than when used in "real-world" settings (.38 and .15, respectively). More recently, programs have been developed to address the level of RNR adherence within correctional settings.

Gendreau and Andrews (2001) developed the Correctional Program Assessment Inventory (CPAI) to assess the level of RNR adherence within correctional-focused

programs. The CPAI considers general and specific responsivity, selection and training of staff, evaluation of staff, values and skills of staff, and delivery of behavioural or cognitive-behavioural interventions that focus on the offender's criminogenic needs. Importantly, research with the CPAI has found moderate to strong correlations between CPAI scores and reduced recidivism (Lowenkamp, 2004; Nesovic, 2003). To date, there is insufficient evidence that offender recidivism can be reduced through community supervision alone, meaning that the recidivism rates of individuals placed on probation may not differ from individuals who have been released from custody without supervision (Robinson, Vanbenschoten, Alexander, & Lowenkamp, 2011). Bonta et al. (2008) found only a 2% reduction in general recidivism for offenders on community supervision in the absence of intervention. Furthermore, many correctional professionals usually receive training, but the underlying content of this training is not RNR based (i.e., risk, need, and responsivity are not a main focus; Bonta et al., 2011). Thus, correctional professionals are not well-trained, and for those who have received some type of RNR-based training, there is an apparent lack of training on relating to clients in individual versus group settings (Paul & Feuerbach, 2008).

The Strategic Training Initiative in Community Supervision (STICS) was tested in an experimental study conducted by Bonta and colleagues (Bonta et al., 2010; Bonta et al., 2011). STICS is a training program for probation officers that focused on teaching core RNR principles, targeting skills for intervening with procriminal attitudes and thoughts, offender-client relationship building skills, and the use of cognitive-behavioural techniques. In addition to the initial training, probation officers had ongoing support that ranged from monthly meetings, to a refresher course one year after the

initial training. The study included retrospective clients (clients already on a probation officer's caseload) as well as new prospective clients of STICS trained probation officers, and control probation officers (who received no training) who were assigned to community supervision. Retrospective clients were included to measure probation officers' pre-training effectiveness at reducing recidivism. Sessions between probation officers and their probation clients were audio recorded and these audiotaped sessions were coded to measure the probation officers' level of adherence to the RNR principles. Probation officers who received STICS training demonstrated better adherence to the RNR principles in comparison to probation officers who did not receive any training (Bonta et al., 2011). Results also suggested that training resulted in a decrease in recidivism among probationers managed by trained officers in comparison to control officers. Probationers supervised by STICS participants had reconviction rates 15% lower than the control group (Bonta et al., 2011). Trained officers spent more time during supervision sessions discussing criminogenic needs, whereas the control group spent more time discussing non-criminogenic needs and probation conditions. During a supervision session, attention focused on non-criminogenic needs and probation conditions is actually counterproductive (Andrews & Bonta, 2010; Andrews, Bonta et al., 1990; Bonta & Andrews, 2017). In addition, Bonta and colleagues (2011) found higher recidivism rates among probationers when probation officers discussed probation conditions more often during a typical session (r = .25).

Bonta and colleagues (2011) found that STICS training increased attention to procriminal attitudes by trained officers in comparison to control officers (44.5% versus 14.3%, respectively). Trained officers demonstrated greater use of cognitive techniques,

as well as stronger structuring and relationship-building skills than officers who received no training. The use of cognitive techniques was the only intervention technique that was related to reduced recidivism (r = -.24), reinforcing the notion that cognitive-behavioural intervention skills play an important role in the reduction of recidivism. The STICS project was important because there are few studies that evaluate the effectiveness of training programs that have used the RNR principles to guide these programs, nor with regard to how these principles apply to one-on-one supervision.

In light of the positive risk reduction outcomes of the RNR model, researchers have developed RNR offender supervision programs, such as Maryland's Proactive Community Supervision program (PCS; Taxman, 2008) and Citizenship (Bruce & Hollin, 2009), both of which have a cognitive-behavioural basis and target high risk and moderate/high risk offenders, respectively. PCS engages offenders in a prosocial environment and involves community organizations that provide services for offenders. Following implementation of PCS, these offenders were less likely to reoffend than offenders completing traditional supervision (30% versus 42% of re-arrests, respectively; Taxman, 2008).

In Citizenship, offenders complete several modules that identify functions of their offending, target issues related to reoffending (such as criminal lifestyle and associates), increase motivation to change, as well as teach offenders problem-solving skills and other skills to help monitor their behaviour outside of the probation office (Pearson, McDougall, Kanaan, Torgerson, & Bowles, 2014). Pearson and colleagues conducted a stepped wedge clustered randomized control study with a sample of medium and high offenders under community supervision in the United Kingdom. A

stepped wedge cluster design is flexible in that researchers can allow treatments to crossover at different time points, usually in the direction from control to intervention, as well as take into account ethical issues given that all control groups will eventually receive the intervention (Hussey & Hughes, 2007). These researchers found that medium risk offenders who had participated in the Citizenship program (a cognitive-behavioural community supervision program focused on RNR principles) had a 20% overall reduction in reconvictions in comparison to 15% for the control group (who had not participated in the Citizenship program). Although this reduction difference was not statistically significant, these authors did find that the hazard for high risk offenders to reoffend was 34% lower in the Citizenship group than the control group after controlling for risk, and this finding was statistically significant (Pearson et al., 2014). These findings and those of Taxman (2008) continue to support probation case management strategies that are based on RNR principles. However, these findings also indicate that caution should be taken when translating evidence-based knowledge to practices, as it does not always meet expectations. In addition to adhering to principles of the RNR model, we need to consider other practices of correctional professionals, such as their use of risk assessment tools in their everyday practice to guide case management and planning.

Using a sample of youth offenders (N = 192), Luong and Wormith (2011) found that when needs identified by the Level of Service Inventory-Saskatchewan Youth Edition (LSI-SK; Andrews, Bonta, & Wormith, 2001) were not matched with the appropriate interventions, there were higher reconviction rates among high risk cases. High risk cases that had the appropriate interventions matched to their criminogenic

needs produced a 37.9% reduction in recidivism, whereas under-identification of interventions to address needs was related to an 81.7% chance of increased recidivism (Luong & Wormith, 2011). Youth workers were able to identify youth who had criminogenic needs in the area of procriminal attitudes and an antisocial pattern of behaviour, but interventions were not identified to respond to these criminogenic needs for half of these youth (Luong & Wormith, 2011). In addition, Flores, Travis, and Latessa (2004) found that when developing case management plans for youth, only 56.7% of correctional staff used the component scores on the Youth Level of Service/Case Management Inventory (YLS/CMI; Hoge & Andrews, 2002) to guide their treatment interventions. Planned interventions listed in these case management plans seemed to neglect criminogenic needs that were identified by the tool. These findings suggest that these youth workers were not attending to the need principle. This result is similar to Bonta et al.'s findings (2011) in which untrained probation officers only discussed procriminal attitudes in 17.9% of their supervision sessions relative to 45.2% among officers trained in STICS.

Using a sample of 148 youth who underwent a court-ordered forensic assessment at a mental health center in Toronto, Ontario, Peterson-Badali, Skilling, and Haqanee (2015) found that criminogenic needs were mentioned in a minimum of 50% of youth's assessment reports. When interventions were available in certain need domains, many youth were still not receiving services matched to their needs, with matched needs ranging from 15% (in the attitude domain) to 42% (in education/employment). Overall, there was a low service-to-recommendation matching (30.7%), with 40% of participants having no identified needs matched. This practice is problematic given that Vieira et al.

(2009) found that youth who received services that matched their identified needs reoffended at a rate of 25% in comparison to 75% of youth who did not receive services that matched their needs. Haqanee, Peterson-Badali, and Skilling's (2015) study of youth probation officers' experiences may further explain these findings. In their study, probation officers expressed the desire to address non-criminogenic needs first so that their clients had stability before addressing their client's criminogenic needs, and this practice may explain the low needs-to-service match. Thus, it is important to implement empirically validated risk/need assessment tools because such instruments can lead probation officers to make decisions that are more consistent with the RNR framework (Vincent, Paiva-Salisbury, Cook, Guy, & Perrault, 2012).

Factors Affecting Use and Compliance of RNR Principles

Given the vast amount of research that has accumulated on effective core correctional practices modeled after the RNR principles (Bonta & Andrews, 2017; Dowden & Andrews, 2004), many question why research on the one-to-one professional-offender supervision dynamic with regard to applying the RNR principles is so rare. This lack of research is surprising given that the majority of supervision sessions between a correctional professional and offender are conducted in a one-on-one dynamic. The little available research on this topic has found reconviction rates of 53.8% for officers who were trained in some aspects of the responsivity principle in comparison to reconviction rates of 64% when probation officers continued to engage in their traditional everyday practice in one-on-one supervision (Trotter, 1996). In another study, officers who had received training on the theory of risk, need, and responsivity, as well as skill-focused training for one-on-one supervision interactions (e.g., strategies

such as active listening, role clarification, and problem solving), demonstrated a 26% failure rate among their moderate-risk clients in comparison to 34% for the control officers who received no training (Robinson et al., 2011).

Annison, Eadie and Knight (2008) summarized recent research and stated that probation officers get the greatest job satisfaction from working with people and helping offenders. When working with these offenders in their everyday practice, probation officers have a great deal of discretion in the supervision strategies and decisions that they make. However, there is a lack of research that examines how barriers, such as an individual's attitudes and organizational factors (e.g. job stress and organizational commitment), affect adherence to RNR principles in practice.

Factors that may affect the transfer of RNR principles into "real-world" correctional settings can include varying levels of education, values and experiences of professionals, and improper organization management practices that hinder selection and training of staff (Bonta & Andrews, 2007). In reality, many agencies have a large number of cases, as well as many staff who may not have strong connections with the clinical assessment and treatment practices helpful to the tasks of offender rehabilitation (Andrews & Dowden, 2007). In addition, there may be barriers to effectively using risk assessment tools in accordance with RNR concepts due to a lack of appropriate training, limited service options available to match an offender's needs, a lack of structured-decision making processes, and a disbelief in the positive outcomes of implementing a risk assessment tool (Shook & Saari, 2007).

Training and Attitudes Influencing Correctional Professionals' Case Management Practices. Although professionals are using RNR jargon, they might not

be adhering to these principles (Andrews, 2012). As previously mentioned, Bonta et al. (2008) found only moderate adherence to the RNR principles by probation officers. Lack of training in the use of risk and need assessment tools may be one factor that interferes with transferring risk/need assessment tool results into RNR consistent case management plans (Luong & Wormith, 2011).

Miller and Maloney (2013) suggested that non-compliance with evidence-based practice, such as the RNR model, can take on many different forms such as risk tool non-completion, careless tool completion, tool manipulation, or non-adherence to tool recommendations. A frequently reported barrier to the use of a risk assessment tool is the length of time it takes to complete these assessments (Vincent et al., 2012). Past research has found that even when risk assessment tools are available for use, or it is agency policy to complete them, staff still do not employ these tools as they should (Haas & Detardo-Bora, 2009; Shook & Sarri, 2007). Numerous studies have found that probation officers often override structured decision-making tools, fail to develop case management plans for criminogenic needs outlined by risk assessment tools, or use these tools only partially to inform supervision decisions (Bonta et al., 2008; Shook & Sarri, 2007). According to Flores et al. (2004) professionals seemed to be using the YLS/CMI primarily as a risk assessment tool rather than a case management tool. Probation officers may not be completing the case management plans or leaving them blank because of time constraints or the fact that the responsivity portion of risk assessment tools are not needed to assess an offender's level to reoffend (Campbell et al., 2014). Other research has found that only 42% of professionals used the results of the LSI-R to develop offender reentry plans for their incarcerated adult clients (Haas &

DeTardo-Bora, 2009). The limited research on how case management guided by risk/need assessments can affect offender recidivism may help explain pessimism among probation staff about the relation between criminogenic need-based plans and their impact on offender recidivism (Hannah-Moffat & Maurutto, 2003).

Persson and Svensson (2011) found that probation officers viewed risk assessments as potentially harmful for their probationers because these tools were used at the pre-sentence stage and no outcome had yet been decided by the court. Shook and Sarri (2007) found that probation officers across four States (Illinois, Michigan, Indiana, and Ohio) in the United States stopped using a risk assessment tool only two years after its implementation within their organization. This policy is unfortunate given that other researchers have found that it can take up to three years before a risk assessment is fully integrated into practice. Researchers found a moderate association (r = .25) between risk assessment scores and reoffending in correctional facilities that had used the tool for 3 or more years, in comparison to a small association (r = .14) when the tool had been in place for less than 3 years (Flores, Lowenkamp, Holsinger, & Latessa, 2006). In another study of correctional staff in West Virginia, Haas and DeTardo-Bora (2009) found that only 41.6% of correctional staff (and less than 30% of parole officers) used a risk-assessment tool (i.e., the LSI-R) when developing a reentry plan for their caseload. Underutilization of these tools may be a result of professionals' misguided belief in the effectiveness of clinical judgment, or skepticism in the effectiveness of treatment planning to reduce recidivism in offenders (Schwalbe, 2004; Shook & Sarri, 2007).

There are a limited number of studies that investigate the degree to which risk assessment RNR-based results identifying criminogenic needs, recidivism risk level and

responsivity concern correspond with the actual offender case management plans developed for these cases. Bonta et al. (2008) found that, among 175 needs identified by probation officers for probationers, only 39.4% of these needs had a corresponding intervention plan. For youth, it was more difficult to develop intervention plans due to many unique situations, such as gang involvement or contact with parents (Bonta et al., 2008). Two major criminogenic needs, antisocial attitudes and peers, were identified for approximately half of these offenders, but were seldom discussed in the supervision session (only 8.8% for antisocial attitudes and 21.1% for antisocial peers; Bonta et al., 2008). Furthermore, Bonta et al. found that the frequency of contacts between the probation officer and offender was only mildly related to the offender's risk level, and cognitive-behavioural techniques were demonstrated in less than 25% of 211 audiotaped sessions of probation officers and probationers. It is possible that a lack of training or education was the result of probation officers' failure to discuss criminogenic needs or use cognitive-behavioural techniques with their probationers.

Research suggests that staff use of a risk assessment tool increased if they had positive views of the risk assessment tool (Haas & DeTardo-Bora, 2009). Persson and Svensson (2011) suggested that probation officers may be resisting the principle of risk because of skepticism of their ability to make accurate predictions of an offender's future criminal behaviour, or the fact that these tools consider an offender's past criminal behaviour when they prefer to focus on an individual's potential to change. Probation officers' views of themselves and their organization may result in skepticism among probation officers, with some doubting their own competence at assessing risk due to insufficient support and/or training (Persson & Svensson, 2011). If staff do not

buy-in to new initiatives or the risk assessment tools used by their organization, then their opinions may limit the use of these tools when developing intervention plans (Haas & DeTardo-Bora, 2009). Failure to use these evidence-based risk assessment tools is problematic and may cause staff to ignore the core principles that underlie effective rehabilitation and intervention.

Vincent et al. (2012) were interested in examining youth-focused probation officers' changes in attitudes and case management decisions after the implementation of a risk/need assessment tool, the YLS/CMI (Hoge & Andrews, 2002). They found that implementing an empirically validated risk/need assessment tool led these probation officers to alter their decision-making so that it was more in line with RNR practices and to focus their attention on evidence-based dynamic risk factors. Vincent et al. (2012) also found that it did not matter which risk/need assessment tool was used as long as it was RNR based. After training and exposure to a risk assessment tool, probation officers' attitudes about the likelihood of youth reoffending decreased from 44% to 35%, which these researchers noted as important because probation officers' rehabilitative attitudes remained fairly consistent from prior- to post- implementation of the risk/needs assessment tool. These authors suggested that this finding was important because even with a small change, such as the implementation of a risk/need assessment tool, probation practices improved without having to devote a lot of time to something major, such as adjusting rehabilitative attitudes. Extending on this earlier work Guy, Nelson, Fusco-Morin, and Vincent (2014) studied a sample of 71 juvenile probation officers in the United States and found that some of the barriers to using risk assessments by these probation officers included length of time to complete the report,

the probation officers' subjectivity involved when making a risk designation on a structured professional judgment risk assessment tool, and frustration among probation officers associated with a lack of "buy-in" from judges and attorneys. These findings suggest that the attitudes of staff toward risk assessment tools may have an impact on whether or not the appropriate recommendations are implemented (Haas & Detardo-Bora, 2009). In addition to the use of risk assessment tools, we also need to consider the skills that probation officers bring to their interactions with their clients.

Andrews and Bonta (2006) found the recommended structured skill learning interventions and effective modeling of pro-social behaviours and adaptive skills present in only 10% of correctional programs. Andrews (2012) theorized that professionals will engage in core correctional practices, such as use of RNR principles, when they have the required skills, have been positively reinforced for engaging in these practices, have peers who engage and believe in the use of effective practice, as well as possess attitudes, beliefs, and values that are supportive of the General Personality and Cognitive Social Learning model and the RNR literature.

Researchers exploring the attitudes of juvenile justice personnel in Iowa found that probation officers are less likely than teachers and correctional officers to be supportive of punitive responses to young offenders' criminal behaviour (Leiber, Schwarze, Mack, & Fanworth, 2002). Further, Schwalbe and Maschi (2009) found that the probation officers' choice of supervision strategies were dependent on factors such as their attitudes (i.e., towards punishment and the effectiveness of probation), age, and the risk/need level of their supervisees. More recently, in depth interviews were conducted with youth probation officers in Toronto, Ontario (Umamaheswar, 2012). It

was found that youth probation officers' attitudes toward the youth they worked with influenced their strategies, but the majority of probation officers used a balanced approach incorporating both authoritative and supportive roles. Although probation officers did not describe their roles as therapeutic, their attitudes suggested that they believed in the importance of a quality officer-offender relationship and its impact on crime reduction. It is possible that these attitudes and values are a result of personal characteristics of the individual probation officers. Future training efforts must focus on the importance of developing systems that establish a positive buy-in of effective principles of classification and related risk assessment tools (Haas & DeTardo-Bora, 2009). In order to better understand some of the barriers to the adoption of evidence-based practices it is also beneficial to understand an individual's personal and professional background, their RNR specific perceptions and knowledge, and organizational factors.

Client's Gender. Although criminogenic needs may be identified at the same rate for males and females, Vitopoulos et al. (2012) were interested in examining whether gender (e.g., male or female youth) affects how probation officers match appropriate services to supervisees. Vitopoulos et al. (2012) found no significant gender differences in regards to the rate of matching clinician-identified needs to interventions. Although females and males had similar risk/need scores in the personality domain, females were more likely than their male counterparts to receive treatment recommendations, which may be due to the fact that females in the youth justice system usually present with more externalizing behaviours and a higher level of personal needs than males. In addition, they found gender differences in regard to recidivism, with the

percentage match between probation officers' recommendations and interventions significantly predicting recidivism for males only. In addition, a low, risk assessment case plan recommendation-to-actual service plan match has been found among male and female youth referred for court-ordered assessments; there was a 0% match to service for males and a 2.7% match for females when procriminal attitude was assessed as a criminogenic need. These researchers suggested that the above findings relate to the application, implementation, and breadth of the RNR principles, as well as the role of gender as a responsivity factor when developing intervention plans (Vitopoulos et al.,). Interestingly, no studies here examined the effect of case manager gender on criminal justice outcomes.

Professional Background. Research suggests that the supervision styles of probation officers either follow a "casework" or "surveillance" approach (Seiter & West, 2003). The surveillance style of supervision involves close monitoring of offenders to supervise their compliance with their probation conditions, whereas the casework style of supervision involves assisting the probationer (e.g., via counselling or obtaining employment) with the goal of helping him or her complete supervision successfully and reduce the risk of reoffending. Among probation and parole officers recruited from the Missouri Department of Corrections, researchers found that 55.9% of their time was devoted to a casework approach in comparison to 41.4% dedicated to the surveillance approach (Seiter & West, 2003). Interestingly, correlations between self-perceived and actual supervision style were significant, with those probation and parole officers who reported using a casework supervision style actually engaging in casework activities the majority of the time (Seiter & West, 2003). Similar to Umamaheswar

(2012), Seiter and West (2003) noted that these professionals adopted a balanced approach, incorporating both casework and surveillance in to their supervision style. Surprisingly, 63.6% of probation and parole officer respondents indicated that they did not believe there was a direct relation between their supervision style and recidivism outcomes of their supervisees (Seiter & West, 2003).

Other research has found that probation officers have experience stemming from both education and the organization for which they work, with education-based knowledge being acquired through education in social and psychological theories and organizational knowledge being acquired from their job experience and learning on the job (Persson & Svensson, 2011). Leiber et al. (2002) found that higher levels of education correlated negatively with support for punitiveness, and positively with support for a rehabilitative orientation. However, they noted that occupational role had a stronger influence on punitive attitudes than did education. Thus, although one would expect education to have a stronger negative effect on punitive attitudes, it may be workplace characteristics or the nature of the work itself that are shaping the correctional attitudes of these individuals (Leiber et al., 2002). Vincent et al. (2012) also found that youth probation officers who had more experience working in their position were less punitive in their attitudes towards youth offenders. In addition, Persson and Svensson (2011) found that probation officers with longer employment experience often rely on their own experience in comparison to individuals with a shorter employment experience, who tend to rely on their peers. Interestingly, Hardy (2014) suggested that probation officer work is in a continual state of change and is a hybrid model, with both the continuity of previous methods and the adoption of new practices being incorporated

into current practices and ways of thinking. In addition to education and experience, it is important that researchers examine the personal characteristics of correctional professionals. Personality has been shown to have an impact on job performance, and therefore may influence offender case management practice in the field.

Personality Characteristics. The Big Five framework of personality (Costa & McCrae, 1992) is the most widely used and researched model of personality and consists of five factors: extraversion, conscientiousness, openness to experience, agreeableness, and emotional stability. A summary of numerous meta-analyses (see Barrick, Mount, & Judge, 2001) has found relations between the Big Five dimensions and various performance measures, including the fact that conscientiousness and emotional stability are valid predictors of work performance across all occupations. The remaining three factors (extraversion, openness to experience, and agreeableness) correlate significantly with performance in different types of occupations (Barrick, et al., 2001; Mount & Barrick, 1995). However, conscientiousness is considered the single best predictor of job performance (Barrick et al., 2001). Effect sizes for the relations between the Big Five factors and important organizational behaviours (e.g., work attitudes or job performance) are moderate to strong (r = .20-.50; Ones, Dilchert, Viswesvaran, & Judge, 2007). In a sample of juvenile-focused probation officers from the West Coast of the United States, Wright and Cropanzano (2000) found that psychological well-being was related to job performance, with happy individuals often having higher job performance than unhappy individuals. They also found that job satisfaction was not predictive of job performance. Although these findings addressed probation officers' job performance in relation to their psychological well-being (happiness) and job

satisfaction, there is no research on the influence of job stress, job satisfaction, and personality on probation officers' or other forensic-related case managers (e.g., forensic psychologists and social workers) adherence to evidence-based practice (and more specifically the RNR model). Such organizational issues may also affect the adherence and application of an evidence-based approach to offender case management and supervision.

Organizational Issues. In any organization, staff are an integral part of the success and positive outcomes of the organization. There is an abundance of literature within correctional organizations examining the most prominent occupational attitudes, such as job stress, job satisfaction, and organizational commitment (Byrd, Cochran, Silverman, & Blount, 2000; Lambert, 2004; Lambert, Hogan, & Barton, 1999) and how they impact the work environment of correctional workers. Organizational commitment reflects an employee's bond to his/her employer (Lambert & Paoline, 2008). Organizational commitment has been thought to consist of three main types of commitment: continuance commitment, normative commitment, and affective commitment (Allen & Meyer, 1990; Meyer, Allen, & Smith, 1993). Continuance commitment reflects a bond an employee has to an organization due to the invested time or salary and benefits (Hogan, Lambert, & Griffin, 2013). Normative commitment is a bond established between an individual and organization due to a feeling of obligation or pressure to conform to the organization (Lambert, Hogan, & Jiang, 2008). Affective commitment is a positive emotional bond that an employee forms with the organization and occurs because a person freely wants to commit and be involved with the organization (Hogan et al., 2013). To date, the overall research suggests that job stress

has an impact on job satisfaction as well as organizational commitment, and job satisfaction also has an influence on an individual's organizational commitment (Lambert & Paoline, 2008).

In comparison to other occupational roles in corrections, research suggests that correctional officers who report low levels of organizational commitment, are more custody oriented, less rehabilitative oriented, are less satisfied with their job, less positive in their attitudes towards correctional careers, and posses higher levels of skepticism about organizational change (Robinson, Porporino, & Simourd, 1996). In contrast, correctional workers who report high levels of organizational commitment show increased prosocial organizational behaviours, increased levels of job performance, and lower turnover rates (Lambert, 2006; Lambert, Edwards, Camp, & Saylor, 2005; Lambert & Hogan, 2009; Lambert, Hogan, & Griffin, 2008). Interestingly, researchers have found that, similar to correctional officers, case management officers (which included parole officers) also endorsed higher levels of dissatisfaction with the organization and lower levels of job satisfaction; however, they were more in favour of rehabilitation and possessed more positive attitudes towards corrections as a career choice (Robinson et al., 1996). In addition, among a sample of Swedish probation officers, Persson and Svensson (2011) found that there was a gap between the individual probation officers' logic and the logic of the organization for which they worked. At present, there is no research examining the relations among these three main types of organizational commitment and adherence to evidence-based correctional practice, and more specifically the RNR model.

Job stress is another occupational attitude and is caused by job stressors that an employee experiences. These stressors usually produce emotional and psychological discomfort in an individual and can include circumstances that place unrealistic demands on that individual (Grossi & Berg, 1991). Job stress has been found to have many negative effects on correctional staff and may be related to tension, anxiety, frustration, and worry as a result of their daily job experiences (Armstrong & Griffin, 2004; Dowden & Tellier, 2004). Job satisfaction is described as an individual's attitude towards his/her job based on the weighting of the job expectations and actual situational attributes (Cranny, Smith, & Stone, 1992). Research has found that higher levels of job satisfaction are related to higher levels of compliance with organizational rules and greater support for rehabilitation (Fox, 1982). Job-related stress and low job satisfaction have been shown to be positively related to probation officers' inclination to quit (Simmons, Cochran, & Blount, 1997). In addition, researchers have highlighted numerous variables, such as education, locus of control, workplace characteristics, and the social context, which all appear to affect job satisfaction and impact staffs' level of organizational commitment (O-Leary-Kelly, & Griffin, 1995). Furthermore, research has found an inverse relationship between job stress and job satisfaction (Simmons et al., 1997; Slate, Wells, & Johnson, 2003). However, there is some disagreement as to which precedes the other. Locke (1976) suggested that job stress is more likely to have an immediate negative influence on an individual's job satisfaction. More recently, researchers have found that job satisfaction, more so than job stress or job involvement, is the strongest predictor of affective commitment among correctional staff (Hogan et al., 2013; Lambert, 2004; Lambert & Hogan, 2009, Lambert & Paoline, 2008). Thus, it

is possible that high job stress and low job satisfaction are barriers that negatively influence the degree to which correctional professionals use and comply with organizational policies, such as adherence to evidence-based practice and RNR principles.

Allisey, Noblet, Lamontagne, and Houdmont (2014) have argued that changes within an organization, which are accompanied by insufficient guidance and support to employees during the change, can lead to increased stress, lower job satisfaction, and inclinations to quit among law-enforcement personnel. Allisey et al. found that organizational systems and interpersonal relationships also can affect job stress and satisfaction, which in turn increase the likelihood that employees will quit. Thus, it is important to consider how organizational practices can be managed so that they lessen employees' perceptions of stress and improve employee satisfaction (Allisey et al.,), and be used to promote widespread adoption of evidence-based practices within that organization.

Purpose of the Current Study

The accumulating research suggests that there is a paucity of data on the processes that influence the field practice of correctional professionals responsible for offenders under community supervision. For example, there is only limited research on the real world use of structured assessment tools by professionals in the criminal justice field (Gebo et al., 2006; Harris, 2006; Harris et al., 2004; Luong & Wormith, 2011; Schwalbe, 2004; Shook & Sarri, 2007). Prior research suggests that there is significant insight to be gained by evaluating the skills, expertise, and knowledge of correctional professionals (Bonta et al., 2011; Flores et al., 2004; Haas & DeTardo-Bora, 2009).

Although correctional professionals may receive training in the core principles of offender rehabilitation, research suggests that planned interventions do not always translate into practice (Harris et al., 2004). Identifying barriers, such as knowledge of and attitudes towards RNR principles, employee characteristics, job stress, job satisfaction, job performance, and level of organizational commitment may help us better understand why the RNR model and associated risk assessment tools are not always used as intended. Such information is essential to guide further training and case management practice.

The current study will involve surveying probation and parole officers, correctional/forensic psychologists, and correctional case managers about their knowledge of, and training on, the Risk, Need, and Responsivity (RNR) principles as outlined by Andrews et al. (1990) and Bonta and Andrews (2017). Similar to Miller and Maloney (2013), the current study will examine factors that may explain correctional professionals' attitudes towards the principles of effective rehabilitation and risk/need assessment tools, as well as gather information about their perceived adherence to these principles in their own practice. Previous research has found that professionals' exert less compliant behaviour towards the use of risk assessment tools when they have negative attitudes towards these tools, when there is not enough involvement from the agency in terms of tool monitoring and training, and when the professionals see their agency as having a negative view of the risk/need tool that they use (Miller & Maloney, 2013). In addition, the current study will determine whether correctional professionals believe in the utility and value of RNR principles and risk/need tools. Assessing officers' knowledge and attitudes via self-report is a more direct approach than file/case

reviews and can help to further explain problems in adherence to the core RNR principles. Studying the influence of RNR adherence is essential for finding ways to enhance adherence in light of the fact that there is a reduction in offender recidivism as adherence to these principles increases (Bonta & Andrews, 2017). Furthermore, we will examine the degree to which attitudes, individual characteristics, job stress, job satisfaction, and organizational commitment are associated with RNR adherence in everyday practice.

Main Hypotheses

In light of the reviewed literature, the following hypotheses were tested in the current study:

1) The current study also assessed the education background of correctional professionals, as well as the nature of their training in RNR evidence-based practices. It was expected that correctional professionals with higher levels of education and more intensive training received in the form of workshop/skills training followed by ongoing mentoring from a person knowledgeable in RNR principles would have greater levels of knowledge and positive attitudes towards RNR principles in comparison to individuals who have received training on-the-job, in the form of self-directed reading, and/or informal training of any kind.

2) It was expected that positive attitudes and a more thorough understanding of RNR principles and effective offender rehabilitation practices would be associated with greater adherence to these principles in practice.

3) The current study assessed the role of job stress, job satisfaction, and job performance in predicting adherence to the RNR principles in everyday practice.

It was hypothesized that low levels of stress, high levels of satisfaction, greater job performance, greater length of time on the job, and higher levels of organizational commitment would predict greater levels of adherence to the RNR principles.

4) The current study evaluated which personality factors from the Big Five are predictive of positive attitudes and knowledge of the RNR principles. It was predicted that conscientiousness and agreeableness would be positively related to all of these variables, and would be particularly predictive of greater RNR adherence.

Method

Participants

Participants in correctional, forensic, or mental health roles responsible for the assessment or management of criminal behaviour risk were invited through email to participate in an online survey. The minimum age to participate was 19 years of age or older and eligibility criteria included: 1) experience working as a probation officer, parole officer, correctional/forensic psychologist, or in a correctional case manager type role in a criminal justice setting (community or institutional) in the past 12 months, and 2) the individual must have had an active case management caseload of community supervision clients in the past 12 months. Two participants were excluded from analyses because they did not meet the study's eligibility criteria, with one being an academic researcher and the other participant having no correctional experience. Descriptive statistics for study participants can be found in Table 1. Participants ($N = 99$) consisted

of male (23.2%) and female (76.8%) correctional or mental health professionals from Canada (41.4%) or the United States (54.5%).

The majority of participants in the current study were Caucasian (82.8%). Participants' ages ranged from 24-69 years (M = 38.57, SD = 11.40). A large portion of these participants completed a graduate degree (69.7%), with the remaining participants having had completed an undergraduate degree (29.3%) primarily in a combination of psychology, criminal justice, sociology, and social work disciplines. More than half of participants occupied a mental health professional role (66.7%), whereas the remaining participants were employed in a correctional service type role (33.3%). After further dividing these occupation roles, the largest group of participants was employed as forensic psychologists (43.4%), correctional officers (33.3%), and other mental heath professionals (23.3%; see Table 2). Although the term "professionals" was used to describe participants in the current study, it is important to highlight that these professionals had various educational and training backgrounds (see Table 3). For example, professionals working as correctional officers do not require an undergraduate degree, whereas probation and parole officers typically require an undergraduate degree in a field that focuses on understanding or assessing human behaviour. Furthermore, a large portion of participants were employed as forensic psychologists and these participants would have graduate level training and a strong understanding of social learning and therapeutic change principles.

The majority of participants worked in a community correctional office (36.4%), which included probation, parole, and other types of community supervision offices. Other participants were employed in a prison/jail setting (23.2%), forensic psychiatric

hospital or unit (14.1%), or a community-based forensic mental health center or service (13.1%). The remaining participants identified employment settings such as a private practice and as a consultant to numerous criminal justice agencies. Over half the sample currently worked with adult clients over the age of 18 years (57.6%), with the remaining participants working with youth (20.2%), or both youth and adult clients (22.2%).

Materials

Demographic and Work History Questionnaire (Appendix A). A questionnaire was developed by the researcher to gather information from participants about their demographic characteristics (e.g., age, sex, ethnicity), level and type of education, length of time working in a correctional context, and current occupational role (correctional/forensic psychologist, correctional officer, social worker, probation officer, parole officer) in a criminal justice or forensic mental health setting (probation office, parole office, custodial institution, halfway house, forensic psychiatric service, other), type of training in RNR skills (e.g., workshop based, informal training), and typical offender supervision practices (e.g., type of risk tool used and length of supervision session).

In the interest of keeping the survey as time-efficient as possible, three author-developed items were used to capture aspects of job stress and satisfaction. When an item has high face validity and participants are able to clearly recognize the construct under investigation, it is acceptable to use a single-item measure, as it is a reliable representation of the given construct (Nagy, 2002). Single-item measures also have been shown to have strong relationships with key variables (Houdmont, Kerr, & Randall, 2012). Specifically, job performance was measured using a single item in which

participants were asked to rate the degree to which the quality of their daily work has changed during the last 12 months. The response format was a 5-point Likert-type scale ranging from 1 (*decreased greatly*) to 5 (*increased greatly*). Similarly, job stress was measured by a single item developed by the researcher, "*How stressful have you found your work in the last twelve months*?" The response format was a 5-point Likert-type scale ranging from 1 (*not at all stressful*) to 5 (*extremely stressful*). Finally, job satisfaction was measured by a single item that asks "*How satisfying have you found your job in the last 12 months*?" The response format is a 5-point Likert-type scale ranging from 1 (*not at all satisfied*) to 5 (*very satisfied*).

Organizational Commitment (Hogan, Lambert, & Griffin, 2013) (Appendix B). Hogan et al. (2013) modified previous questionnaires (see Lambert, Hogan, & Griffin, 2008; Lambert, Hogan, & Jiang, 2008), and used the Organizational Commitment Questionnaire (OCQ; Mowday, Porter, & Steers, 1982), to develop a measure of three types of organizational commitment. These types included moral commitment, continuance commitment, and affective commitment. Moral or normative commitment captures an individual's perception of obligation to engage in certain behaviours because s/he believes it is expected of them; continuance commitment refers to any investment, such as time and money, that the employee has as a result of being with the organization for a long period of time; and affective commitment reflects an individual's positive bond to the organization. The continuance and moral commitment scales each contain 3 items, whereas the affective commitment scale contains 9 items. Each of these items are rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The organizational commitment scales have demonstrated good

internal reliability. The continuance commitment has a Cronbach's alpha of .70, and is .72 for moral commitment, and .88 for affective commitment (Hogan et al., 2013). Hogan et al. (2013) conducted a factor analysis on the organizational commitment questionnaire. After examining the eigenvalues and scree plot, it was found that all of these items had factor loadings greater than .45 for their respective types of organizational commitment. Construct validity has been found for these different types of organizational commitment (Lambert, Hogan, Jiang, 2008). In the current study, Cronbach's alpha for the continuance, moral, and affective commitment scales was .73, .34, and .88, respectively. Due to questionable scale reliability, only the total score for Organizational Commitment was used ($\alpha = .83$).

Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003) (Appendix C). The TIPI is a ten-item self-report questionnaire, with two items tapping into each of the five factors of general personality (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience). Each item on the TIPI contains two descriptors that are separated by a comma and follow the statement "I see myself as." Each of these items are rated on a 7-point scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). It takes about one minute to complete the entire questionnaire. This ten-item questionnaire was correlated with the Big-Five Inventory (BFI; Benet-Martinez & John, 1998; John & Srivastava, 1999), which is one of the most widely used and well-established measures of these five personality dimensions. Shorter instruments are more time efficient than longer scales and they have been shown to be just as valid as longer instruments (Burisch, 1997). This brief measure can be used when personality is not the main topic of the research being conducted or when researchers

can accept the diminished psychometric properties of these brief measures (Gosling et al., 2003). The TIPI has been found to have expected convergent and discriminant validity with the Big Five Inventory (BFI; Benet-Martinez & John, 1998), adequate test-retest reliability (mean r = .80 at 2 weeks and mean r = .72 at six weeks), and produced patterns of correlations that were identical to the longer BFI. In previous research (i.e., Gosling et al.) the internal reliability for the TIPI was strongest for Extraversion (α = .68) and Emotional Stability (α = .73), but problematic for Agreeableness (α =.40), Conscientiousness (α = .50), and Openness to Experience (α =.45). In the current study reliability was also strongest for Extraversion (α = .74), but problematic for Openness to Experience (α = .53), Conscientiousness (α = .55), Agreeableness (α = .32), and Emotional Stability (α = .21).

RNR Practices and Attitudes Questionnaire (PAQ; Appendix D). A questionnaire was developed by the researcher to assess RNR practices and attitudes. This questionnaire contains one scale that captures self-reported case management and intervention practices and attitudes towards the RNR principles of effective rehabilitation. Item development was guided by reference to the vast literature related to the RNR principles of effective case management and rehabilitation (Andrews, 2012; Andrews & Bonta, 2010a, 2010b; Andrews, Bonta, et al., 1990). In addition, items were written to reflect common terminology in the RNR literature. After reading each item, participants were asked to rate each item on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). After an initial set of items were developed, they were generated into a preliminary questionnaire with 52 items. This preliminary questionnaire was refined after input was received on the questionnaire content and face validity from a panel of

individuals including a licensed clinical psychologist with expertise in the area of offender rehabilitation, as well as two forensic psychology graduate students, with significant RNR knowledge. The final version of the questionnaire contained 45 items, and took approximately 20 minutes to complete.

Given that this was a new measure, its psychometric properties were examined. Internal reliability, inter-item correlations, and item-total correlations of test items were assessed to determine whether any items needed to be dropped. Cronbach's alpha was used to determine the internal consistency and reliability of test items, with the criterion of an alpha greater than .70, based on George and Mallery's (2003) general rule of thumb in which alpha >.9= excellent internal reliability, >.8 good, >.7 acceptable, >.6 questionable, >.5 poor, <.5 is unacceptable. Additionally, Tabachnick and Fidell (2013) have advised that correlations among items should be greater than .30, to infer that there is a relation among these items. Fifteen items were removed from the scale due to low correlation coefficients and their contribution to a low Cronbach's alpha (α <.7) for the total scale. The final PAQ scale consisted of 30 items and had a good level of internal consistency (α = .82). The psychometric properties of the three conceptually constructed subscales (Risk, Need, and Responsivity) were also evaluated but internal consistency was poor (α < .70). Thus, only the total score was used. The Keiser-Meyer -Olkin method of sampling adequacy indicated that the strength of the relation among variables was acceptable (KMO = .64; Cerny & Kaiser, 1977; Tabachnick & Fidell, 2013).

Adherence to the "Risk" and "Need" Principles of the RNR Model (Appendix E). Two mock vignettes and a knowledge test were developed by the researcher to assess perceived adherence and knowledge of the RNR model of effective

rehabilitation. Participants were asked to read two mock vignettes of community-supervised correctional clients. One vignette was of a high risk client and the other vignette was of a low risk client. Each vignette measured overall risk, as well as captured items that measured need and responsivity principle application. After participants read each of these mock vignettes, they were asked to read general statements about the RNR principles and then rated whether or not they would consider these factors when developing a case management plan for the client in question. Questions were in a forced-choice format (No/Yes) and participants selected which response they felt best fit the client. These responses were compared to an answer key developed by experts in the practice of RNR-informed case management. On each vignette, an index accuracy score of RNR adherence was computed by summing the correct item scores. Thus, two scores were created: one for the low risk vignette and one for the high risk vignette. Higher scores on these indices were reflective of greater adherence to the risk and need principles of the RNR model.

Procedure

Data Collection. Participants were recruited via email (Appendix F) through numerous sources to participate in an online survey about community-based offender case management and supervision practices. These sources included the Canadian Criminal Justice Association and its provincial associations, the Criminal Justice Section of the Canadian Psychological Association, the American-Psychology and Law Society email study distribution (which includes Canadian and American members), the Departments of Public Safety, and Corrections Offices in each Canadian province, the American Probation and Parole Association, the American Correctional Association,

and the International Corrections and Prisons Association discussion forum (Appendix G). A request was made to share an email with their members that included an invitation to the study, with a link to the survey. The survey was posted via Qualtrics, which is an encrypted secure online data gathering system. Once participants followed the link, read the consent form, and consented to participate, they gained access to the survey. The survey took approximately 30 minutes to complete in its entirety.

All questionnaires submitted by participants were assigned an identification number to protect their confidentiality. As an incentive for their participation in the current study, participants were offered a chance to participate in a draw for a gift card of $20 CAD for common retail stores in North America, with online options for ordering so it was accessible to all respondents (e.g., Amazon.ca, Indigo and Chapters). The draw information was stored in PsychData separately from individual respondent data. Data was collected over a span of 6 months and all data collected for the current study was stored on a USB drive, after downloading de-identified data into SPSS. Data was stored in a locked filing cabinet on the University of New Brunswick Saint John Campus. Ethical approval to conduct the proposed research was obtained from the University of New Brunswick Saint John Human Research Ethics Board (REB).

Informed Consent. Prior to completing the online study, participants were presented with an informed consent form (see Appendix H). As part of the informed consent process, it was communicated to respondents that their participation in the current study was not an evaluation of their work performance and that their employers would not be aware of their participation in the study. In addition, it was explained that their participation in the current study would be anonymous. However, the informed

consent form warned participants of the risk of using an American survey portal (Qualtrics), where confidentiality cannot be completely guaranteed as data collected is subject to the United States Patriot Act, which says that personal information can be accessed by law enforcement officials without seeking the individual's permission. No IP addresses were retained once data collection was complete. Participants were told that they could withdraw from the study at any time.

Results

Data Cleaning

IBM SPSS V. 21 was used for all data analyses. First, all data were double checked to ensure that they were transferred correctly from Qualtrics into SPSS. G*Power 3.1 was used a priori to determine the required sample size with an alpha =.05, power = .80, and a medium effect size. The projected number of participants was N = 85. The dataset was inspected for any univariate and multivariate outliers. Univariate outliers were identified by examining standard scores ($z \geq$ +/- 3.0) and Mahalonobis distance was employed to detect multivariate outliers. There were two univariate outliers, however, they were mild outliers and they were thus retained in the data set. There were no multivariate outliers. SPSS missing value analysis and frequencies were run to evaluate the amount of missing data. Missing value analysis indicated that the missing data were random in pattern. Variables with less then 5% missing values were replaced with mean substitution. Some participants failed to complete the survey in its entirety and had more than 5% missing data. In order to retain as much data as possible the researcher decided to use varying Ns for subsequent analyses, which resulted in 99 participants completing the entire survey including the vignettes, and 78 participants

completing the demographics and the Practices and Attitudes questionnaire. When running further analyses in SPSS listwise or pairwise deletion were employed. Descriptive statistics were assessed in order to report the means, and standard deviations of all study variables. Descriptive Statistics for study variables can be found in Table 4.

Inferential Analyses

Supervision Characteristics. The demographic questionnaire responses were reviewed to determine typical case management practices among the sample. When evaluating a typical supervision session, 35.9% of professionals altered their typical case management approach 76-100% of the time. Overall, participants altered their typical case management approach more than 50% of the time. In the past twelve months, only 43.4% of participants had never substituted their own recidivism risk estimate for one obtained from a formal risk assessment instrument, whereas 17.9% has used an override more than 50% of the time. Most participants were familiar with the RNR model (59.6%), with slightly more than one third of the sample (38.4%) having no familiarity with the RNR model despite working with forensic/offender populations. Although most participants were familiar with the RNR model, only about half the sample (47.5%) had actually received RNR specific training in the past five years. Participants had received different modes of RNR focused training, including workshops and skills with no follow up mentoring (18.2%), workshops and skills with ongoing mentoring (14.1%), on the job training (16.2%), self-directed reading (20.2%), and other informal training (14.1%).

A 2 (Canada/United States) x 2 (familiar with RNR/not familiar with RNR) chi-square analysis was run to explore whether there were any differences between the country of origin of the participant and their familiarity with the RNR model. The

relation between these two variables was significant, $\chi 2$ (1, N = 93) = 6.06, p = .014. Participants from Canada were more likely to be familiar with the RNR model (76.9%), than participants from the United States (51.9%). Table 5 displays cross tabulation results.

A second 2 (Canada/United States) x 2 (training received on RNR/no training received on RNR) chi-square analysis was run to explore whether there were any differences between the country of origin of the participant and whether they had received training on the RNR model. The relation between these two variables was significant, $\chi 2$ (1, N = 95) = 7.74, p = .01. Participants from Canada were more likely to have received training on the RNR model (65.9%), than participants from the United States (37%). Table 6 displays cross tabulation results.

RNR Knowledge and Attitudes. Table 7 displays the average item score for each of the thirty items on the PAQ scale. Overall, case management professionals had high knowledge of, and positive attitudes towards, the RNR model of effective case management and rehabilitation (M = 4.09, SD = .35; range 1-5). Table 8 displays the rank ordered items of the PAQ scale. Examination of the rank ordered items of the PAQ indicated that overall participants tended to positively endorse questionnaire items. Items that were highly endorsed included variables such as "high-risk clients should receive intensive services/supervision," "risk assessment tools are helpful for assessing and developing case management plans for offenders," and "interventions with clients should be tailored/modified to clients' cognitive abilities/capacities." One poorly endorsed item, inconsistent with the RNR literature, was the item "It is equally

important that intervention programs target criminogenic and non-criminogenic needs to achieve the goal of recidivism risk reduction."

A standard multiple regression was run to determine which factors (i.e., occupational experience, education, RNR training, and organizational commitment) predicted participants' PAQ total scores. The assumptions for multiple regression (e.g., normality, linearity, multicolinearity, and homogeneity) were checked before conducting any inferential statistical analyses with the PAQ measure. First, correlations were run to assess the relationships among variables of interest, and to detect problems of multicolinearity. Table 9 reports the bivariate correlations for these variables of interest. For the current study, a standard multiple regression was employed to identify predictors of PAQ total scores. Multiple regression is flexible in that it can be used to examine effects of single or multiple variables while controlling for the effects of other variables; it can model relations that are nonlinear; and independent (predictor) variables may be quantitative or qualitative (Cohen, Cohen, West, & Aiken, 2003). Overall, the multiple regression model significantly predicted higher PAQ scores, $F(5, 93)= 5.194$, $p <. 001$, adjusted $R^2 = .18$. However, only greater job satisfaction ($p <. 05$) and receipt of RNR training ($p < .001$) significantly and uniquely predicted stronger RNR knowledge and attitudes as measured by the PAQ scores. Post hoc power calculations indicated that power = .98, for a moderate effect. Table 10 displays regression coefficients and standard errors for the model predictors.

RNR Adherence High and Low Risk Vignettes. Overall, total RNR adherence accuracy scores on both vignettes was moderate to good, with a total accuracy score of 71.35% on the high risk vignette, and a total accuracy score of 68.51% on the low risk

vignette. The overall accuracy score for the need principle was 60.67% for the high risk vignette, and 65.48% for the low risk vignette. The overall accuracy score for the responsivity principle on the high risk vignette was 80.57%, and 71.33% for the low risk vignette. On the high risk vignette, no participants scored less than 50% accuracy overall. Table 11 shows the average percent accuracy per item for the high risk vignette. In terms of specific items on the high risk vignette, more than 85% of participants correctly identified the major criminogenic needs to be targeted for intervention including antisocial attitudes and values supportive of crime, antisocial personality pattern, and antisocial companions. In contrast, a large proportion of participants were incorrect and over-identified victimization/abuse history (7.6%), treatment for mental health issues (3.8%), and housing problems (5.1%) as relevant interventions for the high risk client to reduce recidivism risk. On the low risk vignette, 14 participants scored 50% or less in terms of overall accuracy, indicating poor overall RNR adherence for those individuals. Table 12 shows the average accuracy per item for the low risk vignette. On the low risk vignette, only 24.1% of participants understood that cognitive behavioural strategies to target procriminal thinking was not necessary for this particular client, and only 39.2% of participants understood this to be the case for interventions to enhance motivation to change. However, participants better understood other responsivity items and had accuracy greater than 95% on items like “work hard to maintain a positive and respectful rapport with him” and “listen to him and show empathy and understanding”.

Mean adherence scores as a function of risk level are displayed in Table 13. Normality for risk, need, and responsivity on both the high and low risk vignette was

evaluated through inspection of the Shapiro-Wilk Test and each of these three groups violated this assumption ($p < .05$). However, paired sample t-tests are fairly robust to violations of this assumption (Rasch & Guiard, 2004). Paired samples t-tests were run to examine whether there were differences in RNR adherence accuracy between the high and low risk vignettes when considering risk, need, and responsivity principle adherence scores separately. There was no significance difference between mean RNR risk principle adherence between the high ($M = 71.35$, $SD = 6.67$) and low vignettes ($M = 68.51$, $SD = 18.12$), $t(78) = 1.345$, $p = .183$. Similarly, there was no significance difference on RNR need principle adherence between the high ($M = 60.68$, $SD = 8.01$) and low vignettes ($M = 65.38$, $SD = 22.17$), $t(78) = -1.815$, $p = .073$. However, when examining the responsivity principle, RNR adherence accuracy was significantly greater in the high risk vignette ($M = 80.76$, $SD = 9.65$) than the low risk vignette ($M = 71.27$, $SD = 19.03$), $t(78) = 4.713$, $p < .001$, $d = .62$.

To identify a potential source of variation in responsivity adherence, an independent samples t-test was run to determine if there were any significant differences on responsivity adherence on the high and low risk vignette between correctional and mental health professionals. Levene's test indicated that there was homogeneity of variances ($p = .367$) for the responsivity portion of the high risk vignette for correctional and mental health professionals. There was no significant differences between correctional and mental health professionals on responsivity scores on the high risk vignette, $t(77) = -1.66$, $p = .10$, or low risk vignette, $t(77) = 1.51$, $p = .14$.

Correlates of potential case management practices may vary as a function of risk level and the case. Individuals with higher scores on the PAQ tended to be more

accurate on the high risk scenario (r = .28), whereas these attitudes were unrelated to adherence accuracy in low risk scenarios (r = .19). Furthermore, individuals with training on the RNR model also tended to be more accurate on the high risk scenario (r = .23), whereas training was unrelated to adherence accuracy on the low risk scenario (r = .05). In contrast, greater RNR adherence in low risk scenarios were correlated with lower job stress (r = -.26), and higher organizational commitment (r = .24). These factors were not related to adherence accuracy on the high risk case.

Predictors of RNR Adherence Accuracy. The main focus of the current study sought to understand the influence of knowledge and attitudes towards the RNR model beyond that explained by demographics, work variables, and organizational factors. In order to test hypotheses 1-3, hierarchical multiple regression procedures were employed to assess which factors were predictive of the degree of adherence to RNR principles for both high risk and low risk vignettes. Initially, it was predicted that personality variables (TIPI) would influence adherence, but bivariate correlations between these variables and adherence were low; thus they were excluded from further analyses (see Table 14). In comparison to multi-item measures of the Big Five personality measure, the TIPI has been found to correlate less strongly with other variables and has issues within subscale reliability (Gosling et al., 2013), which was also seen in the current study. Two hierarchical regressions were conducted to determine whether correctional professionals' positive attitudes towards RNR principles predict adherence to RNR principles beyond that explained by demographics, work history, and organizational attitudes for a) the high risk vignette and b) the low risk vignette.

To assess predictors of RNR adherence in the low risk vignette, the first multiple regression was run. In the first block of the model, participant age and gender were entered. In the second block, the job stress rating and the organizational commitment total score were next entered. The PAQ Total score was entered in the third block. The Durbin Watson statistic was evaluated to test for independence of errors. For the full model, the Durbin Watson statistic was 1.148, indicating positive autocorrelation among the residuals of these variables. Positive serial correlation was indicated given that the statistic fell below the lower (dL = 1.364) and upper (dU = 1.624) bound values of the Durbin Watson Table. In consequence, the iterated Cochrane-Orcutt transformation (Johnston, 1984) was applied to remove the positive autocorrelation. Thus, a standard multiple regression was employed instead with age, gender, job stress, organizational commitment, and the PAQ Total score entered simultaneously. After 6 iterations were performed, Durbin Watson was acceptable at 2.078. The estimated regression model was statistically significant, F (5, 70) = 2.95, p = .02, adjusted R^2 = .10. Post hoc power calculations indicated that power = .88 for a moderate effect. Table 15 displays regression coefficients and standard errors. Gender was the only significant predictor of RNR adherence accuracy in the low risk scenario (p = .03).

A second multiple regression was run to determine which variables were predictive of RNR adherence accuracy for the high risk vignette. In the first block, age and gender were entered, in the second block job stress and organization commitment total score were entered. The PAQ Total score was again entered in the last block. The Durbin Watson statistic for the model was 1.636, indicating potential autocorrelation among these residuals of variables. However, the Durbin Watson statistic just fell above

the upper bound value (dU = 1.624) of the Durbin Watson table, indicating that the null hypothesis could not be rejected and there was no autocorrelation in these residuals. The addition of the PAQ variables in Step 3 was statistically significant, F (1, 72) = 5.862, p < .05, and accounted for 2.8% of the variation in the high risk vignette. The full regression model was not statistically significant, F (5, 77) = 1.436, p = .22, adjusted R^2 = .03. Post hoc power calculations indicated that power = .52 was weaker to detect the moderate effect. Table 16 displays the full regression model results.

Effects of Gender, Training, and Professional Role on Adherence. Given the lower sample size, two sets of analyses were used to check for interactions with risk level and gender with a) RNR training (yes/no) and b) professional role (correctional/mental health) on RNR adherence accuracy rather than one large analysis. A three-way mixed ANOVA evaluated whether RNR adherence accuracy scores significantly varied as a function of vignette risk level, participant gender and professional role. Inspection of boxplots revealed no outliers in these data. Shapiro-Wilk's test was violated (p < .05) in some of the design's cells. Evaluation of Levene's test for equality of error variances indicated that there was homogeneity for high risk adherence (p = .756), but homogeneity was violated for low risk adherence (p < .05). Analyses were run as planned as ANOVA is robust to deviations from normality and somewhat robust to violations of heterogeneity of variances (Schmider, Zigler, Danay, Beyer, & Buhner, 2010). There was a statistically significant main effect of gender, F (1, 75) = 5.54, p = .02. Men had higher RNR adherence accuracy scores than females. There was no main effect of professional role, F (1, 75) = .172, p = .679 or risk level, F (1, 75) = .181, p = .671. The two-way interaction between risk level and gender was

statistically significant, F (1, 75) = 7.413, $p < .05$. Pairwise comparisons indicated that mean RNR adherence accuracy scores for low risk vignettes was significantly higher for males than females, with a mean difference of 11.92 (95% CI, 3.11 to 20.72), $p < .025$. All of the remaining two-way interactions were not statistically significant ($p > .05$). The three-way interaction between risk level, gender, and professional role was non-significant F (1, 75) = 1.20, $p = .730$, $\eta^2 = .002$. Figure 1 displays the interaction between risk and gender.

A second three-way mixed ANOVA evaluated whether RNR adherence accuracy significantly varied as a function of RNR training, participant gender, and vignette risk level. There were no extreme outliers in these data, confirmed by visual inspection of boxplots. Shapiro-Wilk's test was violated ($p < .05$) in some of the design's cells. Evaluation of Levene's test for equality of error variances indicated that there was homogeneity for high risk adherence ($p = .900$), but homogeneity was violated for low risk adherence ($p < .001$). Analyses were run as planned as ANOVA is robust to deviations from normality and somewhat robust to violations of heterogeneity of variances. As found above, there was a main effect of gender, F(1, 75) = 6.68, p =.01; however, there was no main effect of training, F (1, 75) = .787, p = .378 or risk level, F (1, 75) = .005, p = .946. Similar to the previous results, there was a statistically significant two-way interaction between risk level and gender, F (1, 75) = 8.894, $p <$ .001. All remaining two-way interactions were not statistically significant ($p > .05$). The three-way interaction between risk level, gender, and training was non-significant F(1, 75) = 2.99, p = . 586, $\eta^2 = .004$.

Discussion

The current study sought to identify potential barriers and facilitators of RNR adherence among correctional professionals, with a specific focus on knowledge of and attitudes towards RNR principles, employee characteristics, job stress, job satisfaction, job performance, and level of organizational commitment. This research is important given that there is a dearth of studies exploring factors that may affect correctional professionals' compliance with evidence-based correctional assessment and rehabilitation principles in their everyday practice. Overall, findings in the current study suggest adequate, but not necessarily proficient understanding of RNR principles and associated practices for offender case management and risk reduction.

RNR Practices and Attitudes. Overall, professionals had a thorough understanding of and positive attitudes towards the RNR model of effective rehabilitation. These findings are positive in light of research relating to the use of risk assessment tools, which found that positive attitudes towards a risk assessment tool led to increased use of the tool by professionals (Haas & DeTardo-Bora, 2009). These positive attitudes contrast the identified pessimism among professionals about the risk assessment process used to inform case management planning (Schwalbe, 2004; Shook & Sharri, 2007; Viglione, Rudes, & Taxman, 2015). Although these findings suggest that correctional-related professionals may actually understand the principles of effective offender rehabilitation, the transfer of these principles into case management practices may be challenging and create pessimism for some professionals.

In the current study, individuals with greater knowledge and positive attitudes towards the RNR model tended to be more accurate when it came to evaluating a high

risk client whereas these attitudes were unrelated to RNR adherence accuracy in the low risk scenario. Knowledge of the offender rehabilitation literature may allow professionals to better classify their high risk clients, and identify their criminogenic needs. There may have been no relation among greater knowledge, positive attitudes and accuracy on the low risk client because it is these individuals who require little to no guidance or support in terms of correctional intervention (Andrews & Bonta, 2010). Thus, practice decisions are more variable and influenced by non-criminogenic needs for each case in low risk situations. RNR training received was also related to accuracy on the high risk vignette, but not on the low risk vignette. These findings are in line with research suggesting that individuals in a case management role are still predominately focused on a "risk" perspective (Flores et al., 2004). When individuals work in low stress settings and buy more into their organizations' principles and values, they are more likely to follow evidence based principles for management of low risk clients. Without these work context characteristics they are more likely to lack sufficient guidance to apply the policy, if it exists, or disregard it. Professionals may feel more comfortable discussing a case plan with low risk offenders who are less difficult to interact with, and are more responsive to treatment (Bonta & Andrews, 2007). When experiencing significant job stress and lower organizational commitment professionals may be more apt to focus on these "easier" cases. As research suggests, this unnecessary application of correctional intervention when it is not warranted can actually lead to negative outcomes for the offender (Andrews & Dowden, 2006). However, targeting one non-criminogenic need in conjunction with an offender's criminogenic need is unlikely to lead to negative outcomes.

Overall, professionals positively endorsed the risk, need, and responsivity items on the PAQ scale. A few need and responsivity items were less positively endorsed in comparison to the other items, but most were on the higher end of positive endorsement. Similar to these findings, Peterson-Badali and colleagues (2015) found that probation officers were more likely to focus on the criminogenic needs that they felt were the most important to target for that individual client, than the major criminogenic need that actually needed to be targeted. For example, prior to targeting a major criminogenic need, such as antisocial attitudes or peers, a probation officer may address housing or employment issues first, which are criminogenic needs that would be easier to target among low risk cases. A professional may address the minor or even non-criminogenic need first, in hopes that it will later facilitate the intervention of the major criminogenic need. These professionals may also avoid targeting criminogenic needs when they do not have an intervention to match that need. Professionals in the current study positively endorsed RNR informed risk items such as "high-risk clients should receive intensive services/supervision" and "risk assessment tools are helpful for assessing and developing case management plans for offenders." The three most non-RNR informed endorsed items on the PAQ questionnaire were 1) "increasing self-esteem will help reduce criminal behaviour," 2) "targeting non-criminogenic needs will reduce criminal behaviour," and 3)"it is equally important that intervention programs target criminogenic and non-criminogenic needs to achieve the goal of recidivism risk reduction." The finding that these items were moderately endorsed by these professionals was problematic given that they were inconsistent with the RNR principles of effective correctional case management and crime reduction. For example,

professionals moderately endorsed that self-esteem should be targeted as a means of reducing criminal behaviour, but targeting self-esteem has been shown to be unrelated to criminal behaviour (Andrews & Dowden, 2006). These practices are problematic and criminogenic needs should be prioritized given that it is the targeting of criminogenic needs that is associated with reductions in recidivism (Andrews & Bonta, 2010).

In summary, hypothesis 1 was partially supported with both job satisfaction and RNR training significantly contributing to stronger knowledge of, and positive attitudes towards, the RNR model. Although past research (e.g., Wright & Cropanzano, 2000) has found that job satisfaction is not predictive of job performance, the current findings suggest that individuals who are more satisfied with their jobs have more positive attitudes towards the RNR model. These positive attitudes are important because they can lead to an increased "buy-in" of the principles of effective offender rehabilitation among professionals. This training effect is crucial among these professionals, given that as training is adhered to, we see reductions in recidivism among offenders (Chadwick, DeWolf, & Serin, 2015). Consistent with this view, individuals who had received training on the RNR model in the current sample held more positive attitudes towards the principles of effective offender rehabilitation. However, training programs typically focus on knowledge acquisition and sharing rather than the application process of these skills in practice (Viglione et al., 2015). Thus it is important to also examine how this knowledge is applied in practice.

RNR Adherence. When evaluating RNR practice adherence using the case vignettes, participants in the current study more often adhered to the principles of effective offender rehabilitation when the client was high risk status (71.35% accuracy)

versus when the client was low risk (68.51% accuracy). When examining the high risk vignette, no participant scored below 50% accuracy, suggesting that these professionals had adequate skills and were adhering to RNR concepts in these high risk cases. However, when looking at the low risk vignettes, one-fifth of participants scored below 50% in terms of accuracy, suggesting that adherence to the low risk vignette had room for improvement. When looking at the three principles of effective offender rehabilitation, there were no significant differences between the high and low risk vignette on the risk and need principles. The lack of significant findings may be due to the current study's small sample size. Alternatively, this null effect may be due to the fact that these findings are true and professionals seem to be adequately applying risk and need principles to both high risk clients (71.35% risk, 60.67% need) and low risk clients (68.51% risk, 65.48% need).

When evaluating average percent accuracy scores on the high risk vignette, participants were able to clearly delineate most of the criminogenic needs that had to be targeted for intervention for that client. For example, over 90% of participants were able to recognize "attitudes/values supportive of crime" and "antisocial associates and companions" as criminogenic needs in the high risk case. However, among the three principles of effective offender rehabilitation, adherence was weakest with regards to the need principle with a 60.67% accuracy rate on the high risk vignette, and a 65.48% accuracy rate on the low risk vignette. Furthermore, participants are including or integrating focus on non-criminogenic needs in these case management plans that are supposed to be geared at reducing recidivism risk. For example, they are targeting non-criminogenic needs such as "victimization/abuse history" and "financial problems/low

socioeconomic status/homelessness." Research suggests that professionals are able to identify criminogenic needs in offenders, for both high and low risk clients, when they have received training that helps them identify their client's main criminogenic needs (Robinson et al., 2011). Thus, training is essential.

In the current study, there was stronger RNR adherence in high risk cases, whereas less of a criminogenic focus is applied to low risk cases, but other needs that are not criminogenic in nature were addressed. For example, almost 80% of professionals targeted accommodation problems, and this is a non-criminogenic need. Thus, these professionals were trying to do more than required for these low risk cases to decrease an already low recidivism risk, and it is inherent that these professionals had difficulties in drawing the line between criminogenic and non-criminogenic issues.

When looking at the responsivity principle, RNR adherence accuracy was also stronger in the high risk vignette (80.57%) than the low risk vignette (71.33%). This finding is interesting given that current research suggests that the responsivity principle is the most difficult to implement. Campbell and colleagues (2014) found that probation officers had a hard time implementing this principle due to a lack of exposure and experience with using evidence-based intervention practices, and appropriate adjustments to service delivery. A majority of participants in the current study were mental health professionals (66.7%), thus it was possible that these mental health professionals were better equipped to apply cognitive-behavioural principles in their interactions with their clients as well as be able to best identify how to tailor interventions to that offenders specific learning style. However, in the current study there was no significant difference on the responsivity portion of the vignettes between

mental health and correctional professionals. These professionals may be better at appropriately recognizing when to use responsivity principles in a high risk client, but are having more difficulties when the client is low risk. On the high risk vignette, responsivity items that had less than 50% accuracy included items such as "counselling for anger management" and " therapy to address childhood issues." In contrast, participants had 100% accuracy on high risk case responsivity items such as "work hard to maintain a positive and respectful rapport with him," and "be sensitive to cultural issues during supervision." When examining the low risk vignette, low accuracy items included "use of cognitive behavioural strategies to target procriminal thinking," and "prioritize the importance of compliance with supervision conditions." These responsivity items did not need to be addressed in the low risk case, and a majority of participants felt that they should be applied. Thus, these professionals were over-intervening for the low risk vignette. Professionals had higher accuracy scores on responsivity items such as "listen to him and show empathy and understanding," and "work hard to maintain a positive and respectful rapport with him." These findings are important in light of research that suggests a 23% difference in recidivism rates when the responsivity principle is adhered to in case management practice (Andrews & Bonta, 2006).

The Effect of Professional Role and Training. The finding that just over half of participants were familiar with the RNR model may be due to the fact that data was collected across Canada and the United States, and the RNR model was primarily developed in Canada. Results suggested that participants from Canada (76.9%) were more likely to be familiar with the RNR model, and were more likely to have received

training on the RNR model (65.9%), in comparison to participants from the United States (51.9% and 37%, respectively). However, caution is warranted as training programs in the States may still have programs that model the effective offender rehabilitation principles, but they may not be recognized by these individuals as the RNR principles.

When evaluating typical supervision characteristics, the current study found that more than half of the time these professionals were overriding the results of the risk assessment instrument they employed. Specifically, 18% of participants substituted their own risk estimate for one obtained from a formal risk assessment instrument more than 50% of the time in their caseload. This practice is consistent with research that professionals often make decisions from their own subjective judgment, while typically deviating away from risk need assessment tool recommendations (Viglione, et al., 2015). This practice can be problematic because an individuals' subjective judgment is not as valid as applying evidence-based practices. Professionals should only substitute their own risk estimate when they have enough evidence and validation to do so. For example, professionals may substitute their own risk estimate because there may be a lack of available programming for an offender and this reality then impacts their risk decision making for that particular offender (Shook & Sarri, 2007). The finding that approximately one-fifth of the sample substituted their own risk estimate is also reflective of the current research literature, which shows a gap between knowledge and practice of risk-need assessment information into everyday case management practice (Bonta et al., 2008; Flores et al., 2004; Luong & Wormith, 2011). Professionals may be

knowledgeable of the research literature, but these individuals might be unaware that they are failing to transfer this knowledge into their everyday work with clients.

Miller and Maloney (2013) found that professionals often deviated from risk assessment tool recommendations and only completed risk instruments when it was required by their employer. Miller and Maloney suggested that when staff have positive attitudes towards the risk need assessment tool, they will exert more compliant behaviour with regard to its appropriate use. In addition, most staff in a correctional setting lack a connection to clinical assessment and treatment modalities that are beneficial to offender rehabilitation (Andrews & Dowden, 2007), which might make them uncomfortable and unfamiliar with assessment practices. These gaps in knowledge and practice may be a contributor to deviating from risk assessment tool protocols and RNR practices in general; this was seen in the current study in that only 43.4% of participants would not substitute their own risk estimate for one obtained by a formal risk assessment instrument. These case management professionals may be less inclined to substitute their own risk estimate because they are either 1) familiar with the RNR model, and/or 2) had received training that advocated against making subjective judgments and override deviations from the risk assessment tool. It is possible that professionals are just following through with their job requirements by completing these risk assessment tools. Professionals may incorporate a tool, and follow correctional policy practices when they have positive views of the organization for which they work. Although such occupational factors as job satisfaction and organizational commitment did not predict RNR adherence in the current study, job satisfaction was positively correlated with greater RNR attitudes and knowledge.

Professionals may have difficulties with the case management process due to a lack of structured decision-making processes to help them, and lack of services available for their clients (Shook & Sharri, 2007). In the UK, recent research found that when structured decision making tools were used by probation officers, the quality of case management plans were better, there was a better match between criminogenic needs and subsequent goals for the offender, and a better match between the level of recidivism risk and the intensity of the case management plans (Bosker & Witteman, 2016).

Predictors of Adherence. Another main goal of the current study was to examine what factors predicted increased adherence to the RNR principles in practice. It was expected that positive attitudes and an increased understanding of RNR principles, lower job stress, high levels of job satisfaction, greater job performance, and higher levels of organizational commitment would predict greater levels of adherence to the RNR principles. Hypotheses 2-4 were only partially supported. In contrast to expectation, there were no significant predictors of RNR adherence for the high risk vignette. The only significant predictor of adherence for the low risk vignette was participant gender. In order to further examine other variables and their impact on adherence, additional analyses were run to evaluate the effects of gender, training, and the professional role of the participant. Results indicated that male participants had higher adherence accuracy scores on the low risk vignette than females, but they were similar on the high risk vignette. Thus, there may be nuances in how male and female professionals view their responsibilities with low risk clients. However, the nature of these nuances is unclear and there is a paucity of studies examining the effect of the

gender of the professional. Lopez and Russell (2008) found that gender was not related to rehabilitation orientation. Although they hypothesized that females would be more rehabilitation oriented then males, this was not the case. Another study found that female therapists create stronger therapeutic alliances with their clients than males (Bhati, 2014). Thus it is possible that the female correctional professionals, who were mostly mental health workers, may not be adhering to these RNR principles on the low risk vignette in favour of focusing on the therapeutic alliance.

There were no significant findings in the current study with regards to the influence of RNR training or professional role (i.e., correctional vs. mental health) on RNR adherence. However, a recent meta-analysis found that there were reductions in recidivism among offenders when professionals had received training in the core correctional practices and RNR principles (Chad, et al., 2015). Although there is a large extent of research on effective offender rehabilitation principles, these authors highlight that very few jurisdictions across North America have actually been trained in the core correctional practices. Moreover, many of the training programs currently offered to these professionals are not RNR based (Bonta et al., 2011). These findings were also reflected in the current sample, whereas only 47.5% of participants received training on the principles of effective offender rehabilitation. Problematically, although staff may be receiving training on the RNR principles and practices, research suggests that organizations may not be providing enough guidance in terms of implementing these practices, and training programs seldom facilitate the use of new practices (Viglione et al., 2015). However, improvements in implementation have been seen when organizations employ an external facilitator, who can better help professionals

understand the utility of using such RNR risk-need informed practices, while also improving staff perceptions about their workplace (Taxman, Henderson, Young, & Farrell, 2012). Taxman and colleagues emphasize the importance of the external facilitator's role in developing a social climate for change for these professionals.

Limitations and Future Directions

There is a vast amount of research suggesting that the principles of effective offender rehabilitation can lead to reduced recidivism and positive outcomes for offenders and the current data supports at least partial uptake of these principles at a theoretical level. However, the results highlighted above should be considered in light of the current study's limitations.

Although professionals in the current study had positive attitudes towards the RNR principles in practice, this may not capture the whole picture of case management. It may be important to consider the offender's views as well, as a typical case management session involves participation from both the professional and offender. For example, Brown and Vollm (2016) found that offenders viewed probation officers as being in a "punishment role," and placed less trust in these individuals when it came to dealing with their case management plans (e.g., mental health issues) because these professionals had not received the same level of training as a psychologist or psychiatrist.

Given the diversity of professionals backgrounds among those who provide correctional risk appraisal and case management services, future training efforts should tailor training to an individual's particular role and experience. For example, probation officers may benefit from more training in the area of evaluation, intervention, and

mental health given that this sub-group of correctional focused professionals may be less comfortable supporting offenders with mental health needs or not understand how to best accommodate these needs while also addressing criminogenic needs. Similarly, professionals from mental health background may benefit from training focusing on the risk and criminogenic need principles since these professionals already have training relevant to accommodating various responsivity factors.

Researchers (e.g., Haas & Detardo-Bora, 2009; Shook & Sarri, 2007) have noted that, although risk need assessment tools are available for professionals to use, they are still not employed. Although professionals in the current study had high knowledge of the RNR principles, future training efforts may seek to incorporate further skill-building in the application of cognitive-behavioural skills and other tools that assist in case management decision making and implementation.

Although the reliability analysis of the PAQ measure developed for use in the current study had some positive psychometric properties, caution is warranted when interpreting findings stemming from this measure. First, some of the terminology used for PAQ items may have been less familiar to participants without RNR or mental health training for some of the intervention concepts conveyed in these items (e.g., social learning theory, cognitive-behavioural). When developing a new measure with a small sample size, there are various limitations. Research suggests that studies with fewer than 250 participants typically yields unstable estimates for correlations and large sample sizes are needed to provide reasonably stable results (Schonbrodt & Perugini, 2013). Given the current study's small sample size of $N = 99$, and the initial pool of 45 items, it is possible that these are unstable estimates. Another limitation in the current

study was the smaller sample size in the vignette responses, $N = 78$, thus reducing power for those statistical analyses. In addition, a larger sample size may have allowed further exploration of some of these nuances and factors affecting adherence accuracy.

Future research and training efforts should focus on developing simpler risk need assessment tools, as well as developing training that focuses on the implementation portion of the case management plan, which appears to be the most problematic in practice. It is clear that more guidance is needed on the "what" and "how" interventions should be completed in correctional contexts (Bourgon, Bonta, Rugge, Scott, & Yessine, 2010).

Another potential limitation was the use of self-report measures. One major issue with the use of self-report questionnaires in research is the credibility of the participant's self-report (Paulhus & Vazire, 2009). In the current study, RNR accuracy rates were adequate and participants responded positively overall. Although these professionals responded in a positive manner, this may not reflect their actual case management practice. In addition, research has found that evaluation of case management and probation case notes might actually provide a better indicator of case management activities (Peterson-Badali et al., 2015). Although the self-report method has its disadvantages, it is also useful in that it can provide us with a vast amount of information from participants from a wide geographical area that are not frequently studied.

In the current study, only a male offender was used in the adherence accuracy vignette examples. Clients in both vignettes were male and Chinese in ethnicity in order to control for potential differences across vignettes, but also to create a potential need to

consider ethnicity or culture as a responsivity factor. Future research should test a high and low risk vignette for a female offender to capture potential differences in adherence accuracy between client genders. Research has found that female offenders are more likely to receive treatment interventions than males (e.g., Vitopoulos et al., 2012). Given that the current sample consisted of mostly females, caution is warranted when extending these findings to male professionals.

Professionals for the current study were difficult to recruit due to time limitations of the researcher regarding ethics applications through the various provincial and federal organizations, which typically have a lengthy application processing time. Another limitation of the current study was that participants were recruited from various locations across North America, and thus may not be representative of all case management professionals across Canada and the United States. Although there are substantial differences between the criminal justice systems in Canada and the United States, participants were used from both countries in order to increase sample size as well as explore potential variations between these two countries in their knowledge and adherence to RNR informed case management practices.

Further, although RNR related training programs have been developed in various countries, they have not been implemented in enough jurisdictions (Chadwick et al, 2015). In contrast to such training, studies have shown that probation officers have problematically conceptualized using risk-need assessment in case management plans as discretionary, rather than mandatory by their employer (Viglione et al., 2015). Although the specific risk assessment tool used was not assessed as a factor affecting RNR adherence in the current study, Miller and Maloney (2013) suggest that use of well

defined risk assessment tools may lead to greater confidence amongst case management professionals and enhance compliance with these tools.

Future research efforts should further examine the risk assessment tools being used across jurisdictions, and strive to standardize the types of measures being employed. In order to address the problem of implementation issues, training efforts should be ongoing for employees, and implementation and mentorship support should be provided both inside and outside the organization (Bourgon et al., 2010). It is evident that further work is needed in terms of training individuals how to transfer risk need assessment results in to valuable supervision plans for the offender. The current study contributes to the current literature and provides valuable information about correctional professional's RNR knowledge and attitudes. These findings highlight the various issues with implementation in the field. Findings from the current study will help researchers by emphasizing the need to enhance and structure future training in the area of application and implementation of the effective offender rehabilitation principles. Further, this information will help education efforts as well as stimulate further research on translating "what works" into practice.

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Footnotes

[1]In Canada, probation is an alternative sentence to jail and is a provincial service, whereas parole grants an offender a conditional release after serving a custodial sentence of 2 years or more and falls under the responsibility of the federal government. Community sentences could also include house arrest, deferred custody, and conditional sentences.

[2]The United States follows similar guidelines and procedures for both probation and parole of offenders.

Table 1

Descriptive Statistics for Study Participants

Variables	%	*M* (*SD*)	***N***
Mean Age		38.57 (11.40)	99
Gender			
Male	23.2		23
Female	76.8		76
Ethnicity			
Caucasian	82.8		82
Latino/a or Hispanic	7.1		7
African Canadian/American	4.0		4
Aboriginal	3.0		3
Asian	2.0		2
Multiracial	1.0		1
Other			
Education			
Graduate Degree	69.7		69
Undergraduate Degree	29.3		29
Community College	1.0		1

Table 2

Descriptive Statistics for Professional Role Broken Down by Categories

Variables	%	***N***
Professional Role: 2 Categories		
Correctional	33.3	33
Mental Health	66.7	66
Professional Role: 3 Categories		
Correctional	33.3	33
Forensic Psychologist	43.4	43
Mental Health	23.2	23

Table 3

Descriptive Statistics for Professional Role of Participants

Professional Role	%	N
Probation officer	31.6	31
Parole officer	2	2
Forensic/correctional psychologist	43.9	43
Correctional officer/case manager	1	1
Social worker	8.2	8
Youth worker	2	2
Mental health worker	8.2	8
Other (e.g., predoctoral students in counselling program)	3.1	3

Table 4

Descriptive Statistics for Study Variables

Variable	%	*M* (*SD*)	***N***
Occupational Variables			
Job Stress		3.23 (1.14)	99
Job Satisfaction		3.73 (1.18)	99
Job Performance		3.28 (0.89)	99
Organizational Commitment (OC) Total		52.96 (9.35)	98
OC Continuance Commitment		10.31 (3.21)	98
OC Moral Commitment		10.26 (2.35)	98
OC Affective Commitment		32.40 (7.38)	98
Personality			
Extraversion		8.64 (3.14)	99
Agreeableness		10.71 (2.22)	99
Conscientiousness		12.66 (1.75)	99
Emotional Stability		11.25 (2.30)	99
Openness to Experience		10.94 (2.20)	99
RNR Knowledge & Adherence			
PAQ Score Total		122.72 (10.39)	99
High Risk Adherence Total		22.79 (2.14)	78
Low Risk Adherence Total		21.94 (5.77)	78
High Risk Vignette Accuracy	71.35		78
Low Risk Vignette Accuracy	68.51		78

Table 5

Cross Tabulation of Familiarity of RNR by Country of Origin

	Are you familiar with the RNR model?	
Country	Yes	No
	n (%)	*n* (%)
Canada	30 (76.9)	9 (23.1%)
United States	28 (51.9)	26 (48.1%)

Note. $\chi^2 = 6.06$, $p < .05$.

Table 6

Cross Tabulation of Training Received in RNR by Country of Origin

Country	Have you received training on the RNR model?	
	Yes	No
	n (%)	*n* (%)
Canada	27 (65.9)	14 (34.1)
United States	20 (37.0)	34 (63.0)

Note. $\chi^2 = 7.74$, $p < .01$.

Table 7

Average Item Score for PAQ Variables

Item	*M (SD)*	Item	*M (SD)*
1. High-risk clients should receive intensive services/supervision.	4.87 (.34)	18. Targeting criminogenic needs is associated with reductions in criminal behaviour.	4.40 (.79)
3. It is wise to override the recidivism risk estimates of formal risk assessment tools. *rs	3.96 (.95)	19. Targeting non-criminogenic needs will reduce criminal behaviour. *rs	2.67 (1.16)
4. Intervention services have a greater impact on crime reduction when they focus on high-risk clients.	3.77 (1.25)	20. Increasing self-esteem will help reduce criminal behaviour. *rs	3.0 (1.30)
5. Empirically-identified risk factors can be used to reliably determine a client's recidivism risk.	4.09 (.84)	24. Interventions can be enhanced when there is a positive relationship between the probation officer and the client.	4.62 (.54)
7. My supervision style has no effect on a client's risk to reoffend. *rs	4.0 (.99)	26. I tend to take a "tough" approach when dealing with my clients. *rs	3.82 (.98)
8. Risk assessment tools take too long to complete and are not useful. *rs	4.52 (.78)	29. Cognitive-Behavioural Therapy (e.g., cognitive restructuring, anger management, coping skills, etc.) can reduce criminal behaviour.	4.32 (.73)

Table 7 continued

Item	*M* (*SD*)	Item	*M* (*SD*)
9. Risk assessment tools are helpful for assessing and developing case management plans for offenders.	4.49 (.80)	30. Intervention programs for clients should be based on psychological theories of human behaviour.	3.99 (.85)
10. I ignore the results of risk assessment tools when they conflict with my own judgment. *rs	4.32 (.92)	31. Interventions with clients should be tailored/modified to clients' cognitive abilities/capacities	4.86 (.35)
11. Risk assessment tools are harmful because they label (e.g., "high risk") a client.	4.26 (.99)	32. Every intervention and appointment with a client should be approached from a risk-needs perspective.	4.13 (.90)
12. High risk clients are unlikely to change their offending patterns. *rs	3.62 (.98)	33. Rehabilitation-based approaches do not work well for reducing criminal behaviour. *rs	4.04 (.86)
13. Low risk clients should receive more intensive treatment than high risk clients because they are more likely to respond to interventions. *rs	4.26 (.99)	34. Adjusting my supervision style to a client's unique learning style is a waste of my time. *rs	4.82 (.42)
14. Official punishment (e.g., imprisonment) is the only way to reduce criminal behaviour. *rs	4.68 (.76)	36. Matching the appropriate treatment to a client can reduce their criminal behaviour.	4.65 (.51)

Table 7 continued

Item	*M* (*SD*)	Item	*M* (*SD*)
15. It is important to teach clients skill-building strategies based on social-learning methods to decrease recidivism risk.	4.69 (.61)	37. Interventions can be enhanced when case managers have a high level of expertise in evidence-based practices and risk reduction.	4.40 (.89)
16. The amount of supervision and services should match the client's risk of reoffending.	4.35 (1.02)	44. Punishment-based sentences result in lower rates of recidivism. *rs	4.35 (.79)
17. It is equally important that intervention programs target criminogenic and non-criminogenic needs to achieve the goal of recidivism risk reduction. *rs	1.92 (1.24)	45. We should rely more on deterrence (e.g., punishment) as a primary means of reducing criminal behaviour. *rs	4.40 (.76)

Note. 1 = Strongly Disagree; 2 = Disagree a Little; 3 = Neutral; 4 = Agree a Little; and 5 = Strongly Agree.

Table 8

Rank Ordered Items for the PAQ Scale

Item	*M (SD)*	Item	*M (SD)*
High-risk clients should receive intensive services/supervision **(risk)**	4.87 (.34)	Cognitive-Behavioural Therapy (e.g., cognitive restructuring, anger management, coping skills, etc.) can reduce criminal behaviour **(responsivity)**	4.32 (.73)
Interventions with clients should be tailored/modified to clients' cognitive abilities/capacities **(responsivity)**	4.86 (.35)	Risk assessment tools are harmful because they label (e.g., "high risk") a client **(risk)**	4.26 (.99)
Adjusting my supervision style to a client's unique learning style is a waste of my time **(responsivity)**	4.82 (.42)	Low risk clients should receive more intensive treatment than high risk clients because they are more likely to respond to interventions **(risk)**	4.26 (.99)
It is important to teach clients skill-building strategies based on social-learning methods to decrease recidivism risk **(risk)**	4.69 (.61)	Every intervention and appointment with a client should be approached from a risk-needs perspective **(responsivity)**	4.13 (.90)

Table 8 continued

Item	*M (SD)*	Item	*M (SD)*
Official punishment (e.g., imprisonment) is the only way to reduce criminal behaviour **(risk)**	4.68 (.76)	Empirically-identified risk factors can be used to reliably determine a client's recidivism risk **(risk)**	4.09 (.84)
Matching the appropriate treatment to a client can reduce their criminal behaviour **(responsivity)**	4.65 (.51)	Rehabilitation-based approaches do not work well for reducing criminal behaviour **(responsivity)**	4.04 (.86)
Interventions can be enhanced when there is a positive relationship between the probation officer and the client **(need)**	4.62 (.54)	My supervision style has no effect on a client's risk to reoffend **(risk)**	4.0 (.99)
Risk assessment tools take too long to complete and are not useful **(risk)**	4.52 (.78)	Intervention programs for clients should be based on psychological theories of human behaviour **(responsivity)**	3.99 (.85)
Risk assessment tools are helpful for assessing and developing case management plans for offenders **(risk)**	4.49 (.80)	It is wise to override the recidivism risk estimates of formal risk assessment tools **(risk)**	3.96 (.95)

Table 8 continued

Item	*M (SD)*	Item	*M (SD)*
Targeting criminogenic needs is associated with reductions in criminal behaviour **(need)**	4.40 (.79)	I tend to take a "tough" approach when dealing with my clients **(need)**	3.82 (.98)
Interventions can be enhanced when case managers have a high level of expertise in evidence-based practices and risk reduction **(responsivity)**	4.4 (.89)	Intervention services have a greater impact on crime reduction when they focus on high-risk clients **(risk)**	3.77 (1.25)
We should rely more on deterrence (e.g., punishment) as a primary means of reducing criminal behaviour **(responsivity)**	4.40 (.76)	High risk clients are unlikely to change their offending patterns **(risk)**	3.62 (.98)
Punishment-based sentences result in lower rates of recidivism **(responsivity)**	4.35 (.79)	Increasing self-esteem will help reduce criminal behaviour **(need)**	3.0 (1.30)
The amount of supervision and services should match the client's risk of reoffending **(risk)**	4.35 (1.02)	Targeting non-criminogenic needs will reduce criminal behaviour **(need)**	2.67 (1.16)
I ignore the results of risk assessment tools when they conflict with my own judgement (**risk**)	4.32 (.92)	It is equally important that intervention programs target criminogenic and non-criminogenic needs to achieve the goal of recidivism risk reduction (**need**)	1.92 (1.24)

Note. 1 = Strongly Disagree; 2 = Disagree a Little; 3 = Neutral; 4 = Agree a Little; and 5 = Strongly Agree.

Table 9

Bivariate Correlations of Key Study Variables

Variables	1	2	3	4	5	6	7	8
1. Age	-							
2. Training	.09	-						
3. Job Stress	-.05	.09	-					
4.Job Satisfaction	.05	.01	.30**	-				
5. Job Performance	-.04	-.08	-.17	.24*	-			
6. OC Total	-.02	-.01	-.25*	.46**	.27**	-		
7. PAQ	.07	.40**	.04	.23*	-.00	.19	-	
8. High Risk Accuracy	.12	.23*	-.07	.14	.10	.01	.28*	-
9. Low Risk Accuracy	.24*	.05	-.26*	.06	.11	.24*	.19	.26*

* $p < .05$
** $p < .001$

Table 10

Multiple Regression Analysis for the Practice and Attitudes Questionnaire

Variable	*r*	*B*	SE_B	*β*	95% CI
Intercept		95.93	9.6		[76.87, 114.99]
Education	.06	1.497	2.019	.070	[-2.51, 5.51]
RNR Training	.40**	8.141	1.933	.393**	[4.30, 11.98]
Job Stress	.04	.687	.884	.076	[-1.07, 2.44]
Job Satisfaction	.23*	2.108	.888	.239*	[.34, 3.87]
Job Performance	-.003	-.249	1.107	-.021	[-2.45, 1.95]

*Note. *p < . 05, **p <. 001;* B = unstandardized regression coefficient*;* SE_B = standard error of the coefficient; *β* = standardized coefficient.

Table 11

High Risk Vignette-Average Percent Accuracy Per Item

Item	%
Emotional distress/treatment for mental health issues (nc-need)	3.8
Accommodation/housing problems/homelessness (nc-need)	5.1
Victimization/abuse history (nc-need)	7.6
Financial problems/low socioeconomic status/poverty (nc-need)	8.9
Low self-esteem and ambition (nc-need)	12.7
Visible minority status (nc-need)	17.7
Therapy referral to address childhood issues (resp.)	27.8
Referral for mental health treatment to address his low self-esteem (resp.)	38.0
Counseling for anger management (resp.)	48.1
Infrequent of occasional check-ins and supervision meetings with him (resp.)	78.5
Provision of intensive supervision and support services (resp.)	78.5
Tell him what the case plan will be, rather than use his self-identified goals to guide the development of the plan (resp.)	79.7
Be very firm and "tough" in your interactions with him (resp.)	81.0
Counseling to address interpersonal/relationship issues (resp.)	82.3
Refer to mental health for management of anxiety and depression (resp.)	88.6
Antisocial personality traits (cr-need-present)	87.3
Educational upgrading (resp.)	87.3
Use interventions to enhance motivation to change (resp.)	92.4
Antisocial associations/companions (cr-need-present)	93.7
Criminal history (cr-need-present)	93.7
Dysfunction family/marital circumstances/relationships (cr-need-present)	94.9
Use of cognitive behavioural strategies to target procriminal thinking (resp.)	95.0
Educational issues (cr-need-present)	96.2
Lack of prosocial leisure/recreation activities (cr-need-present)	96.2
Attitudes/values supportive of crime (cr-need-present)	96.2
Problems in school/work domains/unemployment (cr-need-present)	97.5
Employment services (resp.)	97.5
Prioritize the importance of compliance with supervision conditions (resp.)	97.5
Listen to him and show empathy and understand (resp.)	97.5
Alcohol and/or drug use (cr-need-present)	98.7
Work hard to maintain a positive and respectful rapport with him (resp.)	100.0
Be sensitive to cultural issues during supervision (resp.)	100.0

Note. resp.=*responsivity*; nc=*non-criminogenic*; cr=*criminogenic*.

Table 12
Low Risk Vignette-Average Percent Accuracy Per Item

Item	%
Use of cognitive behavioural strategies to target procriminal thinking (resp.)	24.1
Victimization/abuse history (nc-need)	26.6
Prioritize the importance of compliance with supervision conditions (resp.)	27.8
Visible minority status (nc-need)	36.7
Use interventions to enhance motivation to change (resp.)	39.2
Therapy referral to address childhood issues (resp.)	44.3
Financial problems/low socioeconomic status/poverty (nc-need)	55.7
Emotional distress/treatment for mental health issues (nc-need)	57.0
Infrequent of occasional check-ins and supervision meetings with him (resp.)	57.0
Criminal history (cr-need-present)	58.2
Antisocial personality traits (cr-need- not present)	67.1
Antisocial associations/companions (cr-need-not present)	68.4
Educational issues (cr-need-not present)	70.9
Low self-esteem and ambition (nc-need)	70.9
Dysfunctional family/marital circumstances (cr-need-not present)	74.7
Lack of prosocial leisure/recreation activities (cr-need-present)	74.7
Problems in school/work domains/unemployment (cr-need-not present)	75.9
Accommodation/housing problems/homelessness (nc-need)	77.2
Refer to mental health for management of anxiety and depression (resp.)	77.2
Referral for mental health treatment to address his low self-esteem (resp.)	78.5
Employment services (resp.)	78.5
Tell him what the case plan will be, rather than use his self-identified goals to guide the development of the plan (resp.)	78.5
Counseling to address interpersonal/relationship issues (resp.)	79.7
Attitudes/values supportive of crime (cr-need-present)	81.0
Educational upgrading (resp.)	83.5
Provision of intensive supervision and support services (resp.)	84.8
Counseling for anger management (resp.)	84.8
Be very firm and “tough” in your interactions with him (resp.)	86.1
Alcohol and/or drug use (cr-need-present)	87.3
Be sensitive to cultural issues during supervision (resp.)	93.7
Work hard to maintain a positive and respectful rapport with him (resp.)	96.2
Listen to him and show empathy and understanding (resp.)	98.7

Note. resp.=*responsivity*; nc=non-criminogenic; cr=criminogenic.

Table 13

Descriptive Statistics and T-test Results for Risk, Need, Responsivity on High and Low Risk Vignettes

	High		Low		95% CI for Mean		
	M	SD	*M*	*SD*	Difference	*t*	Cohen's *d*
Adherence							
Risk	71.35	6.67	68.51	18.12	-1.11, 6.79	1.432	.21
Need	60.68	8.01	65.38	22.17	-10.04, .640	-1.753	.28
Responsivity	80.76	9.655	71.27	19.03	5.58, 13.41	4.835*	.62

* $p < .001$.

Table 14

Bivariate Correlations Between TIPI and Adherence

Variables	1	2	3	4	5	6	7
1. Extraversion	-						
2. Agreeableness	-.03	-					
3. Conscientiousness	-.13	.21	-				
4. Emotional Stability	.06	.30**	.12	-			
5. Openness	.32**	.21	-.32**	.23*	-		
6. High Risk Accuracy	.01	.08	-.11	.01	.06	-	
7. Low Risk Accuracy	-.12	.16	-.13	.16	.18	.27*	-

*$p < .05$
**$p < .001$

Table 15

Multiple Regression Analysis for Low Risk Vignette with Cochran-Orcutt Transformation

Variable	*B*	SE_B	β
Intercept	56.59	24.92	
Gender	-15.025	6.868	-.239*
Age	.251	.128	.219
Job Stress	-1.431	1.341	-.121
OC Total Score	.050	.189	.030
PAQ Total Score	.248	.151	.184

Note. $*p < .05;$ B = unstandardized regression coefficient; SE_B = standard error of the coefficient; β = standardized coefficient.

Table 16

Hierarchical Multiple Regression Analysis Predicting High Risk Vignette

Variable	β	t	R	R^2	ΔR^2
Step 1			.116	.014	-.013
Gender	.02	.131			
Age	.12	1.01			
Step 2			.129	.017	-.037
Job Stress	-.05	-.41			
OC Total Score	-.03	.11			
Step 3			.301	.091	.028
PAQ Total Score	.28*	2.42			

Note. $N = 78$. $*p < .05$; β = standardized coefficient.

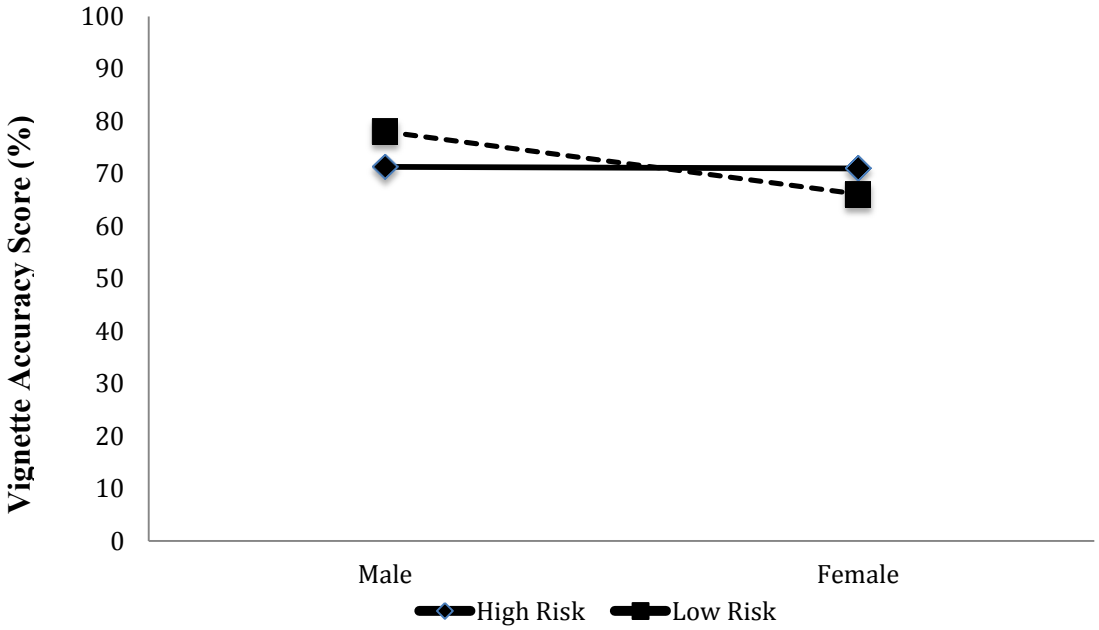

Figure 1: Interaction between Gender and Vignette Level (Low and High Risk)

Appendix A

Demographic and Work History Questionnaire

DEMOGRAPHIC AND WORK HISTORY QUESTIONNAIRE

Please answer the following questions pertaining to your personal characteristics and work history so we can describe our survey participants as a group.

A) <u>Demographic Questionnaire</u>
Please check the appropriate box(es) or fill in the blank for each question.

1. How old are you (in years)?

   _____

2. What is your gender?
   - ☐ Male
   - ☐ Female
   - ☐ Other

3. To which ethnic/racial group do you feel you belong?
   - ☐ Caucasian
   - ☐ African Canadian/American
   - ☐ Aboriginal
   - ☐ Latino/a/Hispanic
   - ☐ Asian
   - ☐ Arabian
   - ☐ Other (please indicate):

     _____

4. What is the highest education level you have completed?
   - ☐ High School
   - ☐ Community college or technical program
   - ☐ Undergraduate university degree
   - ☐ Graduate Degree (masters, doctoral, professional degree)
   - ☐ Other (please indicate):

     _____

5. If you attended a university or college program, please indicate your area of study:
   - ☐ Psychology
   - ☐ Criminal Justice
   - ☐ Sociology
   - ☐ Social Work
   - ☐ Education
   - ☐ Business
   - ☐ Health
   - ☐ Political Science
   - ☐ Philosophy

- ☐ Other (please indicate):

_____

6. Please indicate what type of correctional professional role you are currently in:
   - ☐ Probation Officer
   - ☐ Parole Officer
   - ☐ Forensic/Correctional Psychologist
   - ☐ Correctional Officer/Case Manager
   - ☐ Social Worker
   - ☐ Nurse
   - ☐ Psychiatrist
   - ☐ Youth Worker
   - ☐ Other (please indicate):

_____

7. Which of the following best describes the organization for which you work:
   - ☐ Prison/jail
   - ☐ Community/correctional office (probation/parole or other community supervision)
   - ☐ Forensic psychiatric hospital or unit
   - ☐ Community-based forensic mental health center or service
   - ☐ Other (please indicate):

_____

8. Please indicate what population of individuals you typically work with:
   - ☐ Youth ≤17 years old
   - ☐ Adults ≥18 years old
   - ☐ Both youth and adults

9. How many years have you worked in a correctional professional role within a correctional setting?

_____

10. Please indicate how many years you have worked at your current job:

_____

11. If in Canada, in what Province/Territory do you currently work in?
    - ☐ British Columbia
    - ☐ Alberta
    - ☐ Saskatchewan
    - ☐ Manitoba
    - ☐ Ontario
    - ☐ Quebec
    - ☐ New Brunswick

- ☐ Nova Scotia
- ☐ Newfoundland
- ☐ PEI
- ☐ Northwest Territories
- ☐ Nunavut
- ☐ Yukon

12. If in the United States, in what State do you currently work in?
    *list in online survey _____

B) <u>Supervision Characteristics</u>

Below are a number of questions that address your supervision and case management practices in the correctional system in the past 12 months. When answering the following questions, please consider your supervision and case management practices over the past year.

13. Which risk tools have you used in the past 12 months to inform case management decisions and in planning your work with adult offenders or justice involved youth? Please check all that apply.
    - ☐ Level of Service/Case Management Inventory (LS/CMI)
    - ☐ Youth Level of Service/Case Management Inventory (YLS/CMI)
    - ☐ Primary Risk Assessment (PRA)
    - ☐ Structured Assessment of Violence Risk for Youth (SAVRY)
    - ☐ Spousal Assault Risk Assessment (SARA)
    - ☐ Ontario Domestic Assault Risk Assessment (ODARA)
    - ☐ Violence Risk Appraisal Guide (VRAG)
    - ☐ Historical, Clinical, Risk-20 (HCR-20)
    - ☐ Estimate of Risk of Adolescent Sexual Offence Recidivism (ERASOR)
    - ☐ Rapid Risk Assessment for Sex Offence Recidivism (RRASOR)
    - ☐ STATIC-99/Static 2002
    - ☐ Sexual Offender Risk Appraisal Guide (SORAG)
    - ☐ Sexual Violence Risk-20 (SVR-20)
    - ☐ Sex Offender Needs Assessment Rating (SONAR)
    - ☐ Statistical Information on Recidivism Scale Revised 1 (SIR-R1)
    - ☐ Other (please indicate):

      _____

14. On average, in the past 12 months, how long (in minutes) is your typical appointment with a client (offender)?

    _____

15. In the past twelve months, how often do you typically meet in person:

    Low recidivism risk clients:
    - ☐ bi-monthly

- ☐ monthly
- ☐ bi-weekly
- ☐ weekly
- ☐ more than 2 times a week
- ☐ Other (please indicate):

_____

Medium recidivism risk clients:

- ☐ bi-monthly
- ☐ monthly
- ☐ bi-weekly
- ☐ weekly
- ☐ more than 2 times a week
- ☐ Other (please indicate):

_____

High recidivism risk clients:

- ☐ bi-monthly
- ☐ monthly
- ☐ bi-weekly
- ☐ weekly
- ☐ more than 2 times a week
- ☐ Other (please indicate):

_____

16. In the past 12 months how often would you alter your typical case management approach or plan to adjust for clients' responsivity needs? (Responsivity involves tailoring of intervention services to match an offender's specific learning needs, mental health issues, age, gender, personality, learning disabilities, intellectual deficits, motivation, etc.)

    - ☐ never
    - ☐ less than 25% of the time
    - ☐ 26-50% of the time
    - ☐ 51-75% of the time
    - ☐ 76-100% of the time

17. In the past 12 months how often have you substituted your own recidivism risk estimate for one obtained from a formal risk assessment instrument?

    - ☐ never
    - ☐ less than 25% of the time
    - ☐ 26-50% of the time
    - ☐ 51-75% of the time
    - ☐ 76-100% of the time

18. Are you familiar with Andrew, Bonta, & Hoge's Risk-Need-Responsivity Model of correctional case management?
    - ☐ No
    - ☐ Yes

19. Have you received training on the Risk-Need-Responsivity (RNR) Model of correctional case management in the last five years?
    - ☐ No
    - ☐ Yes

20. If you answered yes to the previous question, what form of RNR training have you received?

    - ☐ None
    - ☐ Workshop/skills training with no follow-up mentoring
    - ☐ Workshop/ skills training with ongoing mentoring
    - ☐ On-the-job training
    - ☐ Self-directed reading
    - ☐ Informal training
    - ☐ Other (please indicate):

      _____

C) <u>Occupational Experience</u>

Below are various attitudes or values that people might have towards their job. Please indicate the extent to which you agree or disagree with each of these statements.

21. How stressful have you found your work in the past 12 months?

Not at all Stressful				*Extremely Stressful*
1	2	3	4	5

22. How satisfying have you found your job in the past 12 months?

Not at all Satisfied				*Very Satisfied*
1	2	3	4	5

23. In your opinion, to what degree has the quality of your work performance changed over the past 12 months?

Decreased Greatly				*Increased Greatly*
1	2	3	4	5

Appendix B

Organizational Commitment

(Hogan, Lambert, & Griffin, 2013)

ORGANIZATIONAL COMMITMENT

Below are a number of attitudes and values that you might have about your place of work as a case manager in a correctional/forensic related organization. Please indicate the extent to which you agree or disagree with each statement.

Note. *=rs	Strongly Disagree	Disagree a Little	Neutral	Agree a Little	Strongly Agree
1. It would be hard for me to leave my job, even if I wanted to leave it.	1	2	3	4	5
2. It would be too financially costly for me to quit my employment.	1	2	3	4	5
3. I have too much invested with my job to leave it.	1	2	3	4	5
4. It is my duty to support the organization I work for.	1	2	3	4	5
***5. I feel little loyalty to the organization I work for.**	1	2	3	4	5
6. If you work for an organization, you should be loyal to that organization.	1	2	3	4	5
7. I am willing to put forth a great deal of effort beyond what is normally expected in order to help ensure that my organization is successful.	1	2	3	4	5
8. I tell my friends that this is a great organization to work for.	1	2	3	4	5
9. I find that my values and this organization's values are very similar.	1	2	3	4	5
10. I am proud to tell people that I work at this organization.	1	2	3	4	5
11. This organization really inspires the best in me in the way of job performance.	1	2	3	4	5
12. I really care about the fate of this organization.	1	2	3	4	5
***13. Deciding to work for this organization was a definite mistake on my part.**	1	2	3	4	5
***14. Often I disagree with the organization on important matters.**	1	2	3	4	5
15. I get upset when people say negative things about this organization.	1	2	3	4	5

Appendix C

Ten-Item Personality Inventory

(Gosling, Rentfrow, & Swann, 2003)

TEN-ITEM PERSONALITY INVENTORY

Here are a number of personality traits that may or may not apply to you. Please indicate the extent to which you agree or disagree with that statement as it applies to you. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

I see myself as:	Disagree Strongly	Disagree Moderately	Disagree a Little	Neither Agree or Disagree	Agree a Little	Agree Moderately	Agree Strongly
1. Extraverted, enthusiastic	1	2	3	4	5	6	7
***2. Critical, quarrelsome**	1	2	3	4	5	6	7
3. Dependable, self-disciplined	1	2	3	4	5	6	7
***4. Anxious, easily upset**	1	2	3	4	5	6	7
5. Open to new experiences, complex	1	2	3	4	5	6	7
***6. Reserved, quiet**	1	2	3	4	5	6	7
7. Sympathetic, warm	1	2	3	4	5	6	7
***8. Disorganized, careless**	1	2	3	4	5	6	7
9. Calm, emotionally stable	1	2	3	4	5	6	7
***10. Conventional, uncreative**	1	2	3	4	5	6	7

Note. *=rs

Appendix D

RNR Practices and Attitudes Questionnaire

RNR PRACTICES AND ATTITUDES QUESTIONNAIRE

Below are a number of statements about correctional case management practice. Please read each statement and indicate the extent to which you disagree or agree with that statement.

The following definitions will help you understand the following statements:
Recidivism: Occurs when client re-engages in criminal behaviour after the start of supervision.
Criminogenic: Needs of a client that are tied to criminal behaviour (i.e., procriminal attitudes, procriminal associates, criminal history, antisocial personality traits).
Non-criminogenic: Needs of a client that have no or only indirect causal relationships with criminal behaviour (e.g., mental illness, poverty, intellectual disability, homelessness).
Evidence-Based/Empirical: Based on scientific research/literature.

	Strongly Disagree	**Disagree a Little**	**Neutral**	**Agree A Little**	**Strongly Agree**
RISK					
1. High-risk clients should receive intensive services/supervision.	1	2	3	4	5
2. The research literature does not tell us all of the risk factors related to criminal behaviour.	1	2	3	4	5
3. It is wise to override the recidivism risk estimates of formal risk assessment tools.	1	2	3	4	5
4. Intervention services have a greater impact on crime reduction when they focus on high-risk clients.	1	2	3	4	5
5. Empirically-identified risk factors can be used to reliably determine a client's recidivism risk.	1	2	3	4	5
6. It is impossible to predict a client's risk of future criminal behaviour.	1	2	3	4	5
7. My supervision style has no effect on a client's risk to reoffend.	1	2	3	4	5
8. Risk assessment tools take too long to complete and are not useful.	1	2	3	4	5
9. Risk assessment tools are helpful for assessing and developing case management plans for offenders.	1	2	3	4	5

10. I ignore the results of risk assessment tools when they conflict with my own judgment.	1	2	3	4	5
11. Risk assessment tools are harmful because they label (e.g., "high risk") a client.	1	2	3	4	5
12. High risk clients are unlikely to change their offending patterns.	1	2	3	4	5
13. Low risk clients should receive more intensive treatment than high risk clients because they are more likely to respond to interventions.	1	2	3	4	5
14. Official punishment (e.g., imprisonment) is the only way to reduce criminal behaviour.	1	2	3	4	5
15. It is important to teach clients skill-building strategies based on social-learning methods to decrease recidivism risk.	1	2	3	4	5
16. The amount of supervision and services should match the client's risk of reoffending. (Indicator)					
NEED					
17. It is equally important that intervention programs target criminogenic and non-criminogenic needs to achieve the goal of recidivism risk reduction. *rs	1	2	3	4	5
18. Targeting criminogenic needs is associated with reductions in criminal behaviour. (Indicator)	1	2	3	4	5
19. Targeting non-criminogenic needs will reduce criminal behaviour. *rs	1	2	3	4	5
20. Increasing self-esteem will help reduce criminal behaviour. *rs	1	2	3	4	5
21. If criminogenic needs have been addressed in a supervision session, then it is ok to address non-criminogenic needs.	1	2	3	4	5
22. Discussing supervision conditions with a client will	1	2	3	4	5

reduce their criminal behaviour. *rs					
23. Interventions that occur in community-based settings are more beneficial than interventions that take place in residential or institutional settings.	1	2	3	4	5
24. Interventions can be enhanced when there is a positive relationship between the probation officer and the client.	1	2	3	4	5
25. During supervision sessions it is best to adopt an assertive and firm approach with clients.	1	2	3	4	5
26. I tend to take a "tough" approach when dealing with my clients.	1	2	3	4	5
27. I find it helpful to take a passive/flexible/easygoing approach when dealing with my clients.	1	2	3	4	5
28. The court system is too lenient on offenders.	1	2	3	4	5
RESPONSIVITY					
29. Cognitive-Behavioural Therapy (e.g., cognitive restructuring, anger management, coping skills, etc.) can reduce criminal behaviour.	1	2	3	4	5
30. Intervention programs for clients should be based on psychological theories of human behaviour.	1	2	3	4	5
31. Interventions with clients should be tailored/modified to clients' cognitive abilities/capacities. (Specific Indicator)	1	2	3	4	5
32. Every intervention and appointment with a client should be approached from a risk-needs perspective.	1	2	3	4	5
33. Rehabilitation-based approaches do not work well for reducing criminal behaviour.	1	2	3	4	5

34. Adjusting my supervision style to a client's unique learning style is a waste of my time.	1	2	3	4	5
35. Adjusting my supervision style to a client's unique mental health needs/intellectual abilities is unhelpful to the goal of recidivism risk reduction.	1	2	3	4	5
36. Matching the appropriate treatment to a client can reduce their criminal behaviour.	1	2	3	4	5
37. Interventions can be enhanced when case managers have a high level of expertise in evidence-based practices and risk reduction. (General Indicator)	1	2	3	4	5
38. Services delivered to a client should show respect for that person.	1	2	3	4	5
39. All offenders should receive exact same intervention (i.e., one size fits all approach).	1	2	3	4	5
40. It is important to consider a client's age when developing his/her case management plan.	1	2	3	4	5
41. It is important to consider a client's gender when developing his/her case management plan.	1	2	3	4	5
42. It is important to consider a client's cultural background when developing his/her case management plan.	1	2	3	4	5
43. I often use my own personal experience in the field to guide my decision-making and case management plans.	1	2	3	4	5
44. Punishment-based sentences result in lower rates of recidivism. *rs	1	2	3	4	5
45. We should rely more on deterrence (e.g., punishment) as a means of reducing criminal behaviour.	1	2	3	4	5

Note. *rs=reverse scored

Appendix E

RNR Case Studies

CASE STUDIES

Please read the following case description and then answer the subsequent questions regarding your approach to the case management of this case.

Client 1-Robert

Robert is a 34-year-old Chinese male who was found to be at a high-risk to reoffend by a well-established and well-validated risk/need assessment instrument. Information gathered from collateral sources suggests that he has a history of engaging in criminal behaviour and has been involved with the criminal justice system from a very young age. He also has an extensive criminal record, with charges varying from possession of a narcotic to motor vehicle theft, but no violent offences or history of aggression. Robert is often disrespectful and is one of your most difficult clients on community supervision. In typical supervision sessions, he always seems to provide a rationale that legitimizes his criminal behaviour (e.g., the victim deserved it, or no one was really hurt by his actions) and he has positive attitudes towards crime. He usually breaches his probation by committing a new offence before his supervision period is finished. Robert unfortunately spends his time around the wrong crowd, and this may encourage some of his criminal behaviour. In supervision sessions, you have been discussing and reinforcing his supervision conditions and notice that he has low self-esteem and ambition, and really has no form of prosocial leisure activities. Robert suffers from both anxiety and depression.

When collecting collateral information, you learn that Robert is a 1st generation Canadian citizen and lives in a community with few Chinese members. As a result, he has had some issues adjusting to a different culture. In addition, Robert is currently unemployed and was fired from his last job for missing numerous shifts. His employer noted that he was a good worker when he was there, but he was an unreliable employee in terms of attendance. It is hard for Robert to find work because he did not complete high school and, thus, lacks the basic education required by most employers. Robert grew up in a poor neighbourhood and comes from a lower class family. Robert's father left when he was young, and he has an estranged relationship with his mother and two siblings. Robert was previously married, but his wife left him due to his constant involvement with the criminal justice system and financial problems. He currently has a new girlfriend, but it is a rocky relationship. Robert also experienced sexual abuse as a child, and has an alcohol abuse issue. Currently, due to his job situation, he is facing a range of financial problems and is having trouble finding affordable accommodation. Since Robert has been on your caseload, he has participated in treatment with a therapist at mental health services that focuses on helping him cope better with his emotional distress.

Specific to Robert's case, which of the following would you take into consideration or influence your choice of the most appropriate style and/or mode of service/supervision?

Criminogenic Needs			**Scoring Key**
1. Criminal history (i.e., exploration/dynamics of previous crimes and current offence)	No	Yes	Yes
2. Accommodation/housing problems/homelessness	No	Yes	No
3. Dysfunctional family/marital circumstances/relationships	No	Yes	Yes
4. Antisocial Associates/Companions	No	Yes	Yes
5. Antisocial Personality Traits	No	Yes	Yes
6. Educational Issues	No	Yes	Yes
7. Lack of Prosocial Leisure/Recreation Activities	No	Yes	Yes
8. Low Self-Esteem and Ambition	No	Yes	No
9. Attitudes/Values Supportive of Crime	No	Yes	Yes
10. Problems in School/Work Domains/Unemployment	No	Yes	Yes
11. Alcohol and/or Drug Use	No	Yes	Yes
12. Financial Problems/Low Socioeconomic Status/Poverty	No	Yes	No
13. Emotional Distress/Treatment for Mental Health Issues	No	Yes	No
14. Victimization/Abuse History	No	Yes	No
15. Visible minority status (1st generation immigrant)	No	Yes	No
16. Other risk factors you would address in order to reduce his risk? (please specify):			

Specific to Robert's case, which of the following factors would you view as reflective of the likely approach you would take with this client to effectively address his risk factors and enhance the likelihood of successful recidivism risk reduction?

Considerations			Scoring Key
1. Use of cognitive-behavioural strategies to target his procriminal thinking/values (i.e., cognitive restructuring)	No	Yes	Yes
2. Referral for mental health treatment to address his low self-esteem	No	Yes	No
3. Infrequent or occasional check-ins and supervision meetings with him	No	Yes	No
4. Use interventions to enhance motivation to change	No	Yes	Yes
5. Provision of intensive supervision and support services	No	Yes	Yes
6. Educational upgrading	No	Yes	Yes
7. Employment services	No	Yes	Yes
8. Therapy referral to address childhood issues	No	Yes	No
9. Counseling to address interpersonal/relationship issues	No	Yes	Yes
10. Counseling for anger management	No	Yes	No
11. Work hard to maintain a positive and respectful rapport with him	No	Yes	Yes
12. Prioritize the importance of compliance with supervision conditions.	No	Yes	No
13. Be very firm and "tough" in your interactions with him.	No	Yes	No
14. Listen to him and show empathy and understanding	No	Yes	Yes
15. Tell him what the case plan will be, rather than use his self-identified goals and ideas to guide the development of the plan	No	Yes	No
16. Refer to mental health for management of anxiety and depression	No	Yes	Yes
17. Be sensitive to cultural issues during supervision	No	Yes	Yes

18. Other approaches you would use to maximize risk reduction and treatment response for this client?: (please specify)	

Please read the following case description and then answer the following questions regarding your case management approach to this case.

Client 2-Tony

Tony is a 34-year-old Chinese, 1st generation immigrant male who was found to be at a low risk level to reoffend by a well-established and well-validated risk/need assessment instrument. Tony does not have a prior history of antisocial or criminal behaviour and is currently on community supervision due to his current charges of fraud. Tony committed fraud by using stolen cheques because he was desperate for cash and did it a few times before getting caught. During probation sessions Tony is polite and seems eager to complete his community supervision while maintaining good behaviour. Tony has no issues adjusting to cultural change.

Tony is highly agreeable and he usually thinks before he acts. However, during supervision sessions, Tony has expressed some attitudes and beliefs that minimize the harm caused by his crime. Tony is close with his peer group, and these appear to be positive and respectful relationships. At the present time, Tony is in an intimate relationship with a girlfriend, and all indicators suggest that it is a prosocial and healthy relationship. In addition, Tony has a strong and nurturing relationship with his mother and is relatively close with his father. Tony is enrolled in an automotive course, and hopes to work as a mechanic when he completes his program. Tony currently works at the front desk of a car repair shop and his financial and housing situation has been stable since working at the shop for the past few months. During a collateral interview, his employer had nothing but positive things to say about him. Outside of work and school, Tony does not participate in any meaningful leisure or recreational activities. One area that may be of concern is his increased consumption of alcohol. Tony has been binge drinking with his friends on the weekends since he was arrested for the index fraud but his alcohol consumption had nothing to do with his crime. As a teenager, Tony was a recreational marijuana user, but he has used no drugs as an adult. During one supervision session, Tony disclosed once being inappropriately touched in a sexual manner by another family member as a child.

Specific to Tony's case, which of the following would you take into consideration or influence your choice of the most appropriate style and/or mode of service/supervision?

Criminogenic Needs			**Scoring Key**
1. Criminal history (i.e., exploration/dynamics of previous crimes and current offence)	No	Yes	Yes
2. Accommodation/housing problems/homelessness	No	Yes	No
3. Dysfunctional family/marital circumstances/relationships	No	Yes	No
4. Antisocial Associates/Companions No		Yes	No
5. Antisocial Personality Traits	No	Yes	No
6. Educational Issues	No	Yes	No
7. Lack of Prosocial Leisure/Recreation Activities	No	Yes	Yes
8. Low Self-Esteem and Ambition	No	Yes	No
9. Attitudes/Values Supportive of Crime	No	Yes	Yes
10. Problems in School/Work Domains/Unemployment	No	Yes	No
11. Alcohol and/or Drug Use	No	Yes	Yes
12. Financial Problems/Low Socioeconomic Status/Poverty	No	Yes	No
13. Emotional Distress/Treatment for Mental Health Issues	No	Yes	No
14. Victimization/Abuse History	No	Yes	No
15. Visible minority status (1st generation immigrant)	No	Yes	No
16. Other risk factors you would address in order to reduce his risk? (please specify):			

Specific to Tony's case, which of the following factors would you view as reflective of the likely approach you would take with this client to effectively address his risk factors and enhance the likelihood of successful recidivism risk reduction?

Considerations			Scoring Key
1. Use of cognitive-behavioural strategies to target his procriminal thinking/values (i.e., cognitive restructuring)	No	Yes	No
2. Referral for mental health treatment to address his low self-esteem	No	Yes	No
3. Infrequent or occasional check-ins and supervision meetings with him	No	Yes	Yes
4. Use interventions to enhance motivation to change	No	Yes	No
5. Provision of intensive supervision and support services	No	Yes	No
6. Educational upgrading	No	Yes	No
7. Employment services	No	Yes	No
8. Therapy referral to address childhood issues	No	Yes	No
9. Counseling to address interpersonal/relationship issues	No	Yes	No
10. Counseling for anger management	No	Yes	No
11. Work hard to maintain a positive and respectful rapport with him	No	Yes	Yes
12. Prioritize the importance of compliance with supervision conditions.	No	Yes	No
13. Be very firm and "tough" in your interactions with him.	No	Yes	No
14. Listen to him and show empathy and understanding	No	Yes	Yes
15. Tell him what the case plan will be, rather than use his self-identified goals and ideas to guide the development of the plan	No	Yes	No
16. Refer to mental health for management of anxiety and depression	No	Yes	No
17. Be sensitive to cultural issues during supervision	No	Yes	Yes

18. Other approaches you would use to maximize risk reduction and treatment response for this client?: (please specify)	

Appendix F

Recruitment Email

Hello,

You are invited to participate in a study conducted by researchers at the University of New Brunswick's Centre for Criminal Justice Studies (Canada) on current offender case management and supervision practices in the field. We are looking for participants to complete a survey, which will take approximately 30 minutes of your time. In order to be eligible to participate in the current study, you must have experience working as a probation or parole officer, forensic/correctional mental health professional, or in another correctional case manager type role in a community-based criminal justice setting in the past 12 months, and have had an active caseload in the past 12 months.

Your participation in this study is completely voluntary, and you may withdraw from the study at any time without penalty. After completing the survey, you will have the opportunity to select whether or not you would like to have your name entered in a random prize draw for various online gift cards (e.g., Amazon, Indigo/Chapters, $20.00 CAD) available in North America stores and online.

If you have any additional questions about the current study please contact Dr. Mary Ann Campbell at (506) 648-5642 (mcampbel@unb.ca), Cailey Gilmurray (gilmurray.c@unb.ca) , or Dr. Lisa Best, Chair of the Human Research Ethics Committee at (506)-5908 (reb@unb.ca).

Cailey Gilmurray
B. A. (Hons), M. A Candidate
University of New Brunswick
Department of Psychology, Faculty of Arts
PO Box 5050 (civic address: 100 Tucker Park Road)
Saint John, New Brunswick, Canada
E2L 4L5
E-mail: gilmurray.c@unb.ca

Appendix G

Data Distribution List

Data Distribution List:

- Departments of Public Safety, and Corrections Offices in each Canadian province
- Canadian Criminal Justice Association
- Criminal Justice Section of the Canadian Psychological Association
- American-Psychology and Law Society email study distribution (which includes Canadian and American members)
- American Probation and Parole Association
- American Correctional Association
- International Corrections and Prisons Association discussion forum

Appendix H

Informed Consent

Informed Consent Form

Researchers at the Centre for Criminal Justice Studies at the University of New Brunswick Saint John Campus are conducting a survey on current offender case management and supervision practices in the field. The purpose of the current study is to gather information to help inform case management application procedures and training development for staff. This research study is being conducted by Cailey Gilmurray, a graduate student, and her supervisor, Dr. Mary Ann Campbell, Director of the Center for Criminal Justice Studies and Associate Professor in the Department of Psychology at the Saint John Campus of the University of New Brunswick. In order to be eligible to participate in the current study, you must have experience working as a probation or parole officer, forensic/correctional mental health professional, or in another correctional case manager type role in a community-based criminal justice setting in the past 12 months, and have had an active caseload in the past 12 months. We are looking for participants to complete a survey, which will take approximately 30 minutes of your time. The survey will consist of general information including personal characteristics, professional background, and organizational issues. Your participation in this study is completely voluntary, and you may withdraw from the study at any time without penalty. In addition, your participation in the study is not an evaluation of your work performance nor will your employer be aware of your participation in the study. Your participation in the current study will be anonymous. However, due to the use of using an American survey portal (Qualtrics), there is always the possibility that information may be accessed externally by an unidentified source under that government's security legislation. For more information about Qualtric's security and privacy procedures please refer to their website (http://www.qualtrics.com/privacy-statement/). This service uses encrypted security protocols to protect your personal information. In addition, all participants will be assigned an identification number to protect their confidentiality, we will not ask for your name and address or place of work. After data collection is complete, no computer IP addresses will be retained and data will be stored in an electronically encrypted, password protected USB memory storage device. This USB drive will be locked in a cabinet at the University of New Brunswick Saint John Campus when not in use with access restricted to only the researchers noted above. Paper formats of the questionnaire will also be available. No one person's information will be singled out. Only aggregate (i.e., summary) combined data will be reported to summarize the findings.

After completing the survey, you will have the opportunity to select whether or not you would like to have your name entered in a random prize draw for various online gift cards (e.g., Amazon, Indigo/Chapters) available in North America stores and online. Winners of the prize draw will be contacted by December 31st, 2015. After winners have been notified their contact info will be securely destroyed. The prize draw information will be stored in Qualtrics separately from individual respondent data. The contact information that you provide in Qualtrics only will be used to contact prize draw winners or to distribute study results if you selected that as an option.

If you have any additional questions about the current study please contact Dr. Mary Ann Campbell at (506) 648-5642 (mcampbel@unb.ca), Cailey Gilmurray (gilmurray.c@unb.ca) , or Dr. Lisa Best, Chair of the Human Research Ethics Committee at (506)-5908 (reb@unb.ca).

I have read the above information and have had all of my questions answered about this research study.

Please click on the "**Consent**" box to proceed with the survey.

- Are you 19 or over? YES NO
- Do you consent to participate in this survey? (please check) YES NO
- If you have decided to participate, do you consent to having your name entered in the prize draw? (please check) YES NO
- Would you like to receive a summary of the results once the study has been completed? YES NO

NAME (please print): _____

SIGNATURE: _____ DATE: _____

For the prize draw and/or to send you a summary of the results, please provide the best means of contacting you. This information will not be shared with any third party and will only be used to contact you if you win one of the prizes or to send you the results.

Phone Number: _____

Email: _____

Mailing Address:

_____

_____

_____

_____

Candidate's Full Name: Cailey Gilmurray

Universities Attended: University of British Columbia-Okanagan Campus
BA, Psychology Honours 2012

University of New Brunswick
M.A. Candidate 2013-2017

Conference Presentations:

Gilmurray, C. A., Campbell, M. A., & Greythorn, W. (June, 2015). *The association of Psychopathy Traits with Perceived Creativity.* Paper presented at the Third North American Correctional and Criminal Justice Psychology Conference, Ottawa, Ontario.

Gilmurray, C. A., Doucette, N., Campbell M. A. (2014, March). *Levenson's Self-Report Psychopathy Scale and the Psychopathic Personality Traits-Inventory: A test of efficiency versus breadth in the assessment of psychopathic traits*. Poster presented at the Annual Conference of the American Psychology-Law Society. New Orleans, Louisiana.

Gilmurray, C. A., & O'Connor, B. P (2012, April). *Implicit Theory Structure of the Hare PCL-R Items*. Poster presented at the 7th annual Irving K. Barber School undergraduate research symposium. Kelowna, Canada.