Recidivism and Treatment Attrition among Persons who Sexually Offend (PSOs): Applying the Integrated Risk Assessment and Treatment System (IRATS)

by

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An oral defense of this thesis took place on September 4, 2020 in front of the following examining committee:

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Chair of Examining Committee	Dr. Amy Leach
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The above committee determined that the thesis is acceptable in form and content and that a satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate during an oral examination. A signed copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

Abstract

The aim of this thesis was to investigate whether the Integrated Risk Assessment and Treatment System (IRATS; Looman & Abracen, 2013) can provide an explanatory framework for understanding persons who sexually offend (PSOs). The IRATS is comprised of several overarching components: Deviant Sexual Arousal, Psychological Vulnerability, and Criminality. Study 1 investigated whether the IRATS components predict the likelihood that an incarcerated sample of PSOs will engage in sexual recidivism. This sample consisted of convicted PSOs who were assessed at the Regional Treatment Centre High Intensity Sex Offender Treatment Program (RTCSOTP), provided by the Correctional Service of Canada (CSC). Study 2 investigated whether the IRATS components predict the likelihood that a community sample of PSOs will terminate their treatment prematurely. This sample consisted of PSOs who were assessed at the Sexual Behaviours Clinic (SBC) at the Centre for Addiction and Mental Health (CAMH). The results of both studies indicated that the three components, together, significantly predict the outcomes of interest, and the Criminality component appears to drive this relationship. Implications of these findings are discussed herein.

Keywords: Sexual offending; Risk assessment; Treatment; Persons who sexually offend

AUTHOR'S DECLARATION

I hereby declare that this thesis consists of original work of which I have authored. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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The research work in this thesis that was performed in compliance with the regulations of Research Ethics Board under file number **15379**.

Kristina Shatokhina

STATEMENT OF CONTRIBUTIONS

The model that was investigated in this thesis was developed by Dr. Jeffrey Abracen and Dr. Jan Looman of the Correctional Service of Canada (CSC). Dr. Abracen directed me to peer-reviewed materials that outlined the model and provided me with a verbal explanation of its components.

Both Studies 1 and 2 were designed by me in collaboration with my thesis supervisor, Dr. Leigh Harkins. Through ongoing discussions, Dr. Harkins assisted me in determining the research questions, hypotheses, samples, statistical analyses, and conclusions.

The database referenced for Study 1 was collected at the Regional Treatment Centre Sex Offender Treatment Program (SOTEP) in Kingston, Ontario, by the Correctional Service of Canada (CSC). I was provided access to this database by Dr. Jeffrey Abracen and Dr. Jan Looman of CSC, who are the owners of this data. I independently performed all the statistical analyses of this data.

The database referenced for Study 2 was collected at the Sexual Behaviours Clinic (SBC), at the Centre for Addiction and Mental Health (CAMH) in Toronto, Ontario. I was provided access to this database by Dr. Ainslie Heasman, who is the owner of this data. I independently performed all the statistical analyses of this data.

The written component of this dissertation was completed with the assistance of Dr. Leigh Harkins, who provided ongoing feedback for each draft. Dr. Abracen also provided verbal feedback during the oral examination of this thesis. Dr. Krystle Martin, the Oral Examiner of this thesis, also provided written and verbal feedback during the examination.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS AND SYMBOLS

PSOs	Persons who Sexually Offend
IRATS	Integrated Risk Assessment and Treatment System
CSC	Correctional Service of Canada
SBC	Sexual Behaviours Clinic
CAMH	Centre for Addiction and Mental Health
REB	Research Ethics Board
RNR	Risk-Need-Responsivity Model
GLM	Good Lives Model
CSS	Criminal Sentiments Scale
ULS	UCLA Loneliness Scale

CHAPTER 1: INTRODUCTION

The driving forces behind sexual offending are complex and multifaceted – they can range from deviant physiological impulses (Flak, Beech, & Fisher, 2007) to the formation of antisocial sexual norms (Craig, 2020). Decades of research have produced a collection of explanatory models for sexual offending – each a unique combination of dispositional characteristics or adverse life experiences that, together, activate the criminal trajectory for persons who sexually offend (PSOs).

A novel explanatory model has recently been proposed, entitled the Integrated Risk Assessment and Treatment System (IRATS), formerly the Risk Need Responsivity – Integrated (RNR-I; Looman & Abracen, 2013). Designed to integrate commonly observed issues that impede PSO rehabilitation, the model elucidates a promising avenue of research that has yet to be explored.

1.1 Models of Sexual Offending

Over the years, several models of sexual offending have been proposed, each with a unique approach to risk assessment and rehabilitation. Three of these models are described below, selected because they are among the most commonly endorsed (McGrath, Cumming, Burchard, Zeoly, & Ellerby, 2010) or relevant to the development of the IRATS.

1.1.1 The Risk-Need-Responsivity Model (RNR; Andrews & Bonta, 2010)

The Risk-Need-Responsivity Model (RNR; Andrews & Bonta, 2010) asserts that criminal rehabilitation can be understood by examining one's risk of reoffending, one's needs that relate to the commission of crime, and one's responsivity considerations that can impact the degree to which one benefits from treatment. Eight central risk/need factors have been identified by Andrews and Bonta (2010): (1) a history of antisocial behaviour; (2) an antisocial personality

pattern; (3) antisocial cognitions; (4) antisocial associates; (5) family/marital problems; (6) school/work problems; (7) a lack of positive leisure activities and; (8) substance abuse. Responsivity considerations are categorized as general or specific – the general responsivity principle suggests that the most effective interventions are often based on cognitive, behavioural, and social learning theories. The specific responsivity principle suggests that individual circumstances such as denial and intellectual disability can hinder one's ability to make progress (Andrews & Bonta, 2010). A PSO's profile of risk/need factors may include substance abuse problems that increase disinhibition, marital problems that increase relationship dissatisfaction and antisocial cognitions that increase the likelihood that one will resist against the social norms of appropriate sexual behaviour. Responsivity considerations such as intellectual disability may, then, impede this individual's ability to evaluate these circumstances in treatment.

Risk, need, and responsivity are three critical aspects of one's experience when coming into contact with the law and this model is endorsed by a large population of researchers and treatment providers (McGrath et al.,2010). It has, nonetheless, been met with some criticism. One concern is that the three components are presented as isolated from one another, and additional research is necessary to understand how they interact to increase recidivism risk (Looman & Abracen, 2013). Another concern is that the RNR fails to consider other, non-criminal characteristics that remain relevant (Ward, Mann, & Gannon, 2007). These criticisms have led professionals to turn to other models in order to supplement or replace aspects of the RNR.

1.1.2 The Good Lives Model (GLM; Ward & Stewart, 2003)

The Good Lives Model (GLM; Ward & Stewart, 2003) posits that all people, those who offend and pro-social individuals alike, strive to achieve goals called Goods, which would allow

them to live a good life. The following eleven Goods are included in the model: (1) Life; (2) Knowledge; (3) Excellence in Play; (4) Excellence in Work; (5) Agency; (6) Inner Peace; (7) Relatedness; (8) Community; (9) Spirituality; (10) Happiness and; (11) Creativity (Ward & Stewart, 2003; Willis, Ward, & Levenson, 2014). Those that come into contact with the law do so because they do not have the ability to achieve these goals in prosocial ways, or over-prioritize some goals. For instance, a PSO may perceive the Good of Relatedness, or connection with others, as unfulfilled, driving them to seek out inappropriate relationships with vulnerable individuals that may accept them. They may also over-prioritize the Good of Agency, and seek to maintain control over themselves and others through sexual aggression. Therapists working with these clients must guide them towards pro-social ways of achieving a good life that is personally meaningful to them.

The GLM has provided a valuable contribution to the understanding of one's intrinsic motivation to sexually offend and provides a strengths-based alternative that considers a person's identity beyond their criminal behaviour (Lord, 2016). As with the RNR, however, the GLM leaves several questions unanswered, such as the role of idiosyncratic needs in enhancing community safety (Andrews, Bonta, & Wormith, 2011). As such, incorporating aspects of psychological wellbeing, while maintaining a focus on those factors with an empirically supported relationship to recidivism and treatment-related outcomes, may result in a useful comprehensive framework.

1.1.3 The Integrated Risk and Etiological Model (Beech & Ward, 2004)

Beech and Ward's (2004) model emphasized the interaction between risk and etiological factors, designed to explain sexually violent behaviour. According to this framework, developmental factors such as abuse, rejection, and attachment problems influence static and

dynamic vulnerability factors such as criminal and antisocial history, range of offending behaviours, social isolation, problems with sexual self-regulation, offense-supportive cognitions, and interpersonal functioning. These vulnerability factors, in turn, influence state factors that include physiological arousal, deviant thoughts and fantasies, the need for intimacy, and affective states. Together, these factors form the risk component of the Risk and Etiological Model. The etiological component, then, influences the manifestation of vulnerability factors. Etiological factors included in the model are victim access, failure to cooperate with supervision, substance abuse, antisocial peers, social dislocation, and conflict in relationships.

Beech and Ward's (2004) model is noted to successfully integrate various aspects of PSO characteristics, but neglects factors such as complex trauma and mental illness. Furthermore, many elements in the model are difficult to directly address in treatment and scrutinize in research, suggesting the need for an inclusive, empirically supported framework.

1.1.4 The Integrated Risk Assessment and Treatment System (IRATS, formerly RNR-I; Looman & Abracen, 2013)

The Integrated Risk Assessment and Treatment System, or IRATS, was developed by Dr. Jan Looman and Dr. Jeffrey Abracen (Looman & Abracen, 2013). It consists of three components that lead individuals to turn to sexual offending. One component is Deviant Sexual Arousal, which refers to an individual's failure to self-regulate sexual urges and demonstration of deviant preferences or paraphilias, often illustrated by results of phallometric assessment. The second component is Psychological Vulnerability, which involves a history of abuse and rejection, significant mental health difficulties, attachment issues, and chronic issues with negative emotions such as anger, depression, and loneliness. The last component is Criminality, which includes the persistence and range of offending, psychosocial problems, offense-

supportive cognitions, and antisocial personality patterns. Together, these components can elucidate what drives the occurrence and maintenance of criminal behaviour, as well as one's response to intervention.

Originally, the IRATS was conceptualized as an update to Andrews and Bonta's (2010) Risk-Need-Responsivity (RNR) Model of criminal behaviour. As the former name suggests, it aimed to capture the way in which the Risk, Need, and Responsivity components can interact with one another to influence recidivism risk and treatment needs. The earliest version of the model was based on Beech and Ward's (2004) model that integrated etiological, static, and dynamic factors of sexual offending. The IRATS, then, expanded to include new elements, such as complex trauma and mental illness, and incorporated elements from the harm reduction perspective, which distinguished it from Beech and Ward's (2004) framework. As a result of these changes, the RNR-I became increasingly distinct from the traditional RNR perspective and other models, which led Looman and Abracen to rename the novel framework. This thesis is the first project to utilize the IRATS name.

The creation of the IRATS was inspired by Looman and Abracen's clinical work with PSOs; decades of treatment had resulted in a list of issues that were commonly reported to them by members of this population (Looman & Abracen, 2013). Upon developing the model based on the aforementioned theoretical frameworks, outcome studies retroactively examined whether treatment based on the IRATS impacted sexual recidivism. One such study uncovered a significant relationship; PSOs treated based on the IRATS framework were approximately half as likely to sexually recidivate as untreated PSOs (Looman, Abracen, & Nicholaichuk, 2000). Other studies identified treatment trends that supported the idea of the IRATS framework, such as the interaction between substance abuse, psychopathy, and sexual deviance noted in Abracen,

Looman and Langton (2008) and in Abracen et al. (2011). These positive empirical outcomes call for current research to investigate the utility of the IRATS in depth. These investigations may compare IRATS-based treatment to other types of treatment, and may also examine whether IRATS-based characteristics among PSOs, such as criminal sentiments and deviant sexual arousal, can predict outcomes relevant to rehabilitation.

The IRATS was ultimately developed to minimize recidivism among PSOs. As the current name suggests, treatment that successfully integrates empirically supported risk factors for recidivism is most likely to be successful (Looman & Abracen, 2013). Consequently, a question that arises is whether the IRATS can predict treatment-related outcomes, such as attrition and other forms of treatment engagement. If so, this may expand the breadth of the IRATS to encompass multiple points of PSO rehabilitation.

1.2 Recidivism

One foreseeable outcome of investigating an explanatory model for offending behaviour is an increased understanding of factors related to recidivism for that population. Policy makers and members of the public are often concerned that PSOs will go on to commit additional offenses, following their release or completion of treatment. A false recidivism rate published by *Psychology Today* in 1986 contributed to the Supreme Court's decision to uphold Alaska's publically available sex offender registry (Singal, 2017), a resource-intensive and stigmatizing process that Bratina (2013) reported does little for community safety. Examples such as this demonstrate the importance of continuing to build on research exploring recidivism, so that future legislation and concerns among the public could be better informed. Although most research suggests sexual recidivism among PSOs is approximately 13% (e.g., Hanson & Bussière, 1998) and both treated and untreated individuals can demonstrate low sexual

recidivism rates (Abracen, Looman, Ferguson, Harkins, & Mailloux, 2011), those that do re-offend may shape the narrative of disseminated information and concerns among the public, as a result.

The task of better understanding sexual recidivism is challenging for many reasons. Victims of sexual offenses may be reluctant to report these incidents, due to the re-traumatization that can occur during legal proceedings and the stigma they may face within and outside of the criminal justice system. Incidents of recidivism may also be difficult to identify based on criminal convictions. Sexual convictions are often reduced to violent convictions following plea bargaining. In order to account for this, many researchers choose to combine sexual and violent recidivism when exploring the trajectory of PSO behaviour (Rice, Harris, Lang, & Cormier, 2006). This process was undertaken by Stephens, Cantor, Goodwill and Seto (2017), who reported a sexual/violent recidivism rate of 20% among their sample of PSOs over the course of a 10-year follow-up; this rate is notably higher than the rate of sexual recidivism alone. Others have examined violent recidivism only among PSOs, reporting rates as high as 30% over the course of an 8-year follow-up in a sample of adolescents (Carpentier & Proulx, 2011). Overall, it has been noted that PSOs are significantly more likely to recidivate in non-sexual ways (Hanson & Bussière, 1998; McCann & Lussier, 2008), which suggests that current research should also include measures of violent recidivism in investigations of sexual offending.

1.3 Treatment Engagement

A second outcome that an explanatory model may influence is the ongoing improvement of interventions for PSOs. When working with this population, treatment providers are faced with the challenging task of confronting the psychological factors that led to the commission of the offense, while also supporting their client's wellbeing. As such, they must identify the unique

combination of life experiences, offense-supportive cognitions, and coping behaviours that motivated that particular individual, and, often, help those who are resistant to intervention . This can lead to breaches in personal boundaries for treatment providers, such as overly personal disclosures, difficulties with counter-transference and struggles to address the many other considerations, such as PTSD and personality disorders, that can accompany sexual offending (Maule, 2007). An explanatory model of sexual offending can, thus, serve as a guiding principle for service providers seeking to target offending-related factors effectively.

As with recidivism, treatment engagement encompasses a variety of factors that can each serve as a proxy for this construct. To understand whether one is engaged in treatment is to understand whether they are interested, involved, motivated and, to some degree, disciplined enough to see it through. Engagement can be assessed by examining a person's subjective feelings, and can also be estimated by observing their behaviour, such as contributions to a discussion, rate of attendance, or treatment attrition. The strong association between treatment attrition and therapeutic engagement has been noted across a variety of studies (Nunes & Cortoni, 2008; Olver & Wong, 2011; Olver, Lewis & Wong, 2013; Sowden & Olver, 2017). One can infer that a client who prematurely terminates treatment is not likely to be interested and invested in that particular intervention. Thus, it follows that treatment attrition is one way in which therapeutic engagement can be assessed.

The attrition rate among PSOs varies, depending on individual and treatment-related circumstances. Some attrition rates observed across the literature are 21% in long-term institutional treatment (Marques, Wienderanders, Day, Nelson, & van Ommeren, 2005), 38% (Browne, Foreman, & Middleton, 1998), 47% (Craissati & Beech, 2001) and 34% (Rudijis &

Timmerman, 2000) in outpatient treatment, and as high as 77% in intensive community-based treatments for subgroups such as adolescents (Hunter & Figueredo, 1999).

Minimizing these attrition rates is in the interest of public safety, as attrition is associated with increased risk for sexual and nonsexual recidivism (Olver, Stockdale, & Wormith (2011; Olver & Wong, 2011), even when treatment is mandated by the court (Lambie & Stewart, 2012). Olver and colleagues (2011) note that there is a 15% difference in rates of sexual recidivism between completers and non-completers. Considering these findings, a greater understanding of what predicts treatment attrition, and, consequently, recidivism, may benefit treatment providers seeking to engage and rehabilitate PSOs.

1.4 Factors that Influence Sexual Offending

Several factors included in the IRATS have appeared across the literature on risk assessment and management. As discussed below, many have been found to independently predict a multitude of recidivism and treatment-related outcomes. What has not taken place, however, is an integration of these factors into a comprehensive model, such as the IRATS, that provides an explanatory framework for understanding PSOs. An investigation of the IRATS will not only evaluate the model's utility, but will also contribute to this literature.

1.4.1 Deviant Sexual Arousal

Deviant sexual arousal refers to arousal in response to inappropriate material, such as sexual violence or images of prepubescent children (Akerman & Beech, 2011). For a notable proportion of PSOs, their arousal in the presence of deviant stimuli exceeds their arousal to non-deviant or neutral stimuli, with 25% of PSOs in Seto, Lalumière , and Blanchard's (2000) sample and 30% of PSOs in Seto, Murphy, Page, and Ennis' (2003) sample demonstrating these preferences.

Within the PSO population, those who target children are especially likely to demonstrate deviant sexual arousal (Serin, Mailloux, & Malcolm, 2001). Those who target adults can also be motivated by deviant interests, but more often rely on opportunities to offend without these accompanying urges, according to a study by Browne, Hines and Tully (2018). When experiencing deviant sexual arousal, which tends to be involuntary, PSOs may experience confusion and anxiety about their sexual identities, and their offending could reflect inappropriate methods of coping with this distress and asserting their masculinity (Watkins & Bentovim, 1992). Alternatively, PSOs may accept these sexual interests and come to view them as their sexual orientation. For PSOs, offending exists as a way to obtain a romantic partner, much in the same way that they perceive non-offending individuals to be doing. At times, deviant sexual interests can combine with emotional congruence with children and drive PSOs to seek out sexual, platonic, and romantic relationships with children (Groth, Hobson, & Gary, 1982).

These desires can make offending difficult to stop. PSOs with deviant sexual arousal are known to recidivate sooner (Serin et al., 2001) and at significantly higher rates (McCann & Lussier, 2008; Serin et al., 2001). When entering into treatment designed to curb their offending, these individuals tend to continue exhibiting sexual responses to deviant stimuli, even when self-reporting that they are no longer aroused (Rea et al., 2003). This suggests that the involuntary, physiological nature of deviant sexual arousal can drive individuals to engage in repeated sexual violence, even if one attempts to psychologically distance oneself from such preferences. This disconnect may impede therapeutic progress, hindering the utility of therapeutic intervention and increasing dropout rates.

1.4.2 Psychological Vulnerability

As noted above, Psychological Vulnerability is a broad component that can encompass trauma, mental illness, attachment difficulties, substance abuse and negative emotionality. These factors have been found to be highly correlated with one another (Farnia et al., 2018), arguably because they capture one's ability to cope with the world within them and around them; their challenging thoughts, emotions, relationships and experiences. Each of these factors appears across the literature on PSOs.

1.4.2.1 Trauma

A notable proportion of PSOs have reported being victimized during childhood – PSOs are six times more likely than non-offending individuals and 3.4 times more likely than non-sexual offending individuals to report being sexually abused before the age of 18, even when controlling for other important variables (Jespersen, Lalumière, & Seto, 2009; Seto & Lalumière, 2010). Some abused youth replicate the abuse that was perpetrated against them, targeting the same gender(s) who abused them, using a similar MO as their own perpetrator(s), and engaging in the same sexually abusive acts that were done to them (Burton, 2003).

Several mechanisms by which victimization leads to sexual offending have been proposed, with most focusing on those who offend against children. One influential theory suggests that the abused child involuntarily associates reward, by way of physiological sensations, with adult-child sex, and this becomes the most effective way to satisfy sexual desires (Nunes, Hermann, Malcom & Lavoie, 2013). Others suggest that sexual abuse leads to early sexual maturation, which is associated with increased sexual urges and preoccupation that is not compatible with that of surrounding peers (Morais, Alexander, Fix, & Burkhart, 2018). A perspective based on coping has also been proposed, with victims experiencing feelings of vulnerability and reasserting masculinity in aggressively sexual ways (Watkins & Bentovim,

1992). Collectively, these perspectives have shed light on what drives victims to turn to sexual violence. Often, they do so earlier than other offending groups, with abused individuals committing their first act of sexual violence approximately two years earlier than those who were not abused (Nunes et al., 2013).

Once sexual offending has begun, its trajectory continues to be shaped by the traumatic experience. For instance, those who had been victimized by females are more likely to recidivate upon release (Nunes et al., 2013). This relationship is moderated by violence risk, such that victimized individuals with a violent disposition likely perceive sexual violence as an option (Nunes et al., 2013). To date, it is unclear why those victimized by females are more likely to recidivate. The finding that males who are victimized by other males are more likely to score highly on measures of paraphilia suggests that paraphilic sexual interests contribute to these trends (Nunes et al., 2013).

Entering into professional relationships with service providers and members of law enforcement can be particularly difficult for this population. After victimization, many PSOs have difficulties regulating their emotions and arousal (Cloitre, Stovall-McClough, Miranda, & Chemtob, 2004; Teicher, Andersen, Polcari, Andersen, & Navalta, 2002), perceive unfamiliar stimuli as dangerous (Creeden, 2009), use sexual means to cope with fearfulness (McCormack, Hudson, & Ward, 2002), and experience feelings of mistrust in their personal and professional relationships (Pearlman & Courois, 2005). As such, it can be difficult for members of this population to trust service providers and believe in what they are taught in therapy. This may be one of the reasons that childhood sexual victimization has been found to predict treatment dropout among PSOs (Craissati & Beech, 2001).

1.4.2.2 Loneliness and Intimacy Deficits

Many PSOs report experiencing a profound sense of loneliness. Compared to others who engage in criminal behaviour, PSOs report increased anxiety about abandonment, depression, and low self-esteem (Martin & Tardif, 2015). Intimacy deficits are especially pronounced among those who victimize children, who evidence problems with emotional openness to both women and men, while those who victimize adults tend to only exhibit difficulties with openness to other men (Underhill, Wakeling, Mann, & Webster, 2008). Such challenges are often rooted in childhood experiences, as many PSOs report poor quality attachment bonds with their parents and the failure to form these bonds can result in low self-confidence, poor social skills, and a lack of empathy for others. When these individuals reach puberty, they may struggle to socialize with their peers and begin to gravitate towards social messages that emphasize power and control, while positioning other people as instruments of sexual pleasure. They can become aggressive and self-serving, and, when faced with the opportunity to commit an act of sexual violence, may engage in such an act (Marshall, 2010).

As with many of the aforementioned characteristics, the relationship between intimacy deficits and recidivism is pronounced among those with child victims, even though both PSOs who target children and PSOs who target adults score significantly higher on measures of intimacy deficits compared to non-offending groups (Underhill et al., 2008). This raises the possibility that PSOs who victimize children in particular are likely to respond to social isolation by engaging in repeated sexual violence because of factors related to trauma and maladaptive coping.

These intimacy deficits may further prevent individuals from entering into healthy professional relationships in therapy. Across the literature, a client's level of social support and parental bonds has been found to influence the quality of the therapeutic alliance, with those who

have better social support and a secure attachment style being more likely to develop a stronger bond with their therapist (Eames & Roth, 2000; Mallinckrodt, 1992; Mallinckrodt, Porter, & Kivlighan, 2005; Meier, Donmall, Barrowclough, McElduff, & Heller, 2005). This presents a unique challenge, as the therapeutic alliance would help the client engage in therapy designed to address those very same deficits (Serran & Marshall, 2010). This failure to form an alliance, in part due to social deficits, could be detrimental to their progress in therapy and ultimately lead to dropout.

One way that has been used to examine whether one is able and willing to enter into intimate relationships is marital (or other long-term relationship) status, although the decision to marry can be influenced by a variety of voluntary and involuntary factors. In Olver and Wong's (2011) study, marital status correctly identified 70% of treatment dropouts, with those never having been married demonstrating increased attrition rates. Similarly, Sowden and Olver (2017) found that those who were married or equivalent were significantly less likely to drop out of treatment. Another way to explore loneliness and intimacy deficits is through self-report assessment tools, such as the Miller Social Intimacy Scale (MSIS; Miller & Lefcourt, 1982) and the UCLA Loneliness Scale (ULS; Russell, Peplau, & Cutrona, 1996).

1.4.2.3 Substance Abuse

Several studies have suggested the presence of a relationship between sexual offending and abuse of drugs and alcohol (Baltieri & de Andrade, 2008; Rojas & Gretton, 2007; Yoder & Caserta, 2018). In Marshall and Marshall's (2000) study, over 50% of the sample reported being intoxicated at the time of their offense. Among PSOs, those most likely to abuse substances are those who offend against children (Baltieri & de Andrade, 2008; Firestone, Dixon, Nunes, & Bradford, 2005; Kraanen & Emmelkamp, 2011), adolescents with Indigenous heritage (Rojas &

Gretton, 2007), those with paraphilias (Dunsieth et al., 2004) and forensic psychiatric patients (Harsch, Bergk, Steinert, Keller, & Jockusch, 2006).

Within the realm of substance abuse, alcohol abuse has been found to be especially prevalent among PSOs. Looman, Abracen, Di Fazio, and Maillet (2004) noted that alcohol is involved in 1/3 to 2/3 of rapes, and all the PSOs in Abracen, Looman, Di Fazio, Kelly and Stirpe's (2006) sample scored within the problem drinking range. Even when compared to individuals with longer histories of offending, PSOs demonstrate significantly higher rates of problem drinking (Abracen et al., 2006). Although drug abuse is less common among PSOs, it is notably more frequent among those who victimize adults than those who victimize children (Abracen et al., 2006; Baltieri & de Andrade, 2008). Collectively, although substance abuse is observed among PSOs at significantly higher rates, the type of substance abuse may vary across PSOs – something that future research may benefit from taking into account.

The relationship between problem substance use and sexual offending has most often been explained in terms of coping. Both youth PSOs (Worling & Curwen, 2000) and adult PSOs (Abracen & Looman, 2003; Looman et al., 2004) have been found to turn to substances in order to alleviate negative emotions such as sadness and hostility, often stemming from their insecure attachments to those around them. Over time, substance abuse can lead to neural dysregulation (Freeman, Friedman, Batholow, & Wulfert, 2010), resulting in impulsivity (Baltieri & de Andrade, 2008), impaired decision making (Marshall & Marshall, 2000; Norris, Davis, George, Martell, & Heiman, 2002) and disinhibition (Freeman et al., 2010). Coupled with chronic negative emotions and deteriorating relationships, these physiological and psychological changes carry the potential to place one on the path to chronic, persistent sexual violence.

The presence of substance abuse is among the best predictors of recidivism, even after accounting for violence risk, as measured by actuarial risk assessment tools (Looman & Abracen, 2011). This association has been mostly attributed to problem drinking, more so than drug abuse (Looman et al., 2004; Looman & Abracen, 2011; Testa, 2002). Alcohol abuse more than doubles the risk of violent and sexual recidivism (Långström, Sjöstedt, & Grann, 2004). The relationship between recidivism and substance abuse can potentially be explained by the same mechanisms that elucidate the relationship between substance abuse and initial offending, with chronic use hindering a PSO's ability to learn from consequences and practice restraint in the face of temptation.

Service providers who seek to facilitate the process of restraint and rehabilitation face the challenge of not only addressing the offending behaviour itself, but matters related to addiction, which, in itself, can be difficult to address. It has been suggested that treatment for these individuals must address issues specific to relationships and negative emotionality (Looman & Abracen, 2011). If these issues are not addressed by an intervention in a way that matches the PSO's needs, one can speculate that they may fail to engage in psychotherapy and ultimately terminate their treatment.

1.4.2.4 Major Mental Illness

PSOs with major mental illness (MMI) present with a unique combination of impairments that can contribute to their offending behaviour. Although it is important to note that members of this group do not offend *because* of their condition and most individuals with MMI do not engage in criminal behaviour, MMI can influence offending in many circumstances (Stinson & Becker, 2011). In their review of the literature, Kelley and Thornton (2015) outline the following scenarios in which this can occur: (1) Acute psychotic symptoms directly impact

sexual offending behaviour, and this behaviour diminishes when the individual complies with psychiatric treatment; (2) A pre-existing condition such as paraphilia or antisocial personality becomes exacerbated by MMI, impacting the expression of sexuality and increasing impulsivity and; (3) Symptoms of MMI serve a protective function against a pre-existing condition such as paraphilia or antisocial personality, disrupting the organization that grooming victims and planning an offense can require and resulting in disorganized, easily detected offending.

Assessing PSOs with MMI for recidivism risk is a difficult task, as traditional static actuarial tools may be less useful with this population. As noted above, the relationship between MMI and sexual offending is variable, and a variety of predisposing, exacerbating, and mitigating factors can be present in one individual (Kelley & Thornton, 2015). Stinson and Becker (2011) pointed out that historical factors such as arrests, convictions, and incarcerations may be obscured in this population because they may not have been arrested or convicted for their offenses. As such, the frequency and severity of their sexual offending may be underestimated. Nevertheless, a significant, positive relationship between MMI and recidivism has been identified (Toop, Olver, & Jung, 2019)

Providing treatment to PSOs with MMI is also a complex task. As noted by Guidry and Saleh (2004), these individuals are “dually stigmatized” (p. 26) due to their membership in two marginalized groups – those who committed a sexual offense and those who have a mental illness. One can speculate that the knowledge of having such a stigma could impair their ability to form a therapeutic alliance and commit themselves to treatment. For the treatment provider, a successful intervention necessitates knowledge in two specialized areas of work (Stinson & Becker, 2011); this problem is compounded, as noted by Kelley and Thornton (2015) by the

paucity of literature on this group of clients, which leaves professionals without the necessary guidance.

Stinson (2016) suggested that the significant relationships between noncompletion of treatment groups and additional factors reflected the severity of the participants' psychiatric and behavioural disorders, which presumably affected their ability and willingness to consistently participate in sex offender treatment programming. Significant diagnostic indicators identified in this analysis are associated with behavioural inconsistency, impulsivity, and difficulties with problem solving in the moment. These characteristics may contribute to higher rates of treatment non-completion over time. Similarly, such diagnoses suggest interpersonal skills deficits could limit a client's ability to appropriately engage in treatment and maintain meaningful therapeutic relationships. Thus, it would be important for treatment providers working with similar populations to increase efforts to engage such clients in treatment and consistently monitor severity and presentation of psychiatric symptoms throughout the duration of treatment to minimize treatment non-completion.

1.4.3 Criminality

Some PSOs are characterized as criminally minded; for them, a sexual offence occurs as part of a broader criminal lifestyle that violates societal norms. While some individuals evidence a pattern of sexually deviant behaviour that exists within an otherwise pro-social lifestyle, others commit a variety of non-sexual violent crimes, as well as offenses that are neither sexual nor violent. They may harbour criminal sentiments, evidence hostility and psychopathic tendencies, and come into frequent contact with the law throughout their lives. Some variation of these factors was included in the construct of antisociality proposed by Hanson and Bussière (1998) and referenced in McCann and Lussier's (2008) meta-analysis on offending among PSOs.

Although antisociality and criminality are not necessarily synonymous, factors that were incorporated into the current study were those that were relevant to criminal offending. They are discussed in greater detail below.

1.4.3.1 Criminal Sentiments

Criminal sentiments are attitudes and values supportive of criminal behaviour (Andrews & Bonta, 2010). They can include criminal attitudes towards the law, the police, and the court; tolerance for violations of the law; or the identification with criminal individuals (Webster & Vermeulen, 2011). A critical part of the risk factors proposed by Andrews and Bonta (2003), criminal sentiments are endorsed by a significant proportion of individuals that include PSOs (Walters & McCoy, 2007). One way that these beliefs originate is from one's interaction with antisocial peers – throughout these interactions, an individual begins to internalize criminal values and beliefs (Wahrman, 2010).

The chronicity of criminal behaviour among those with offense-supportive sentiments is well known. Criminal thinking is a significant predictor of recidivism among incarcerated PSOs (Caudy et al., 2015; Walters, 2012) and had been found to be uniquely related re-offending over and above static risk factors alone (Mills, Kroner, & Hemmati, 2004). Despite the increased risk that criminally oriented PSOs pose, such risk is malleable and dynamic (Walters, 2003). Cognitive-behavioural based interventions have been found to successfully reduce criminal thinking (Folk et al., 2016) and, in turn, recidivism. As such, investigating the rate at which PSOs terminate their treatment may carry important safety implications.

1.4.3.2 Criminal History

Static risk factors such as criminal history have had a place in the assessment literature for a number of years. Despite the notable role of criminal sentiments in predicting offending,

number and type of previous convictions may shape a PSO's future behaviour. For some PSOs, sexual offending exists as part of a larger trajectory of criminal behaviour that is evidenced through diverse charges and convictions. For instance, among PSOs with pornography-related offenses in Seto and Eke's (2005) sample, 56% of the sample had a prior criminal record, 25% had prior contact sexual offenses, and 15% had prior child pornography offenses. PSOs who victimize adults are especially likely to have a diverse and lengthy criminal history – Friestad and Skadhamar (2016) reported that as many as 79% PSOs who had targeted adults, had previous convictions.

Several reputable tools designed to assess recidivism risk, such as the Static-99R (Helmus, Thornton, Hanson, & Babchishin, 2012), the Rapid Risk Assessment for Sex Offense Recidivism (RRASOR; Hanson, 1997) and the Historical-Clinical Risk Management-20 (HCR-20; Webster, Douglas, Eaves, & Hart, 1997) include an item on criminal history. Prior violent and non-violent offending history significantly predicts recidivism (Eke, Seto, & Williams, 2011; Friestad & Skardhamar, 2016), possibly because of the intuitive idea that past behaviour predicts future behaviour, and also because the experience of offending and incarceration may shape one's habits and identity. Those coming out of incarceration may face stigma, isolation, and shunning from their communities, which could jeopardize their ability to obtain employment and form pro-social connections, driving them back to criminal offending.

In treatment, PSOs with a lengthy and/or variable criminal history may experience a variety of challenges, ranging from distrust of authority figures following incarceration, an antisocial disposition that hinders the formation of the therapeutic alliance, and deeply rooted habits that are difficult for a treatment provider to change. Several authors have identified nonviolent offending history as a significant contributor to treatment dropout rate (Beyko &

Wong, 2005; Browne et al., 1998; Olver et al., 2011), highlighting the important task before treatment providers aiming to alter the criminal trajectory.

1.4.3.3 Psychopathy

Psychopathy is a personality disorder marked by interpersonal, affective, and lifestyle features (Olver & Wong, 2006). These features are often grouped into two factors: (1) affective personality features, which include lying, conning and manipulative behaviour, and emotional shallowness and; (2) antisocial and behavioural features, which include the need for stimulation, irresponsibility, and a parasitic lifestyle (Olver, 2016). The impact of these factors both together and in isolation, have been explored at length within the population of sexual offenders. Some researchers report fairly low rates of 10% (Serin, Malcolm, Khanna, & Barbaree, 1994), while others report rates up to 35% (Brown & Forth, 1997), possibly because of differences in clinical criteria. Nonetheless, these rates are higher than the rate observed among the general, non-offending population, which are estimated to be approximately 1% (Hare, 1996). Psychopaths may turn to offending through a variety of pathways. They demonstrate an inability to be fearful of negative consequences (Lykken, 1995) or share and understand the affective states of others (Iria, Barbosa, & Paixão, 2012) and shift their attention away from activities they perceive as rewarding (Baskin-Sommers, Curtin, & Newman, 2015). Such tendencies can facilitate the transition to sexual violence when resistance or other obstacles are encountered.

Once contact with the criminal justice system has been made, the likelihood of recidivating sexually is not especially likely among psychopaths (Olver & Wong, 2006). They are, however, significantly more likely than non-psychopaths to engage in other forms of crime upon release. Each additional point on measures of psychopathy is associated with a 4% increase in recidivism within this population (Olver & Wong, 2006). These increases in recidivism rates

appear to be driven primarily by the Factor 2 component of psychopathy (Olver & Wong, 2011; Serin et al., 2001), suggesting that re-offending is part of a broader, criminal lifestyle that these individuals engage in, characterized by impulsivity and recklessness. Those who do recidivate sexually tend to be those who demonstrate high levels of deviant sexual arousal, and these two constructs interact to drive repeated sexual offending (Harris et al., 2003; Olver & Wong, 2006; Rice & Harris, 1997; Serin et al., 2001).

In psychotherapy, the impact of psychopathy on treatment outcomes varies depending on the symptoms considered. Symptoms that are part of Factor 1 have been positioned as a responsivity issue (Olver & Wong, 2011) that impacts the degree to which offenders can engage in treatment (Watson, Daffern, & Thomas, 2017), rather than a criminogenic issue that must be directly addressed in therapy. In Olver and Wong's (2013) review, psychopathy was identified as a unique predictor of treatment non-completion. It is possible that this is because treatment with this population is generally less successful. Fisher, Beech and Browne (1999) reported that even when PSOs completed treatment designed to increase empathy, which is a key Factor 1 characteristic, they held the construct as an abstract concept in their minds and failed to see the relevance of it to their own victims (Fisher et al., 1999). Therapists addressing the antisocial Factor 2 characteristics are more likely to encounter therapeutic gains (Blair, Mitchell, & Blair, 2008).

1.5 Integrating Deviant Sexual Arousal, Psychological Vulnerability, and Criminality

Collectively, each of these individual and lifestyle characteristics among sexual offenders has been explored at length throughout the literature and their importance to clinical work and risk management is well known. Some associations between these characteristics have been identified, such as the link between major mental illness and relationship difficulties (Stinson &

Becker, 2011), as well as major mental illness and number of criminal convictions (Chen, Chen, & Hung, 2016). Less is known, however, about the way in which these characteristics can combine to form a coherent explanatory model for predicting recidivism and treatment engagement. Such a model can recognize the unique contribution of each characteristic, while also demonstrating how they can integrate to influence offender motivation.

1.6 Aims of Current Research

The aim of this thesis is to investigate whether the IRATS Model of Sexual Offending can provide an explanatory framework for understanding people who have committed sexual offenses. Study 1 investigated whether the three IRATS components predict the likelihood that PSOs will engage in sexual recidivism. Study 2 investigated whether the IRATS components predict the likelihood that PSOs will choose to prematurely terminate their treatment.

1.7 Representation of the IRATS

As discussed, the IRATS components are broad constructs and a wide variety of proxies can be used to represent them. For instance, the Sexual Deviance component can be represented through scores on various self-report instruments on sexual behaviour, as well as physiological measurements of arousal. Psychological Vulnerability can be represented through a diagnosis of mental illness, the presence of problem drinking, or the experience of trauma. Criminality can be represented through scores on self-report instruments, criminal records, or offense characteristics. A comprehensive investigation of the IRATS necessitates the inclusion of multiple proxies per component in order to form a complete picture of how the constructs are manifested in a particular individual. The current study, although valuable in that it involves both correctional and forensic community mental health samples, lacks the sample size necessary to undertake an analysis such as structural equation modeling. Thus, as a preliminary exploration of

the IRATS, one proxy was selected for each IRATS component in each of the two studies. The rationale for the inclusion of each measure is discussed in Sections 2.34 and 3.35.

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Chapter 2: STUDY 1

2.1 Goal

This goal of this study was to examine whether the three components of the IRATS – Deviant Sexual Arousal, Psychological Vulnerability, and Criminality - predict sexual recidivism in a sample of PSOs incarcerated in a federal correctional institution.

2.2 Hypotheses

It was hypothesized that, together, the IRATS components would significantly predict sexual recidivism. It was also hypothesized that each of the three components would make an independent contribution to the relationship between the IRATS as a whole and sexual recidivism.

2.3 Method

2.3.1 Participants

The sample consisted of (N = 110) males who were convicted of a sexual offense and assessed at the Regional Treatment Centre, located in a federal correctional institution in a rural area of Ontario. These high-risk, high-need individuals, as identified by actuarial risk assessment instruments, were referred for participation in the Regional Treatment Centre High Intensity Sex Offender Treatment Program (RTCSOTP), provided by the Correctional Service of Canada (CSC).

A list of demographic and legal characteristics observed among the (N = 110) PSOs in this sample can be found in Table 2.1. Most were Caucasian (49.1%), heterosexual (45.5%), and of unknown marital status (37.2%), followed by never having been married (25.5%). For most, their highest level of education was unknown (38.2%), followed by some high school (30.0%). Most were serving determinate sentences (44.5%) and victimized females (19.1% and 24.5% of those that had child and adult victims, respectively). For most, their level of accepted

responsibility for the offense was unknown (42.7%) followed by a minimization of their responsibility (22.7%). For the majority, their offense classification was unknown (39.1%); most of those for whom this information was available offended against an adult (24.5%). For the majority, their psychiatric diagnosis was unknown (47.3%), followed by a personality disorder (23.6%). Those in the sample were, on average, 30.66 years old (*SD* = 9.210) when they committed the index offense and 40.24 years old (*SD* = 10.484) at the time of data collection.

Table 2.1.

Correctional Sample Characteristics

Sample Characteristic	*N*	%
Ethnicity		
Caucasian	54	49.1
Unknown	42	38.2
Indigenous	7	6.4
Black	4	3.6
Other	3	2.7
Sexual Orientation		
Heterosexual	50	45.5
Unknown	44	40.0
Homosexual	9	8.2
Bisexual	7	6.4
Marital Status		
Unknown	41	37.3
Never Married	28	25.5

Characteristic	*N*	%
Divorced/Separated	22	20.0
Married/Common-Law	19	17.3
Education		
Unknown	42	38.2
Some High School	33	30.0
Finished Elementary	14	12.7
Some Elementary	7	6.4
Finished High School	5	4.5
Some Post-Secondary	4	3.6
Finished College	3	2.7
Finished University	2	1.8
Sentence Type		
Determinate	49	44.5
Unknown	42	38.2
Long-Term Offender	9	8.2
Life	7	6.4
Dangerous Offender	3	2.7
Offense Classification		
Unknown	43	39.1
Against an adult	27	24.5
Against a pre-pubescent child	17	15.5
Against a pubescent child	16	14.5

Characteristic	*N*	%
Non-sexual	3	2.7
Incest	2	1.8
Other sex related	1	0.9
Against adult and pre-pubescent child	1	0.9
Other sex related	1	0.9
Offense against adult and child	1	0.9
Child Victim Sex		
Unknown	71	64.5
Female	21	19.1
Male	16	14.5
Female & Male	2	1.8
Adult Victim Gender		
Unknown	80	72.7
Female	27	24.5
Male	2	1.8
Female & Male	1	0.9
Responsibility for Index Offense		
Unknown	47	42.7
Minimizing (admits offense, blames victim)	25	22.7
Partial (informs sex was consenting)	16	14.5
Full	13	11.8
Categorical Denial	9	8.2

Characteristic	*N*	%
Diagnosis		
Unknown	52	47.3
Personality Disorder	26	23.6
None	12	10.9
Personality Disorder & Psychosis	7	6.4
Mood Disorder	4	3.6
Paraphilia	4	3.6
Personality Disorder & Paraphilia	3	2.7
Personality Disorder & Alcohol-Related Disorder	1	0.9
Personality Disorder, Substance Disorder, & Paraphilia	1	0.9

2.3.2 Materials

2.3.2.1 Demographic and Legal and Descriptive Information

Institutional records included information on age at time of data collection, age at the time of index offense commission, ethnicity, sentence type, victim characteristics, marital status and education. Each of these characteristics was represented by a categorical variable (apart from age, which was entered numerically) in the current database.

2.3.2.2 Phallometric Assessment

Deviant sexual arousal was measured using phallometric assessment, which involves measuring erectile responses to deviant and non-deviant sexual stimuli. Scores were presented continuously through a maximum deviance index, which is calculated by dividing one's average arousal to deviant stimuli by the average arousal to appropriate stimuli - the index ranges from

0.05 up to approximately 40. A value less than 0.5 is considered to indicate clear evidence of appropriate arousal, values between 0.5 and 0.8 are considered to indicate evidence of problematic arousal, values between 0.8 and 1.2 indicate a lack of discrimination between deviant and appropriate stimuli, and a value of 1.2 or above is considered to indicate clear evidence of deviant arousal.

2.3.2.3 UCLA Loneliness Scale (ULS; Russell et al., 1996)

Psychological vulnerability was assessed using the UCLA Loneliness Scale (ULS; Russell, 1996), a 20-item self-report instrument designed to measure the degree to which one feels disconnected from others. The questions appear in the format of a 4-point rating scale, with 1 representing 'never' and 4 representing 'always'. Nine of the questions are written in a negative direction in order to avoid a response set. To achieve the total score, negatively valenced questions are reverse-keyed and scores are added to obtain a unidimensional general loneliness score. Higher scores on this measure are indicative of greater loneliness. The scale demonstrates high internal consistency and good test-retest reliability, as well as good convergent validity when compared to other measures of loneliness (Russell, 1996).

2.3.2.4 The Criminal Sentiments Scale – Modified (CSS-M; Shields & Simourd, 1991)

The Criminal Sentiments Scale – Modified (CSS-M; Shields & Simourd, 1991) is a 41-item self-report instrument designed to measure antisocial attitudes, values, and beliefs related to criminal activity. It consists of five subscales: (1) Attitudes Toward the Law (Law); (2) Court (Court); (3) Police (Police); (4) Tolerance for Law Violations (TLV) and; (5) Identification with Criminal Others (ICO). Higher scores on the CSS-M as a whole indicate greater criminal attitudes (Simourd & van de Ven, 1999). The scale demonstrates acceptable concurrent validity (Simourd & van de Ven, 1999).

2.3.3 Procedure

A battery of psychometric tests was administered to offenders at intake during their incarceration. The results were then entered into a database by members of the research team at CSC. PSOs were included in the database regardless of whether they went on to participate in treatment following assessment. Approval to access the data was granted by the Research Ethics Board at Ontario Tech University (see Appendix A). The present author extracted scores on the aforementioned measures from the dataset for analysis.

Sexual recidivism was defined as the commission of a new sexual offense following release from the RTC, as evidenced through the presence of one or more convictions. A value of 1 represented the presence of one or more sexual conviction following release and a value of 0 represented the absence of such convictions. Data pertaining to recidivism was collected from the Canadian Police Information Centre (CPIC), accessed through the Offender Management System (OMS). The final date of data collection occurred in May of 2020, resulting in an average follow-up period of 15.5 (*SD* = 0.3) years. The data was collected by past members of the research team, a research assistant, and the present author. The present study utilized a less conservative definition of sexual recidivism, as it included convictions such as possession of child pornography (J. Abracen, December 3, 2019).

2.3.4 Selection of IRATS Proxies

The database was reviewed in order to determine which assessment tools could be used to represent each IRATS component. The three proxies were selected based on the considerations noted below.

2.3.4.1 Parsimony

As much as possible, selected proxy must capture the component in its simplest form without involving a variety of different dimensions. For instance, the valid and reliable PCL-R (Hare, 2003) includes multiple factors or facets, all of which include antisocial aspects beyond criminal offending or refer to specific tendencies that may not translate to several types of criminal behaviours. Although utilizing measures such as this may exponentially add value to investigations of the IRATS, isolating the criminality component is beyond the scope of this preliminary study and will be considered in future research.

Similarly, the Coping Using Sex Inventory (CUSI; Cortoni & Marshall, 2001) reflects relevant aspects of PSO behaviour, but also blurs the line between the Sexual Deviance and Psychological Vulnerability component. This would make evaluating the individual contribution of each predictor more challenging at the present time.

2.3.4.2 Sample Size

The selected proxy was to appear across a number of cases that would allow for a sufficient sample size to complete statistical analyses. Although the sample in this study remained fairly small, efforts were taken to minimize this limitation.

2.3.4.3 Reliability and Validity

The selected proxy was to be in common use throughout the literature and represent the component in the most valid and reliable manner. For instance, phallometric assessment involves the measurement of involuntary physiological responses to sexually deviant stimuli. Although, like any measure, it is associated with some drawbacks, it may be less subject to factors such as social desirability and lack of insight. It is also recognized as a valid test for deviant sexual arousal in previous research (McPhail et al., 2019).

2.3.5 Analytic Strategy

A binary logistic regression analysis was conducted to test the study hypotheses, using the Statistical Package for the Social Sciences (SPSS) Version 26 (SPSS, 2019). Sexual recidivism served as the outcome variable and deviant sexual arousal, ULS Total Score, and CSS-M Total Score served as the three predictor variables. The following assumptions were considered: binary outcome, independent observations, no multicollinearity between predictors, and large sample size. None of the assumptions were violated in the current analysis, with the exception of a large sample size. As such, these analyses did not have a sufficient amount of power to detect an effect and should be interpreted with caution.

To run the regression analysis, the Enter method was used and each of the predictors was identified as a continuous variable. This analysis was designed to predict membership for "recidivated" using continuous scores on each of the three predictors. All predictors were entered into the model simultaneously.

2.4 Results

2.4.1 Descriptive Analyses

Of the (N = 110) offenders in the current sample, 87 (79.1%) did not sexually recidivate and 23 (20.9%) did sexually recidivate. The average score on the CSS was 22.25 (SD = 15.321), the average score on the ULS was 45.42 (SD = 11.651) and the average maximum deviant index was 1.0047 (SD = .69249). Descriptively, the average CSS score was notably lower and less variable than that of the sample in Witte, Di Placido, Gu, & Wong's (2006) study investigating the validity and reliability of the measure, which was 55.0(24.0). To the first author's knowledge, the ULS has not yet been utilized with PSO populations and thus the average score in the current study could not be contextualized.

2.4.2 Hypothesis 1

It was predicted that, together, the three IRATS components would predict sexual recidivism. This hypothesis was supported; overall, the model was a significant predictor of sexual recidivism, χ^2 (3) =17.500, p = .001**.** The Nagelkerke R Square pseudo-variance value suggested that the model accounted for 22.9% of the variance in recidivism. The Hosmer and Lemeshow was non-significant χ^2 (8) =5.919, p = .656, suggesting that the model was a good fit and the Classification Table suggested that the model had an 80.0% accuracy rate, with the absence of sexual recidivism being more accurately predicted (95.4%) than the presence of sexual recidivism (21.7%).

2.4.3 Hypothesis 2

It was further predicted that each of the three IRATS components would independently contribute to the relationship between the IRATS as a whole and sexual recidivism. This hypothesis was not supported; among the individual predictors, only the CSS-M was a significant predictor of sexual recidivism – a one-unit increase in CSS-M score made one's odds of sexual recidivism 1.068 times more likely, Wald $\chi2(1) = 14.318$, $p < .01$, OR = 1.068, 95% CI (1.032-1.105). ULS score was not a significant predictor, Wald $\chi2(1) = 1.620$, p = .203, OR = .969, 95% CI (.924-1.017) and maximum deviance index was also not a significant predictor, Wald $\chi2(1) = .006$, p = .940, OR = 1.028, 95% CI (.509-2.073). In sum, the IRATS was a significant predictor of sexual recidivism, and this relationship was primarily driven by the CSS-M, representing the Criminality component. As discussed above, however, the analysis may not have carried the statistical power necessary to detect an effect.

2.4.4 Follow-Up Regression Analyses

The failure of the ULS and maximum deviance index to predict recidivism was unexpected and at odds with the literature on phallometrically assessed sexual deviance (Harris

et al., 2003) and attachment-based theories of sexual offending (Marshall, 2010). This raised the possibility that significance was not achieved the majority of PSOs included in the study (79.1%) did not sexually recidivate. To explore this possibility, another binary logistic regression was conducted using "sexual and/or violent recidivism" as the dependent variable in place of "sexual recidivism", with the aim of capturing additional incidents of recidivism. A total of 112 cases were included in this analysis. The trends that appeared were similar to those observed in the aforementioned model; only the CSS Total score was a significant predictor of sexual/violent recidivism – a one unit increase in CSS score made one's odds of recidivism 1.044 times more likely, Wald $\chi2(1) = 8.743$, $p = .003$, OR = 1.044, 95% CI (1.015-1.075). ULS Total score was not a significant predictor, Wald $\chi2(1) = .580$, $p = .446$, OR = .986, 95% CI (.951-1.022) and maximum deviant index was also not a significant predictor, Wald $\chi2(1) = .067$, $p = .796$, OR = .926, 95% CI (.517-1.658).

The relationship between this model and *any* recidivism (sexual, violent, or general) was also explored using a third binary logistic regression. A total of 111 cases were included in this analysis. In line with the aforementioned models, only the CSS Total score was a significant predictor of sexual recidivism – a one-unit increase in CSS score made one's odds of any recidivism 1.055 times more likely, Wald $\chi2(1) = 10.113$, $p = .001$, OR = 1.055, 95% CI (1.021-1.090). ULS Total score was not a significant predictor, Wald $\chi2(1) = .387$, $p = .534$, OR = 1.011, 95% CI (.976-1.048) and maximum deviant index was also not a significant predictor, Wald $\chi2(1) = .142$, $p = .705$, OR = .897, 95% CI (.510-1.577). Thus, a criminal disposition appears to be driving the results regardless of the type of recidivism considered, although it is worth noting that the sample size remained similarly small across models.

2.5 Discussion

Study 1 investigated the association between components of the IRATS (Looman & Abracen, 2013) and sexual recidivism in an incarcerated sample of PSOs. As a preliminary investigation of the model, Deviant Sexual Arousal was represented by the results of phallometric assessment, Psychological Vulnerability was represented by the UCLA Loneliness Scale (ULS; Russell et al., 1996) and Criminality was represented by the Criminal Sentiments Scale – Modified (CSS-M; Shields & Simourd, 1991). This study was the first to utilize these proxies for the IRATS components, and was also the first to identify their presence based on assessment alone, rather than based on components included in treatment.

As expected, the IRATS components, together, significantly predicted sexual recidivism in a binary regression model – when predicting sexual recidivism, a model comprised of the three IRATS components was found to be superior to a model without predictors. This finding extends the observations noted in Looman et al. (2000); in their investigation, PSOs treated at the RTCSOTP, retroactively determined to be based on the IRATS framework, evidenced significantly lower recidivism rates than those who were untreated. Although conclusions about the IRATS' utility remain tentative until future research clarifies the role of each component, it may be possible to infer that IRATS components can act as treatment targets and also as individual characteristics that influence recidivism outcomes before treatment takes place.

The significant relationship between the IRATS as a whole and sexual recidivism contrasts with the work described by Abracen, Looman, Ferguson, Harkins and Mailloux (2011) who included characteristics such as substance abuse, sexual deviance and psychopathy in their evaluation of treatment at the RTCSOTP. In their investigation, no significant differences were observed between the treated and untreated group, suggesting that treatment based on elements of the IRATS is not necessarily effective in reducing recidivism. However, Abracen and

colleagues (2011) emphasized that although this study sample was derived from the RTCSOTP, as was the sample in Looman and colleagues (2000) and the current sample, the recidivism rate was considerably lower. Abracen and colleagues (2011) point towards the larger literature endorsing support for the components and call upon current research to continue this investigation. Given that the present study utilized a less conservative definition of sexual recidivism, the sexual recidivism rate was fairly high, at 20.9%. It is, therefore, possible that the IRATS better predicts sexual recidivism if the issue of low base rate is overcome.

The aforementioned literature review by Abracen, Looman and Langton (2008) had also outlined trends that are consistent with the results observed in the present study. Some of these include enhanced predictive value of psychopathy when measures of problem drinking are included, as well as the way in which deviant sexual arousal can combine with psychopathy to improve the prediction of recidivism. Although the IRATS proxies in this review differ from those utilized in the current study, both investigations point to the value of the IRATS in predicting sexual recidivism.

Perhaps the most notable finding in the current study is that only the CSS-M provided a significant independent contribution to the relationship between the IRATS and sexual recidivism. Higher scores on the CSS-M were associated with increased odds of sexually reoffending. This finding was contrary to expectations because although it was predicted that CSS-M would be positively related to sexual recidivism, it was not expected to be the only significant contributor. Instead, it was hypothesized that the CSS-M, phallometric results, and ULS would all independently contribute to sexual recidivism.

Some potential explanations for this finding are methodological in nature. First, as noted previously, the low sample size of 110 lacked a sufficient amount of statistical power to detect

the effect of the other two components on sexual recidivism. Although it is likely that the CSS-M is the strongest predictor of the three, it may be that the ULS and phallometric scores could have had weaker, significant relationships with recidivism if a larger sample size was utilized. Second, perhaps the ULS and phallometric scores were not the most representative measures of Psychological Vulnerability and Deviant Sexual Arousal in this particular circumstance. As noted previously, the broad nature of the IRATS components allows for any number of proxies to be used.

This scenario is less likely with regards to the phallometric scores. Phallometric assessment is a commonly used method of measuring deviant sexual arousal (Kalmus & Beech, 2005), and it is probable that this test is less prone to influences such as social desirability and insight into one's behaviours. There are, however, several different ways to report the results of phallometric assessment – they can be presented dichotomously, distinguishing between deviant and non-deviant, a z-score, or the ratio of arousal to deviant and non-deviant stimuli. A large majority of the current sample evidenced at least some deviant sexual arousal, limiting the variance that is observed within this group. As such, perhaps this lack of variance made it more difficult to detect the effect of this predictor, and perhaps, deviant sexual arousal as a whole does not predict sexual recidivism within a group that is already high risk.

Psychological Vulnerability is arguably the broadest component in the IRATS, as it encompasses psychiatric disorders, social difficulties, and problematic substance abuse. Although these factors have been found to be related and share a theoretical basis, this makes selecting a measure to most accurately represent this component notably more challenging. The relevance of loneliness in a PSO's criminal trajectory is a central idea to the framework proposed by Dr. William Marshall, as outlined in Marshall (2010). As previously discussed, a chronically

isolated individual is significantly more likely to gravitate towards antisocial messages about sexual violence and is less able to build relationships to counteract this. Although the relationship between loneliness and sexual recidivism is less clear across the literature, it was speculated that because of the central role of loneliness in facilitating the *beginning* of sexual offending, it may also play a significant role in *maintaining* sexual offending through sexual recidivism. This did not materialize, despite the ULS being described as a valid and reliable tool for assessing loneliness (Russell, 1996). Thus, the finding that the ULS did not predict sexual recidivism was not in line with expectations. It is possible that if loneliness had been assessed at the time of release rather than at intake, a significant relationship would have been found between this construct and recidivism, as the nature of the PSO's social relationships during this time may have changed since their incarceration. It can also be argued, however, that loneliness at intake is more likely to represent an enduring disposition, rather than an immediate after-effect of treatment. Future research may further explore the fluctuating nature of this construct and its utility in predicting offense-related outcomes.

The observed relationship between Criminality and sexual recidivism was in line with expectations – as total scores on the CSS-M increased, so did one's odds of sexually recidivating. Broadly, the finding that a criminally minded person engages in subsequent crime is unsurprising. It is, however, intriguing to consider that a general criminal predisposition can predict an outcome as specific as sexual offending, especially given the rarity of sexual recidivism. The association between criminal sentiments, or similar constructs, has, however, been reliably observed across the literature (Caudy et al., 2015; McCann & Lussier, 2008; Mills et al., 2004; Walters, 2012). Walters (2012) meta-analysis utilized the Psychological Inventory of Criminal Thinking Styles (PICTS; Walters, 1995), suggesting that the construct of criminal

sentiment transcends varying tools. Taken together, these findings elicit questions about what motivates someone who holds criminal sentiments to recidivate sexually. Is reoffending sexually a conscious effort to defy social norms and laws in the way they have become used to? Is the predictive role of criminal sentiments driven by sexual entitlement over another individual? What kind of sexual offenses do PSOs who hold criminal sentiments go on to repeat? If they are generally criminally minded, why reoffend sexually as opposed to (or in addition to) violently or generally? These and other questions remain as potential avenues for future research.

The results of this study should be considered alongside its limitations. First, the current sample may not be representative of all PSOs, who are known to be a heterogeneous group. The sample is small, derived from a single institution, and comprised primarily of Caucasian, heterosexual individuals, all of whom are male.

Further, all PSOs included in this sample were assessed for participation in a treatment program. Although individuals were still included in the sample even if they did not go on to participate in treatment, those that reside in the RTC may have distinctly different characteristics from other offending groups. It is, therefore, important to explore whether the IRATS components are manifested differently in other types of samples, and whether different demographics may impact the relationship between the components and sexual recidivism. Second, criminal convictions may underestimate the presence of recidivism, as many sexual offenses go unreported.

Lastly, the follow-up period was also fairly long at 15.5 years; much remains unknown about what had transpired in each individual's life over the course of that time period. Given that a binary logistic regression was conducted to assess the study hypotheses, the length of time it took for each individual to recidivate is also unknown. Methods such as survival analysis may

provide additional insight into how and when those scoring highly on the IRATS components will recidivate.

Despite these shortcomings, the results of Study 1 provide some preliminary support for the validity of the IRATS. The model successfully predicted sexual recidivism, which is known to be a rare occurrence. This exploration also adds to the current literature on deviant sexual arousal, loneliness, and criminal sentiments, demonstrating that various aspects of well-being, both related to and separate from offending, can impact future criminal behaviour. Future investigations of the contribution of Criminality compared to the IRATS components will further shed light on the instances when this can occur.

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CHAPTER 3: STUDY 2

3.1 Goal

The goal of this study is to examine whether the three components of the IRATS – Deviant Sexual Arousal, Psychological Vulnerability, and Criminality – predict treatment attrition in a sample of PSOs attending a forensic psychiatric hospital.

3.2 Hypotheses

It was hypothesized that, together, the IRATS components will significantly predict treatment attrition. It was also hypothesized that each of the three components would make an independent contribution to the relationship between the IRATS as a whole and treatment attrition.

3.3 Method

3.3.1 Participants

The sample consisted of 119 males who were convicted or charged with a sexual offense and assessed at the Sexual Behaviours Clinic (SBC) in the Centre for Addiction and Mental Health (CAMH). The SBC is located in an urban area of Ontario and provides services for those with sexual behaviours or urges that have resulted in legal difficulties and/or caused personal distress.

The demographic, clinical and legal characteristics observed within the sample appear in Table 3.1. Most were of unknown ethnicity (73.1%), followed by White North American (10.1%) and were serving a provincial custody sentence with probation or parole (63.9%). The majority of the victims were children only (68.9%) and female only (74.8%). The most common index offense was sexual assault (47.1%) and the most common diagnosis was paraphilia (64.7%). At first contact (see Participants and Procedure for details), most offenders entered

treatment accepting full responsibility for their offense (43.7%) and their participation in treatment was not voluntary (88.2%). The average Static 99R score was 2.32 (SD = 2.508), representing a moderate-low rating of risk (Boccaccini, Rice, Helmus, Murrie, & Harris, 2017)and the average age at the time of data collection was approximated at 38.69 years old (SD = 13.493).

Table 3.1.

Forensic Sample Characteristics

Characteristic	*N*	%
Ethnicity		
Unknown	87	73.1
White North American	12	10.1
South Asian	5	4.2
South-East Asian	5	4.2
Black Caribbean	4	3.4
White European	3	2.5
Latin American	1	0.8
First Nations	1	0.8
Indian Caribbean	1	0.8
Disposition		
Provincial Custody Sentence & Probation/Parole	76	63.9
Probation Only	35	29.4
Conditional Sentence/House Arrest	4	3.4
Unknown	4	3.4

Characteristic	*N*	%
Victim Age (Past & Present)		
Child	82	68.9
Adult	18	15.1
Child & Adult	10	8.4
No Victim	9	7.6
Victim Gender		
Female	89	74.8
Male	11	9.2
Female & Male	10	8.4
None	9	7.6
Index Offense		
Sexual Assault	56	47.1
Sexual Interference	39	32.8
Non-Sexual Non-Violent Offenses	24	20.2
Non-Sexual Violent Offenses	18	15.1
Child Porn-Related Offenses	18	15.1
Invitation to Sexual Touching	18	15.1
Luring a Child	8	6.7
Indecent Act	8	6.7
Sexual Exploitation	7	5.9
Indecent Exposure	2	1.7
Sexual Assault with a Weapon	1	0.8

Characteristic	*N*	%
Incest	1	0.8
Voyeurism	1	0.8
Indecent Assault	1	0.8
Indecent Communication	1	0.8
Responsibility for Index Offense (first contact)		
Full	52	43.7
Categorical Denial	33	27.7
Partial	29	24.4
Unknown	5	4.2
Voluntarily in Treatment (First Contact)		
No	105	88.2
Unknown	9	7.6
Yes	5	4.2
Treatment Type (First Contact)		
Mainstream Group	90	75.6
Modified Follow-Up Group	12	10.1
Individual Therapy	2	1.7
Unknown	6	5.0
Mentally Disordered Offenders Group	5	4.2
Relapse Prevention Group	3	2.5
Child Pornography Group	1	0.8
Diagnosis		

Characteristic	*N*	%
Paraphilia	77	64.7
Neurodevelopmental Disorder	15	12.6
Personality Disorder	12	10.1
Major Depressive Disorder	9	7.6
Schizophrenia	5	4.2
Anxiety Disorder	2	1.7
Bipolar Disorder (I or II)	2	1.7
Posttraumatic Stress Disorder	1	0.8
Psychotic Disorder NOS	2	1.7

3.3.2 Treatment Program Information

All PSOs in the sample attended at least one of the following forms of treatment at the SBC.

3.3.2.1 Mainstream Group

This 14-week program involves a 120-minute session each week. It is designed for men who have been convicted of one or more sexual offense or who experience distress as a result of their sexual interests. Most clients in this group are on probation or mandated to attend treatment. The program is primarily based on the principles of cognitive behavioural therapy (CBT) and also incorporates elements of Acceptance and Commitment Therapy (ACT).

3.3.2.2 Child Pornography Group

This 12-16-week program involves a 90-minute session each week. It is designed for men who are on probation for possession of child pornography and/or who have experienced difficulties due to their use of child pornography.

3.3.2.3 Modified Follow-Up Group

This open-ended program involves a 1-hour session every month. It is designed for clients with a developmental and/or intellectual disability and clients are invited to join after successful completion of more intensive treatment. These clients have been convicted of one or more sexual offense or experience distress as a result of their sexual interests. The program focuses on providing additional material on the topics discussed in individual treatment, allowing clients to practice learned skills and increase their social connectedness.

3.3.2.4 Mentally Disordered Offenders Group

This program is designed for those who have committed sexual offenses and who are also diagnosed with MMI. The majority of these participants are under the supervision of the Ontario Review Board (ORB) as Not Criminally Responsible (NCR), but some are found Unfit to Stand Trial.

3.3.2.5 Relapse Prevention

Relapse prevention is an intervention that involves self-management of one's behaviour in order to prevent the occurrence of relapse. Clients are taught to anticipate and cope with situations that might result in the behaviour they are striving to prevent (Laws, Hudson, & Ward, 2000).

3.3.2.6 Individual Psychotherapy

Individual psychotherapy is typically offered for clients with a developmental and/or intellectual disability or for those who are not able to attend a treatment group due to

circumstances such as needing an interpreter or having specialized needs. These clients have been convicted of one or more sexual offense or experience distress as a result of their sexual interests.

3.3.3 Materials

3.3.3.1 Demographic, Legal and Clinical Descriptive Information

Hospital records included information on gender, ethnicity, disposition, victim characteristics, index offense(s), acceptance of responsibility for the index offense(s) and treatment voluntariness. Each of these characteristics was represented by a categorical variable in the current database.

3.3.3.2 Phallometric Assessment

Sexual deviance was identified using phallometric assessment, which involves measuring erectile responses to deviant and non-deviant sexual stimuli. The current database contained offender scores on two types of phallometric assessments – the Age/Gender Test, designed to detect deviant arousal to stimuli depicting children, and the Coercive Test, designed to detect deviant arousal to stimuli depicting forced sex between adults. Scores were presented categorically, such that a value of 0 represented the absence of deviant arousal, a value of 1 represented the presence deviant arousal, and a value of 2 represented an invalid test result.

For the present study, these two phallometric variables were combined to form a dichotomous composite variable; a value of 0 represented the absence of *any* deviant arousal, a value of 1 represented the presence of *any* deviant arousal, and any invalid test results were excluded from analysis. The decision to collapse the two types of phallometric tests was made in order to increase sample size, as there were not enough cases to separate those who offended against adults from those who offended against children and utilize each group's corresponding

phallometric test. If an offender had a missing value for one of the two assessments and a value of 1 for the other type of assessment, the value assigned to the composite variable was 1. If an offender had a missing value for one of the two assessments and a value of 0 for the other type of assessment, the value assigned to the composite variable was 0. Only those with no value for either of the tests were excluded from analysis.

3.3.3.3 Static-99R (Helmus, Thornton, Hanson, & Babchishin, 2012), Item #4.

Criminality was assessed through Item #4 of the Static-99R (Helmus et al., 2012), which is an actuarial risk assessment instrument designed to assess sexual recidivism among sexual offenders. This measure consists of 10 items that capture the offender's age, prior living circumstances, and offense history. The fourth item of the instrument indicates whether the individual has any convictions for prior non-sexual violence, with 0 representing the absence and 1 representing the presence of such convictions. The Static-99R is currently the most commonly used instrument for treatment planning, community supervision, and civil commitment assessments in North America (Smallbone & Rallings, 2013). Rater agreement coefficients for the scale have been found to be excellent (Boccaccini et al., 2012), and the scale has also been found to demonstrate excellent predictive validity (Bartosh, Garby, Lewis, & Gray, 2003) and discriminant validity (Endrass, Urbaniok, Held, Vetter, & Rossegger, 2009). Each item in the Static-99R was presented in the current database and Item #4 was extracted from analysis.

3.3.3.4 Diagnosis of Major Mental Illness

Psychological vulnerability was assessed through the presence of one or more diagnosed major mental illnesses. These include Major Depressive Disorder, Bipolar I Disorder, Bipolar II Disorder, Schizophrenia and Psychotic Disorder NOS. The current database contained a string variable containing a list of all the diagnoses given to each offender. For the present study, a

series of dummy variables were created to represent each diagnosis observed in the string variable, with 0 representing the absence of the diagnosis (no mention of the diagnosis or a diagnosis that has been ruled out) and 1 representing the presence of the diagnosis (full diagnosis, partial diagnosis or features of a particular condition). From these, a composite variable was computed to represent the diagnosis of major mental illness; 0 represented the absence of any major mental illness and 1 represented the presence of one or more major mental illness. As with the phallometric assessment variable, only those with no diagnostic information for any condition were excluded from analysis.

3.3.4 Procedure

A battery of psychometric tests was administered to all SBC clients at intake and the results were entered into a database that was referenced for the current study. Information pertaining to treatment progress and outcome was also extracted from hospital files and entered into this database by members of the research team at CAMH. Approval to this second database was granted by the Research Ethics Board at Ontario Tech University (see Appendix B), following the submission of a change request to the existing project. The present author, then, extracted scores on the aforementioned measures from the dataset for analysis.

The database contained a total of 874 cases. Those who were assessed at the SBC multiple times appeared in the database as separate cases that shared a subject identification number/letter combination – these cases were merged by the present author, resulting in a database that contained 752 unique clients. Those who were referred to the SBC through CAMH Medical or Community Health were, then, excluded from analysis, as it was noted that they were likely non-offending (i.e., they may be struggling with sexual interests but had not been convicted of sexual offenses). The resulting database was comprised of 508 PSOs. Of these, 119

(23.4%) had scores available for each of the study variables and were included in the final sample. The present author, then, extracted these scores for the current analyses.

The database also contained a categorical variable depicting the reason for treatment discontinuation, which had been extracted from hospital records. A value of 0 represented treatment completion, 1 represented treatment termination by offender, and 2 represented treatment termination by clinician. For the present study, those with a value of 2 were excluded from analysis. This exclusion took place following methodological recommendations noted in Larochelle, Diguer, Laverdière and Greenman (2011), and also captures the offender's decision to prematurely terminate treatment, which may be more indicative of treatment engagement than a clinician's course of action.

For those who attended the hospital multiple times, each visit was associated with its own treatment discontinuation value. For the current study, these values were merged, such that the combined variable assessed whether participants *never* dropped out of treatment or did so at least once. This decision was made in order to avoid the issue of limiting the study to predicting an arbitrarily selected hospital visit. It is worth noting, however, that a substantial portion of the sample (88.2%) was mandated to attend treatment. As such, examining attrition across multiple points of contact may increase the possibility that variability in attrition will be observed. Determining that a PSOs successfully completed treatment, but may not have been engaged enough to complete subsequent treatments, could also provide insight into the trajectory of one's rehabilitation. Although it was not possible, due to the small sample size, to compare those that dropped out at different points, this may be useful in future research.

3.3.5 Selection of the IRATS Proxies

The database was reviewed in order to determine which assessment tools could be used to represent each IRATS component. The three proxies were selected based on the same considerations that were noted in Study 1 (see Section 2.3.4).

3.3.6 Analytic Strategy

A binary logistic regression analysis was conducted to test the study hypotheses, using the Statistical Package for the Social Sciences (SPSS) Version 26 (SPSS, 2019). Treatment dropout served as the outcome variable and deviant sexual arousal, prior non-sexual violence and major mental illness served as the three predictor variables. The following assumptions were considered: binary outcome, independent observations, no multicollinearity between predictors, and large sample size. None of the assumptions were violated in the current analysis, with the exception of a large sample size – the number of cases with the least frequent outcome was 16, which is below the recommended amount per predictor. As such, this analysis did not have a sufficient amount of power to detect an effect and should be interpreted with caution.

To run the regression analysis, the Enter method was used and each of the predictors was identified as a categorical variable, using "first" as the reference category. Therefore, this analysis was designed to predict membership for "dropped out", comparing those offenders who evidenced the IRATS components with those who did not. All predictors were entered into the model simultaneously.

3.4 Results

3.4.1 Descriptive Analyses

Of the 119 offenders in the current sample, 103 (86.6%) completed treatment, 16 (13.4%) dropped out of treatment, 16 (13.4%) were diagnosed with a major mental illness, 31 (26.1%)

had one or more convictions for prior non-sexual violence, and 68 (57.1%) demonstrated deviant sexual arousal.

3.4.2 Hypothesis 1

It was predicted that, together, the three IRATS components would predict treatment attrition. This hypothesis was supported; overall, the model was a significant predictor of whether the PSO *ever* dropped out of treatment, χ^2 (3) =9.898, p = .019**.** The Nagelkerke R Square pseudo-variance value suggested that the model accounted for 14.6% of the variance in dropout. The Hosmer and Lemeshow was non-significant χ^2 (4) =2.278, p = .685, suggesting that the model was a good fit and the Classification Table suggested that the model had an 86.6% accuracy rate, with treatment completion being more accurately predicted (100%) than treatment dropout (0%).

3.4.3 Hypothesis 2

It was further predicted that each of the three IRATS components would independently contribute to the relationship between the IRATS as a whole and treatment attrition. This hypothesis was not supported; among the individual predictors, only Static 99-R Item 4 was a significant predictor of dropout, with those who had a previous non-sexual, violent conviction being 4.016 times more likely to drop out of treatment, Wald $\chi2(1) = 5.854$, p = .016, OR = 4.016, 95% CI (1.302-12.383). Deviant sexual arousal was not a significant predictor, Wald $\chi2(1) = .027$, p = .870, OR = .911, 95% CI (.296-2.803) and MMI was also not a significant predictor, Wald $\chi2(1) = 2.320$, p = .128, OR = 2.761, 95% CI (.747-10.201). In sum, the IRATS was a significant predictor of treatment dropout, and this relationship was primarily driven by the Static 99-R Item 4, representing the Criminality component. As discussed above, however, the analysis may not have carried the statistical power necessary to detect an effect.

3.4.4 Follow-Up Descriptive Analysis

Additional descriptive analyses were conducted to identify what kind of treatment the 16 dropouts had attended. As noted in Table 3.1, the majority of the total sample attended Mainstream Group (75.6%). Among the dropouts only, a similar trend was observed: most attended Mainstream Group (56.3%) and none had attended the Child Pornography Group or Relapse Prevention. This might lend further support to Hypothesis 1 by tentatively minimizing the possibility of dropout being explained by treatment-related factors rather than PSO characteristics (i.e. their levels of Deviant Sexual Arousal, Psychological Vulnerability, and Criminality). If most of the dropouts had attended a treatment that was different from the one that the majority had attended, this might have suggested that treatment type impacted the relationship between the IRATS components and dropout. These conclusions, however, are speculative and must be accepted with caution due to the small size of the sample and the descriptive nature of the analyses. Future analyses involving significance testing may explore the role that treatment type plays in this relationship.

3.4.5 Follow-Up Regression Analysis

In order to further explore the role of the Static 99-R Item 4 in predicting treatment attrition independently, a model including only this predictor was examined; treatment attrition was regressed on Static 99-R Item 4. A model including only the Static 99-R was a significant predictor of attrition, Wald $\chi 2(1) = 3.958$, $p = .047$. The Nagelkerke R Square pseudo-variance value suggested that the model accounted for 14.6% of the variance in dropout. The Hosmer and Lemeshow was non-significant $\chi^2 (4) = 2.278$, $p = .685$, suggesting that the model was a good fit and the Classification Table suggested that the model had an 86.6% accuracy rate, with treatment completion being more accurately predicted (100%) than treatment dropout (0%). Although this

was arguably a crude method of disentangling Criminality and the other two components, it tentatively suggested that only prior nonsexual, violent convictions predict treatment attrition in the current sample.

3.5 Discussion

Study 2 expanded the scope of the investigation detailed in Study 1 by examining the association between the IRATS (Looman & Abracen, 2013) and treatment attrition in a forensic sample of PSOs in the community. As a preliminary investigation of the model, Deviant Sexual Arousal was represented by the results of phallometric assessment, Psychological Vulnerability was represented by a diagnosis of major mental illness (MMI), and Criminality was represented by the presence of prior non-sexual, violent convictions, as identified by Item 4 of the Static-99R (Helmus et al., 2012). Although the IRATS was designed to minimize the risk of recidivism (Looman & Abracen, 2013), the relationship between the IRATS and treatment-related outcomes such as attrition had been considered prior to beginning this investigation. As such, Study 2 represents a departure from the original purpose of the IRATS; combined with Study 1, this investigation aims to explore the impact of the components at various points of PSO rehabilitation and with various populations.

As expected, the IRATS components combined to significantly predict treatment attrition in a binary regression model. This study was the first to utilize these measures in one model to predict treatment attrition, which makes these findings more challenging to contextualize. Furthermore, before explanations can be given with regards to why the components combined to predict attrition, additional research is necessary. Contrary to expectations, only the presence of prior non-sexual violent convictions predicted treatment attrition in this study. Thus, although the model as a whole was a significant predictor, the roles of the individual components remain

unclear. Future researchers, however, may benefit from replicating this study with a larger sample. It is possible that criminal history, deviant sexual arousal, and a serious mental illness combine to hinder one's motivation to engage in an intervention. This wide array of obstacles may be difficult for treatment providers to address effectively, making treatment less impactful and, thus, less useful to the individual, who can then choose to terminate. It is also possible that PSOs with this combination of characteristics may experience more difficulty forming a therapeutic alliance with a professional who would relate to them; this interpersonal disconnect may also increase their odds of dropping out of treatment. Perhaps, PSOs with this combination of needs are also more selective in terms of the intervention they engage in, and may choose to drop out earlier if they feel that a particular type of treatment is not a good fit. These difficulties may also hinder one's transition through the stages of change in the offending cycle; changing the course of one's criminal behaviour may prove to be more difficult when mental health issues, distrust in the criminal justice system, and the stigma around deviant sexual arousal are also present.

Contrary to expectations, only the presence of prior non-sexual violent convictions predicted treatment attrition in this study. Given that Study 2 utilized the same methodology as Study 1, Study 1's methodological limitations are also present here and may explain this unexpected result. The sample size of 119 may have lacked a sufficient amount of statistical power to detect the effect of MMI and phallometric results on treatment attrition, and perhaps different proxies for the components would have produced significant results. This is a possibility that can be explored in future research.

As in Study 1, the decision to utilize phallometric scores for Study 2 was informed by past literature documenting the validity of this procedure. In contrast with Study 1, however, the

relationship between deviant sexual arousal and treatment attrition is less established. Nunes and Cortoni (2008) did not find that sexual deviance items of the Static-99R predicted dropout/expulsion, and similarly suggested that this relationship could be overshadowed by general criminality factors. They further speculated that, instead, deviant sexual arousal to violence may predict treatment dropout/expulsion, as was found by Lussier & Proulx (1998) and reported by Larochelle and colleagues (2011). This suggestion reinforces the idea that a deviant sexual preference, alone, does not necessarily lead to antisocial outcomes, and also requires a criminal disposition. It should be noted, however, that Nunes and Cortoni's (2008) sample was also small at 100, and their outcome was a combination of treatment expulsion and treatment attrition. In fact, Nunes and Cortoni (2008) called for future research to separate the dropouts from those expelled, and the current study provides a contribution to this literature.

The absence of a relationship between MMI and treatment attrition was unexpected and at odds with much of what is noted in the literature. Sowden and Olver (2017) reported that those with MMI were significantly more likely to drop out of a high intensity PSO treatment program. Their sample, however, was comprised of incarcerated federal offenders, while the current sample consisted of outpatients, most whom were on probation. Thus, it is possible that MMI impedes participation in treatment only among high-risk, high-needs offenders who complete the treatment while incarcerated. It is also possible that only certain kinds of MMI predict treatment attrition. Stinson (2016) predicted treatment non-completion using a sample of PSO with MMI, living in a psychiatric facility; those diagnosed with a psychotic spectrum disorder were significantly less likely to complete treatment. Some researchers, however, also failed to find a significant relationship between MMI and treatment attrition. Olver and Wong (2011) explored the role of MMI, among other factors, in predicting treatment non-completion among

incarcerated federal offenders. They did not find a significant relationship, and speculated that treatment programs that adequately address criminogenic and mental health needs may succeed in retaining PSOs with MMI. Given that CAMH serves approximately 300 community forensic patients in the Greater Toronto Area at one time (Ray et al., 2019), it is possible that its interventions do indeed manage client needs in a way that minimizes attrition.

The finding that Static-99R Item 4, previous non-sexual violent convictions, significantly predicted attrition was in line with study predictions. This trend was also observed by Nunes and Cortoni (2008), who extracted items from the Static-99 pertaining to criminality in order to investigate their relationship to treatment non-completion (as defined by dropout or expulsion). These items were selected based on their previously observed relationship with violent and general, but not sexual, criminal recidivism. They included the following: young age, ever married, index nonsexual violent conviction, prior nonsexual violent convictions, and prior sentencing dates. Nunes and Cortoni (2008) observed that those high in criminality were significantly more likely to prematurely end treatment due to dropout or expulsion, and called for future research to separate those who were expelled from treatment from those who chose to terminate it. The current study examined treatment dropout only, allowing for an outcome that is more specific than overall treatment failure.

Phillips and colleagues (2005) included criminal history (as measured by number of previous offenses) and clinical diagnosis into their model designed to predict reoffending among PSOs. In line with the current findings, they found that the strongest predictor in the model was the number of previous offenses, and that clinical diagnosis did not predict reoffending when the variance attributable to criminal history and other factors was considered. This scenario is likely to have occurred in the present study, as previous non-sexual, violent convictions have a long-

established link to various treatment outcomes and may account for much of the variance in attrition.

One potential explanation for the positive relationship between prior non-sexual convictions and treatment attrition is based on motivation, as briefly discussed above. It is possible that those with a chronic criminal disposition are simply not motivated to remain in treatment – they may perceive criminality as an inherent part of their identity, an identity that is incompatible with the one that treatment is designed to elicit. Letting go of these deeply engrained attitudes may be challenging, uncomfortable, and may not appear to be worthwhile. Coupled with distrust for authority figures that can form during incarceration and other circumstances, those high in criminality may have lost the drive to continue. These speculations may also be explored in future studies

It is also noteworthy that those with prior non-sexual, violent convictions were significantly more likely to drop out of treatment, even though one can speculate that they may have more sanctions imposed upon them if they do not comply. Larochelle and colleagues (2011) note that such leverage may make it more difficult for PSOs to prematurely terminate their treatment. In their study, the dropout rates were 60% for voluntary participants and 38% for involuntary participants, which is less than the number in the current study. This suggests that, perhaps, the current sample's willingness to do so elicits an even greater possibility that these clients' needs were unfulfilled.

Although these findings begin to fill the gap that exists in this area of research, the limitations of this study must be noted. First, it is unknown whether those who dropped out of treatment ceased all intervention or if they chose to participate in treatment at another location that was better suited for their needs. If the later scenario occurred, then perhaps the study

outcome was less connected to treatment engagement in general and more limited to the shortcomings of that particular intervention. Larochelle and colleagues (2011) noted that great variation exists across treatment settings, even if they adopt the same therapeutic framework. Nonetheless, as noted in the Introduction, there may still be value in predicting attrition from the treatment that one is currently involved in, and future research may collect information regarding a client's choice to move their treatment elsewhere.

A second limitation is that it is also unknown whether the type of treatment attended influenced attrition rates; the available descriptions of the interventions provided by the SBC did not provide the specificity that is needed to determine the specific characteristics that may have contributed to dropout. The fact that there were multiple treatments considered is another limitation in itself, and future research can utilize a sample size that is large enough to explore dropout among a group of PSOs completing the same form of intervention.

Third, similar to the limitation noted in Study 1, the outcome was coded dichotomously and treatment attrition across several points of contact was collapsed. It was beyond the scope of this study to determine whether those scoring highly on the IRATS components were more likely to drop out after completing a certain number of treatments. As noted previously, a method such as survival analysis may determine the length of time it takes for a PSOs with a particular IRATS profile to terminate their treatment.

Additionally, as in Study 1, the PSOs included in this sample were assessed for participation in a treatment program. Those that attend the SBC may not represent other groups of PSOs. This sample was also male and primarily Caucasian, attending outpatient treatment in an urban setting. Future investigations may benefit from including other PSOs groups in their analysis.

Noting the limitations of this study and building on its strength will serve to continue the investigation of a promising model of sexual offending. The model detailed in this study successfully predicted treatment dropout, which is an outcome that is critical to PSOs rehabilitation. Researchers who continue to investigate the impact of the IRATS in treatment settings may uncover additional IRATS factors that are relevant to treatment providers.

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CHAPTER 4: GENERAL DISCUSSION

The results of Studies 1 and 2 uncovered the potential of the IRATS as an explanatory framework for understanding PSOS. As discussed in Section 1.3.3, one aim of the IRATS was to integrate a collection of empirically supported risk and need characteristics relevant to PSOs, while also including factors relevant to PSOs wellbeing that were not previously considered by the traditional RNR model. In two separate models with widely different samples, the IRATS components combined to significantly predict the outcomes of interest – recidivism and treatment attrition. This took place even when only one proxy was selected per IRATS component, which may underestimate the impact of each component in its entirety. As such, it can be tentatively stated that the IRATS succeeded in this aim of integration and demonstrated its research and clinical utility.

Across both studies, the Psychological Vulnerability component was represented by the presence of loneliness and MMI, and the Criminality component was represented by the presence of criminal sentiments and prior non-sexual, violent convictions. The ability to represent each component in a variety of different ways and include it in a predictive model may speak to the way in which the IRATS can capture factors that are relevant to each specific person. Although the general constructs of Deviant Sexual Arousal, Psychological Vulnerability, and Criminality may combine to influence individual behaviour, their manifestation may vary from person to person. In this way, the IRATS may successfully capture each PSO's idiosyncratic needs, which is one characteristic that is valued in the GLM. In this way, the IRATS has the potential to fill the research and theoretical gaps that exist in both the RNR and GLM models.

The breadth of the IRATS may provide value to those who research, assess, and treat PSOs, but the limitations of these wide-reaching constructs must also be acknowledged. The selection of a single proxy per component in each of these two studies was completed due to the

preliminary nature of the current work. Future researchers, however, may also experience challenges when selecting the best instruments. Currently, there is little guidance in terms of which proxies may be more or less important, and even if proxies should be used at all when a large variety of measures is provided. This is particularly relevant for the Psychological Vulnerability component, which encompasses several differing aspects of psychological wellbeing that might equally contribute to relevant outcomes. Although the different factors that are part of Psychological Vulnerability have been found to be associated, perhaps future research can employ factor analyses in order to explore this possibility further. Alternatively, perhaps the Psychological Vulnerability component may be split into two components, so that two empirically supported aspects of vulnerability can be captured.

When considering which IRATS component may be most relevant to research and clinical outcomes, the results of Studies 1 and 2 appear to suggest that it is the Criminality component that carries the most influence. Those that endorsed criminal sentiments were significantly more likely to sexually recidivate and those that engaged in prior non-sexual violence were significantly more likely to drop out of treatment designed to address their sexual offending. Collectively, this thesis represented the Criminality component in both a static and dynamic way, and both were significant predictors. As intended, this follows in the steps of previous models, such as Beech and Ward's (2004) model, which integrated static and dynamic factors of sexual offending. The finding that Criminality was a significant predictor across both studies was expected. As discussed, factors related to criminality have been included in most widely endorsed models, and the idea that some criminal aspect drives struggling individuals towards a path of legal difficulties is intuitive. In keeping with the study goals, this thesis has added to this literature.

The finding that the Deviant Sexual Arousal and Psychological Vulnerability components did not emerge as significant contributors to the two models warrants further exploration. It is possible that the models in Studies 1 and 2 were driven entirely by Criminality and adding the other two components was unnecessary. If this were to be the case, then the statement that the IRATS predicts sexual recidivism and treatment attrition may not hold true. In this thesis, it was not possible to explore this possibility thoroughly because the sample size was not large enough to determine whether the Criminality component can predict the study outcomes on its own. If the goal of the IRATS is to better integrate the Risk, Need, and Responsivity principles, perhaps further exploration is needed in order to determine how this can take place and what it will accomplish. In order to investigate these speculations, the methodological constraints that were present in these studies could be addressed in future research. As discussed, both models were underpowered, hindering their ability to reveal potential significant relationships. It is likely that this limitation explains the lack of significant relationships, as several studies across the literature had emphasized the value of these factors.

Another methodological consideration involves the selection of predictors. Given that each component can be represented by a wide variety of proxies, as mentioned above, perhaps those selected in the current studies were not suited to represent the IRATS components. For instance, the ULS was designed to assess loneliness, but a respondent can think about these questions in reference to inappropriate relationships. They may experience their interaction with an underage person as intimate and fulfilling, and may not experience the feeling of loneliness as a result. Future studies may consider assessing Psychological Vulnerability through instruments measuring coping, attachment style, or trauma, as well as other psychiatric diagnoses such as personality disorders. Deviant Sexual Arousal can also be assessed using a variety of self-report

measures that include items on deviant sexual interests. It is also possible that the proxies selected were not coded in the most suitable way. The sexual deviance index, for example, may be best represented dichotomously as deviant/non-deviant, rather than continuously. It is also possible that MMI should have been coded differently in Study 2, with diagnoses only being coded as present when they are fully present, excluding those cases that involve only the features of a particular condition.

The outcomes of interest that were chosen may have also impacted the results that were observed. It was outlined that sexual recidivism is a rare occurrence, and could be more difficult to predict as a result. In order to circumvent this, Study 1 also included a follow-up analysis with a sexual/violent recidivism outcome in order to increase the base rate. In this model, however, the Psychological Vulnerability and Deviant Sexual Arousal components were also not independently significant predictors. This could suggest that the low base rate of sexual recidivism did not explain the null findings, or it could also imply that perhaps, the components are best suited to predict sexual recidivism specifically, and the inclusion of violent recidivism obscures this relationship. Thus, future research including a high-risk, high-need sample with a higher base rate of sexual recidivism may explore this possibility further.

It is also plausible that while Deviant Sexual Arousal and Psychological Vulnerability may not impact sexual recidivism and treatment attrition, they may impact other risk and treatment-related outcomes. Perhaps, a PSO diagnosed with MMI is not significantly more likely to drop out of treatment, but is less likely to make therapeutic gains. Perhaps, a PSO experiencing loneliness is not significantly more likely to sexually recidivate, but is more likely to fantasize about engaging in these acts.

An additional consideration when interpreting these results concerns the statistical analyses that were performed. Binary logistic regression models were utilized in both Studies 1 and 2, with the IRATS proxies predicting a dichotomous outcome of interest. A more comprehensive analysis such as structural equation modeling may allow for the inclusion of multiple proxies per component, which may more effectively capture the unique way that each component can manifest in an individual case. Other analyses, such as survival analysis, can also examine the time it takes for a PSO to recidivate or terminate their treatment – these analyses may capture the potential nuances between the predictors and clinical/risk-related factors.

Despite these methodological limitations and questions for future research, this thesis was the first to investigate the IRATS in a manner that was not retroactive in nature. This represents an important first step in understanding how to best capture the IRATS and how to apply it to different populations of PSOs. These initial steps have important implications for research and practice. Perhaps, those assessing PSOs for risk of future offending may benefit from incorporating tools that include information about criminal versatility and previous violence. Those treating PSOs may serve to mitigate the manifestation of criminal sentiments through aggression – one tool proposed by Larochelle and colleagues (2011) is the behavioural contract. Individual therapy may also target the presence of criminal sentiments – interventions such as cognitive behavioural therapy and motivational interviewing can be used to challenge criminal sentiments when they arise.

Above all, the recidivism and dropout risk that criminally minded PSOs present must not serve as a deterrent from engaging hem in treatment. Beyko and Wong (2005) note that such information has previously been used to exclude PSOSs from treatment. Instead, criminal

sentiments and criminal history can serve as markers for intervention, both by mental health professionals and others who can safely reintegrate PSOS into the community.

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CHAPTER 5: CONCLUSION

This thesis aimed to examine the utility of the Integrated Risk Assessment and Treatment System (IRATS, formerly the RNR-I; Looman & Abracen, 2013), which is comprised of Deviant Sexual Arousal, Psychological Vulnerability, and Criminality. The IRATS was developed to minimize criminal recidivism among PSOs participating in interventions. To investigate this, Study 1 utilized an incarcerated correctional sample and represented the components through phallometric assessment, the UCLA Loneliness Scale (ULS; Russell, 1996) and the Criminal Sentiments Scale – Modified (CSS-M; Shields & Simourd, 1991). It was found that the predictors were, together, significantly related to sexually recidivism, and that this effect was driven by the CSS.

Study 2 was then completed in order to explore whether the IRATS can be extended to predict treatment-related outcomes – the sample utilized was a forensic sample of PSOs in a community setting. The factor that was chosen was treatment attrition, and the IRATS components were represented through phallometric assessment, a diagnosis of major mental illness (MMI) and the presence of prior non-sexual, violent convictions, as identified by Item 4 of the Static-99R (Helmus, Thornton, Hanson, & Babchishin, 2012). Results indicated that together, the predictors significantly predicted treatment attrition, and this effect was driven by the presence of prior non-sexual, violent convictions.

Collectively, this thesis built upon prior research that examined the IRATS components retroactively by mapping them onto PSOs treatment profiles, and demonstrated that the components can also be identified using measures that are common to correctional and forensic psychiatric settings. It was also discovered that the model predicted outcomes in both institutional and community settings, highlighting its generalizability for future research.

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Appendix A

Ethics Approval for Study 1

Date:	*April 24, 2019*
To:	*Leigh Harkins*
From:	*Ruth Milman, REB Chair*
File # & Title:	*15379 - Examining Offense Characteristics and Recidivism using the IRATS Model of Sexual Offending*
Status:	***APPROVED***
Current Expiry:	***April 01, 2020***

Notwithstanding this approval, you are required to obtain/submit, to UOIT's Research Ethics Board, any relevant approvals/permissions required, prior to commencement of this project.

The University of Ontario, Institute of Technology (UOIT) Research Ethics Board (REB) has reviewed and approved the research study named above to ensure compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2 2014), the UOIT Research Ethics Policy and Procedures and associated regulations. As the Principal Investigator (PI), you are required to adhere to the research protocol described in the REB application as last reviewed and approved by the REB. In addition, you are responsible for obtaining any further approvals that might be required to complete your project.

Under the Tri-Council Policy Statement 2, the PI is responsible for complying with the continuing research ethics reviews requirements listed below:

Renewal Request Form: All approved projects are subject to an annual renewal process. Projects must be renewed or closed by the expiry date indicated above ("Current Expiry"). Projects not renewed 30 days post expiry date will be automatically suspended by the REB; projects not renewed 60 days post expiry date will be automatically closed by the REB. Once your file has been formally closed, a new submission will be required to open a new file.

Change Request Form: If the research plan, methods, and/or recruitment methods should change, please submit a change request application to the REB for review and approval prior to implementing the changes.

Adverse or Unexpected Events Form: Events must be reported to the REB within 72 hours after the event occurred with an indication of how these events affect (in the view of the Principal Investigator) the safety of the participants and the continuation of the protocol (i.e. un-anticipated or un-mitigated physical, social or psychological harm to a participant).

Research Project Completion Form: This form must be completed when the research study is concluded.

Always quote your REB file number (**15379**) on future correspondence. We wish you success with your study.

Sincerely,

Dr. Ruth Milman
REB Chair
ruth.milman@uoit.ca

Emma Markoff
Research Ethics Assistant
researchethics@uoit.ca

NOTE: If you are a student researcher, your supervisor has been copied on this message.

Appendix B

Ethics Approval for Study 2

Date:	*January 14, 2020*
To:	*Leigh Harkins*
From:	*Paul Yielder, REB Vice-Chair*
File # & Title:	*15379 - Examining Offense Characteristics and Recidivism using the IRATS Model of Sexual Offending*
Status:	***CHANGE REQUEST APPROVED***
Current Expiry:	***April 01, 2020***

Notwithstanding this approval, you are required to obtain/submit, to Ontario Tech's Research Ethics Board, any relevant approvals/permissions required, prior to commencement of this project.

The Ontario Tech Research Ethics Board (REB) has reviewed and approved the change request related to the research study named above. This request has been reviewed to ensure compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2 2014), the Ontario Tech Research Ethics Policy and Procedures, and associated regulations. As the Principal Investigator (PI), you are required to adhere to the research protocol described in the REB application as last reviewed and approved by the REB.

Under the Tri-Council Policy Statement 2, the PI is responsible for complying with the continuing research ethics reviews requirements listed below.

Renewal Request Form: All approved projects are subject to an annual renewal process. Projects must be renewed or closed by the expiry date indicated above ("Current Expiry"). Projects not renewed 30 days post expiry date will be automatically suspended by the REB; projects not renewed 60 days post expiry date will be automatically closed by the REB. Once your file has been formally closed, a new submission will be required to open a new file.

Change Request Form: If the research plan, methods, and/or recruitment methods should change, please submit a change request application to the REB for review and approval prior to implementing the changes.

Adverse or Unexpected Events Form: Events must be reported to the REB within 72 hours after the event occurred with an indication of how these events affect (in the view of the Principal Investigator) the safety of the participants and the continuation of the protocol (i.e. un-anticipated or un-mitigated physical, social or psychological harm to a participant).

Research Project Completion Form: This form must be completed when the research study is concluded.

Always quote your REB file number (**15379**) on future correspondence. We wish you success with your study.

Sincerely,

Dr. Paul Yielder
REB Vice-Chair
paul.yielder@uoit.ca

Emma Markoff
Research Ethics Assistant
researchethics@uoit.ca

NOTE: If you are a student researcher, your supervisor has been copied on this message.

Appendix C

UCLA Loneliness Scale (Version 3) (ULS; Russell, Peplau, & Cutrona, 1996).

Instructions: The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by circling one of the responses below. Here is an example:

How often do you feel happy?

If you never felt happy, you would respond "never"; if you always feel happy, you would respond "always."

1. How often do you feel that you are "in tune" with the people around you?

Never Rarely Sometimes Always

2. How often do you feel that you lack companionship?

Never Rarely Sometimes Always

3. How often do you feel that there is no one you can turn to?

Never Rarely Sometimes Always

4. How often do you feel alone?

Never Rarely Sometimes Always

5. How often do you feel part of a group of friends?

Never Rarely Sometimes Always

6. How often do you feel that you have a lot in common with the people around you?

Never Rarely Sometimes Always

7. How often do you feel that you are no longer close to anyone?

Never Rarely Sometimes Always

8. How often do you feel that your interests and ideas are not shared by those around you?

Never Rarely Sometimes Always

9. How often do you feel outgoing and friendly?

Never Rarely Sometimes Always

10. How often do you feel close to people?

Never Rarely Sometimes Always

11. How often do you feel left out?

Never Rarely Sometimes Always

12. How often do you feel that your relationships with others are not meaningful?

Never Rarely Sometimes Always

13. How often do you feel that no one really knows you well?

Never Rarely Sometimes Always

14. How often do you feel isolated from others?

Never Rarely Sometimes Always

15. How often do you feel that you can find companionship when you want it?

Never Rarely Sometimes Always

16. How often do you feel that there are people who really understand you?

Never Rarely Sometimes Always

17. How often do you feel shy?

Never Rarely Sometimes Always

18. How often do you feel that people are around you but not with you?

Never Rarely Sometimes Always

19. How often do you feel that there are people you can talk to?

Never Rarely Sometimes Always

20. How often do you feel that there are people you can turn to?

Never Rarely Sometimes Always

Appendix C

Criminal Sentiments Scale (Modified)

Directions: Read each statement carefully and decide how you feel about it. Circle A if you agree with the statement or D if you disagree with the statement. If you are undecided or cannot make up your mind about the statement, circle U. Remember – there are no right or wrong answers.

LAW

1. Pretty well all laws deserve our respect. A U D

2. It's our duty to obey all laws. A U D

3. Laws are usually bad. A U D

4. The law is rotten to the core. A U D

5. You cannot respect the law because it's there only to help a small and selfish group of people. A U D

6. All laws should be obeyed just because they are laws. A U D

7. The law does not help the average person. A U D

8. The law is good. A U D

9. Law and justice are the same thing. A U D

10. The law makes slaves out of most people for a few people on the top. A U D

Law Total:_____

COURTS

11. Almost any jury can be fixed. A U D

12. You cannot get justice in court. A U D

13. Lawyers are honest. A U D

14. The prosecution often produces fake witnesses. A U D

15. Judges are honest and kind. A U D

16. Court decisions are pretty well always fair. A U D

17. Pretty well anything can be fixed in court if you have enough money. A U D

18. A judge is a good person. A U D

Court Total:_____

POLICE

19. The police are honest. A U D

20. A cop is a friend to people in need. A U D

21. Life would be better with fewer cops. A U D

22. The police should be paid more for their work. A U D

23. The police are as crooked as the people they arrest. A U D

24. Society would be better off if there were more police. A U D

25. The police almost never help people. A U D

Police Total:_____

TLV

7. Sometimes a person like me has to break the law to get ahead in life. A U D

8. Most successful people broke the law to get ahead in life. A U D

9. You should always obey the law, even if it keeps you from getting ahead in life. A U D

10. It's OK to break the law as long as you don't get caught. A U D

11. Most people would commit crimes if they wouldn't get caught. A U D

12. There is never a good reason to break the law. A U D

13. A hungry man has the right to steal. A U D

14. It's OK to get around the law as long as you don't actually break it. A U D

15. You should only obey those laws that are reasonable. A U D

16. You're crazy to work for a living if there's an easier way, even if it means breaking the law. A U D

TVL Total:_____

ICO

17. People who have broken the law have the same sorts of ideas about life as me. A U D

18. I prefer to be with people who obey the law rather than people who break the law. A U D

19. I'm more like a professional criminal than people who break the law now and then. A U D

20. People who have been in trouble with the law are more like me than people who don't have trouble with the law. A U D

21. I have very little in common with people who never break the law. A U D

22. No one who breaks the law can be my friend. A U D

ICO Total:_____

CSS TOTAL:_____

Name: **Date:**