

A comparison of serial and non-serial sex offenders

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Abstract

Research on serial sex offending has predominantly focused on the modus operandi, victim selection and criminal career of offenders. Studies on psychosocial characteristics of SSOs remains limited and research assessing comparative differences between serial sex offenders (SSOs) and non-serial sex offenders (NSSOs) is nearly non-existent. Using a sample of 553 male sex offenders, the current study investigates differences in characteristics between SSOs and NSSOs. Results from a series of logistic regression analyses indicate significant distinctions between SSOs and NSSOs. Specifically, their sexual development, adult sexual lifestyle, and psychopathologies. A profile of SSOs is proposed and implications for investigative purposes and future research are discussed.

Keywords: Serial offending; non-serial; sex offenders; offender profiling

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and seeing something in me before I could see it for myself.*

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Chapter 1.

Introduction

Serial offending and victimization is of great concern for not only for public safety but also for many pertinent professions. Research on sexual offending suggests a significant proportion of sexual crimes are committed by a small number of repeat offenders (Harbers, Deslauriers-Varin, Beauregard, & Van Der Kemp, 2012; Hazelwood & Warren, 1990; Lisak & Miller, 2002; Warren, Reboussin, Hazelwood, Cummings, Gibbs, & Trumbetta, 1998). However, the motivation behind a serial offender's proclivity to re-offend, and to what extent they do so, is unknown. It has been hypothesized that varying psychological or personal factors could both deter or perpetuate the propensity to become a serial sex offender (Kocsis & Irwin, 1998).

The concept of serial offenders was first popularized by Robert Ressler of the Federal Bureau of Investigation's (FBI). The definition of serial crime, as well as serial sex offending, has remained relatively ambiguous since its formation in the 1970s. However, in 2005, the FBI defined *serial murder* as offences against two or more victims by the same offender(s), in separate events (Federal Bureau of Investigation, 2005). A review of the literature since the 1970's allows for a working definition of a serial offender, applicable to serial sex offending, as an individual who offends against two or more victims on separate occasions or at separate locations; similar in nature, style and offence characteristics.

While the original phenomenon of serial offenders focused on that of serial murderers, the FBI soon focused their efforts on serial sex offenders (SSOs). Hazelwood and Warren (1989) interviewed 41 incarcerated SSOs and in 1989 published the first profile of a SSO, in conjunction with other FBI articles pertaining to the issue. This profile described the SSO as an average adult male from an average socioeconomic background; who had experienced childhood sexual trauma, negative parental relationships, and became an adult with paraphilic and deviant sexual interests. However, since the FBI's exploratory study minimal research has looked at the SSO. The available literature almost exclusively focuses on the crime scene and modus

operandi of these offenders (Beauregard, Proulx, Rossmo, Leclerc & Allaire, 2007; Corovic, Christianson, & Bergman, 2012; Deslauriers-Varin & Beauregard, 2013,2014; Harbers et al., 2012; Hazelwood & Warren, 1989, 1990; Hewitt & Beauregard, 2014; Park, Schlesinger, Pinizzotto, & Davis, 2008; LeBeau, 1987; Sea, Kim, & Youngs, 2016; Slater, Woodhams, & Hamilton-Giachritsis, 2014; Warren et al., 1998; Warren, Reboussin, Hazelwood, Gibbs, & Trumbetta, 1999). However, personality is consistent over time (Caspi & Roberts, 2001), while criminal behaviours are subject to environment and individual behaviours (Beauregard, Rossmo & Proulx, 2007).

Additionally, most information on serial sex offending that does look at personality focuses singularly on that of serial sexual murderers (SSM) (Chan, Beauregard, & Myers, 2015; James & Proulx 2014, 2016), does not compare SSOs and NSSOs by offender type (Sea, Kim, & Youngs, 2016), or suffers from small sample sizes and lack of statistical significance (Baltieri & Andrade, 2007). Although these studies emphasize the sexual deviance and mental disorders present in SSOs, the number of studies are too few to generalize or validate any findings. Overall, SSO focused studies are considered offender-based research. However, the available literature has ultimately neglected to study the offender as an individual.

Basing investigations of serial sex offending on crime scene evidence limits the opportunity to not only identify a SSO but also avoids the possibility to prevent an NSSO from escalating to an SSO. Kocsis and Irwin (1998) suggest that a working definition of serial offending and an understanding of the psychopathological factors perpetuating serial offending could aid in the prevention of this escalation in victim numbers. Therefore, the current study aims to expand the existing literature by utilizing data from 553 incarcerated Canadian sex offenders to assess the differences between SSOs and NSSOs on a number of personal characteristics. Specifically, their development, sexual development, adult sexual lifestyle, and psychopathologies. Additionally, this study aims to utilize the significant differences between the two offender types to create a profile of the SSO.

Accordingly, this study will indicate differences and similarities between serial and non-serial sex offenders in several central components of their personal characteristics. Aiding in the debate as to whether sex offenders are a homogeneous

group regardless of number of offences, or a heterogeneous group distinguishable by serial or non-serial typologies based on personal characteristics. An understanding of predictive characteristics and motivating variables may aid in criminal investigations as well as clinical prevention and risk assessment techniques.

Chapter 2. Literature Review

2.1. Defining Serial

Past and present literature present inconsistencies when describing what constitutes a *serial offender* (Lovell et al., 2017; Petee & Jarvis, 2000). While the term serial originally referred to something occurring in a series or pattern, overtime it has become synonymous with multi-victim criminality. Most commonly, the term *serial* is used to refer to a serial killer, a term famously defined by the Federal Bureau of Investigation's (FBI) investigator Robert Ressler. By FBI definition, a serial killer is an offender who kills a minimum of two victims, spaced out over a period of time, allowing "cooling-off periods" in between differing crime scenes or locations (Douglas, Burgess, Burgess, & Ressler, 1992). There is currently no definitive numeric or temporal definition of a serial rapist. However, for their research purposes the FBI has classified a serial rapist as 2 or more victims (Hazelwood & Burgess, 1987; Hazelwood & Warren, 1989; Hazelwood & Warren, 1990). As this study by the FBI was one of the first on serial rape, numeric classification, of two or more victims or convictions remained in use. In 1998 the United States Congress released the Protection of Children from Sexual Predator Act of 1998, within which they defined "*serial killings*" as three or more murders with either similar elements to suggest same perpetrator(s) or evidence of same perpetrator(s) amongst offences. However, the definition was not applicable to general terminology. To amend this issue, the FBI organized a symposium to discuss the multi-disciplinary investigative perspectives of serial murder, in 2005. Where attendees, amongst and within the FBI defined *Serial Murder* as "the unlawful killing of two or more victims by the same offender(s), in separate events" (Federal Bureau of Investigation, 2005). This definition is also commonly used by other researchers studying serial sex offenders (Beauregard, Rossmo, & Proulx, 2007; Beauregard, Proulx, Rossmo, Leclerc & Allaire, 2007; Corovic et al., 2012; Deslauriers-Varin & Beauregard, 2013; Deslauriers-Varin & Beauregard, 2014; Harbers et al., 2012; Hewitt & Beauregard, 2014; Hewitt, Beauregard, & Davies, 2012; LeBeau, 1987; Lovell, Luminas, Flannery, Overman, Huang, Walker, & Clark, 2017; Lundrigan & Czarnomski, 2006; Park et al., 2008; Slater et al., 2014) and serial sexual murder (Chan et al., 2015; James & Proulx, 2014; James & Proulx, 2016).

A minimum number of victims is not the only discrepancy in the serial rapist literature. Although the majority of researchers of serial rape use the 'two or more' victim categorization, this does not account for various confounding factors. For example, an offender may have only one victim but they have assaulted the victim multiple times, while an offender with multiple victims may have only assaulted each victim once. Following current definitions, the offender with multiple victims would constitute a serial offender, even if the one-victim offender had committed a higher number of rapes (Kocsis & Irwin, 1889; Lussier, Bouchard, & Beauregard, 2011). Additionally, there are no offence intervals constituting a serial rapist or a rape series. Due to this, many researchers examine what by definition are serial sex offenders, but refer to their offending intervals in other terms such as recidivism (Hanson & Morton-Bourgon, 2005; Hanson, Steffy, & Gauthier, 1993; Hanson, Harris, Helmus, & Thornton, 2014; Lussier & Cale, 2013), relapse (Ward & Hudson, 1998), and frequency of offending (Lussier & Cale, 2013).

Recidivism, specifically, measures re-offending over a period of time. An offender has recidivated when they have committed a new crime (usually measured by arrest or conviction) in the time since an event or intervention, such as incarceration or treatment. Recidivism studies are used to assess not just recidivism rates but also treatment programs, legal and penal measures, policies, protocols and more (Lussier & Cale, 2013). Within this context a serial offender may or may not "recidivate" depending on the time period chosen. An offender's recidivism is also sometimes referred to as a relapse (Ward & Hudson, 1998), primarily post-treatment. Moreover, an offender's rates of recidivism can be referred to as their offence frequency (Lussier & Cale, 2013). The term *frequency* is primarily used in the literature to state the number of sexual crimes committed by an offender throughout their criminal career. However, as Lussier and Cale (2013) and Lussier and colleagues (2011) note, this could both refer to number of victims or number of sexual assault events.

Within the literature, serial sexual offenders have also been referred to as *persistent* (Hanson & Morton-Bourgon, 2005) or *high-risk* offenders (Hanson et al., 2014; Kaseweter, Woodworth, Logan, & Freimuth, 2016). A persistent offender is used to refer to an individual who continues to recidivate (Hanson & Morton-Bourgon, 2005), yet, more commonly serial sex offenders are referred to as high-risk. This distinction may be

due to serial offenders whose crime series has not involved police detection, conviction, or treatment. Risk assessment tools are used in order to determine the level of risk that an offender will commit a future offence. These tools vary across provinces and countries; however, all customarily define risk in levels of low, medium, and high (Mugford, Bourgon, Hanson, & Coligado, 2017). Not surprisingly, those who score “high” levels are considered high-risk offenders. This information is then used to determine sentencing, release, treatment and supervision for the offender (Mugford et al., 2017; Solicitor General Canada, 2001). In reviewing the literature, a serial sex offender can be considered both persistent and high-risk, has a minimum of two victims who were assaulted on separate occasions or locations (this can also be measured using number of convictions) and any offences occurring past the first victimization can be considered recidivism or a relapse, primarily when occurring after an interrupting event such as police detection, incarceration, or treatment.

2.2. Serial and Non-Serial Sex Offenders

Prior to the 1980s serial rapists were relatively under-studied. Due to an increase in reported rape crimes, the FBI pioneered one of the first studies on serial rapists in 1984. The study was intended to keep FBI training current and comprehensive, address issues faced by law enforcement, and to assist in the practice of criminal profiling (Hazelwood & Burgess 1987; Warren et al., 1999). This study was conducted by members of a specialist department within the FBI, known as the National Center for the Analysis of Violent Crime (NCAVC), in collaboration with the University of Pennsylvania’s School of Nursing. FBI special agent Roy Hazelwood and Dr. Ann Burgess from the University of Pennsylvania, conducted comprehensive interviews with 41 imprisoned serial rapists, whose frequencies of rape ranged from 10 to 59, for a total of 837 completed and over 400 attempted rapes within the sample (Hazelwood & Burgess 1987). The interview data collected was distributed throughout multiple publications and issues of the FBI Law Enforcement Bulletin from 1987 onward. Each publication using the FBI data concentrated on varying aspects of a serial rapist, such as crime scene analysis (Hazelwood & Warren, 1989; Hazelwood & Warren, 1990; Warren et al., 1998; Warren et al., 1999), childhood and adolescent development (Hazelwood & Warren, 1989; McCormack, Rokous, Hazelwood, & Burgess, 1992), aggression

(Hazelwood, Reboussin, & Warren, 1989), childhood sexual abuse (Burgess, Hazelwood, Rokous, Hartmen, Burgress, 1988), and victimology (Hazelwood & Warren, 1989; Hazelwood & Warren, 1990).

The essential aim of the FBI study was to produce an offender profile for the serial rapist based on commonalities found throughout the 41 participants personal lives and crimes. The profile of *The Serial Rapist* described an individual who premeditates his crimes, targets strangers, uses verbal threats, rarely uses excessive physical force, and chooses his victims based on proximity and availability (Hazelwood & Warren, 1989; Hazelwood & Warren, 1990). Additionally, this profile described *The Serial Rapist* as a “relatively ‘normal’” adult: intelligent, educated, employed, “well-groomed” and from an average (middle-class) family (Hazelwood & Warren, 1989, p. 25). However, the authors note some pathologies often presented in the offender’s development, such as distant relationships with parents, institutionalization, and experiences of sexual abuse. The FBI study, combined with this increase in rape crimes, and concerns over serial rapists prompted researchers to investigate this unnoticed area of criminality.

Three decades since the FBI study, research on sex offenders has significantly increased. Yet, research on serial sex offenders remains surprisingly limited and research comparing and contrasting differences between serial and non-serial sex offenders is nearly non-existent. Currently, the most comprehensive studies comparing serial and non-serial sex offenders focus exclusively on sexual murderers. James and Proulx (2014, 2016) conducted a systematic review of 45 empirical articles on serial sexual murderers (SSMs) and non-serial sexual murderers (NSSMs). Using this information, they published two comparative studies, one on developmental and psychological profiles and another on the modus operandi of these offenders. Similarly, Chan, Beauregard, and Myers (2015) examined SSM and NSSM differences in crime scene characteristics, personality disorders, and paraphilias.

The SSM is an offender who has low self-esteem, is socially isolated and motivated by sexual deviance. These offenders take their aggression against women and feelings of inferiority out on their victims, who has specific characteristics to match their fantasies. Controlling the victim provides desired feelings of power, control, an excitement. However, because of situational factors their crimes never fully match their

fantasies. The authors hypothesize that the lack of satisfaction from the event not matching their fantasies and receiving positive feelings of power and sexual gratification from the offence, cause these offenders to recidivate (James & Proulx, 2014, 2016). Accordingly, Chan and colleagues (2015) also found SSMs to engage in victim selection, have deviant sexual interests, and humiliate their victim.

Comparatively, the NSSM offends as a result of antisocial, dependent, borderline, and psychopathic personality traits. This leads to an increased sense of superiority but also emotional oversensitivity. Due to this, these offenders tend to commit their sexual murders in acts of anger due to denied satisfaction or blow to their high sense of self, and usually while the offender is intoxicated. NSSMs tend to commit violent crimes throughout their development which escalate to an act of sexual murder (James & Proulx, 2014, 2016). However, in opposition to James and Proulx (2014, 2016), Chan et al. (2015) found SSMs to not significantly differ from NSSMs in any personality disorders besides presenting narcissistic, obsessive-compulsive, and schizoid personality traits.

The profiles of SSMs and NSSMs provide a better understanding of the serial/non-serial dichotomy. These profiles show that development, sexual life style and psychopathology can be predictive factors of a serial or non-serial sex offender. However, these profiles are for homicidal offenders who differ from those who engage in non-homicidal sex crimes. To this effect, there are only a few studies comparing serial sex offenders (SSOs) and non-serial sex offenders (NSSOs). Despite some studies finding differences between the two groups, the studies are not as comprehensive as those of James and Proulx (2014,2016) and all but one focus on crime scene behaviours.

Around the same time of the FBI studies, LeBeau (1987) evaluated the forensic awareness presented by at large sex offenders, serial sex offenders, and non-serial sex offenders. Finding that at large offenders avoid detection by keeping anonymity, offending against strangers, being inconsistent in their offending, and using the blitz attack method to reduce victim interaction. SSOs follow the same pattern however, LeBeau suggests they are caught due to re-offending in the same areas. While, NSSOs lose anonymity by offending against non-strangers or moving their victims (LeBeau, 1987).

In 2007, a study conducted by Baltieri and Andrade (2007) employed multiple screening tools to assess the alcohol and drug use, sex addiction, impulsivity, recidivism risk, and history of childhood sexual abuse, in a population of 198 adult sex offenders at a treatment facility in Brazil. Unlike the aforementioned studies, Baltieri and Andrade compared offenders with one victim, two victims, and three or more victims. Although there were minimal differences between the two-victim offender group compared to the non-serial and serial groups, the authors still found differences between serial and nonserial sex offenders. Specifically, serial sex offenders exhibited higher levels of impulsivity and were more likely to have experienced childhood sexual abuse. There were no significant differences between groups regarding substance use, sex addiction or risk of recidivism. However, the study suffered from a small sample size, with only 25 offenders with two victims and 24 offenders with three or more victims.

In a more extensive comparison between SSOs and NSSOs, Park et al. (2008) looked at differences in crime scene behaviours, focusing on violence, interpersonal behaviours, and criminal sophistication. The results indicated significant differences between SSOs and NSSOs about their levels of violence used, interpersonal behaviours, and forensic awareness. Primarily, SSOs displayed more forensic awareness, dissuade victim resistance more often, use more violence, and complete the act of rape more frequently than the NSSOs. However, NSSOs were more likely to be verbally threatening than the SSOs. Similar to the previous study, the sample of this study was small, consisting of only 22 SSOs and 22 NSSOs and was non-random; cases were selected specifically for the study.

Corovic, Christianson, and Bergman (2012) also evaluated variances in crime scene actions to differentiate behaviours and better predict rapist types. Distinguishing their study from others, the authors compared the single-victim assault of the NSSO to the first and second rapes by SSOs. Similar to Park and colleagues (2008), the authors found numerous significant differences between offender groups and their crime scene behaviours. Specifically, SSOs were more likely to be criminally experienced, show forensic awareness, successfully control their victim, and steal from the victim. While NSSOs were more likely to have been intoxicated during the offence and engage in interpersonal behaviours such as kissing the victim and inviting victim participation. The authors refer to Canter's (2000) model of transaction to explain the interpersonal

behaviours presented by NSSOs. Canter (1995), as cited in Canter (2000) explains that victims may be assigned one of three 'roles'. (1) an object, (2) a vehicle, and (3) a person. Canter categorizes interpersonal behaviours as the offenders having their victims play the role of a person; where they attempt to have some form of relationship and "pseudo-intimacy" with their victim, implying that those who engage in interpersonal behaviours view their victims as people; while serial offenders may more so view their victims as objects for their use or vehicles for an outlet (Canter, 2000).

In 2014 another comparative SSO study focusing on stranger rapes was conducted by Slater, Woodhams, and Hamilton-Giachritsis. This study analyzed distinctions between SSOs and NSSOs crime scene behaviours, more specifically, control over victim, sexual acts during offence, escape/detection avoidance and 'style'. While the authors found differences between offender groups, the majority of the results were insignificant after statistical corrections and suffered from a small sample size. Only two variables remained significant after conducting a Benjamini-Hochberg correction: SSOs were more likely to use solicitation as a tactic to approach the victim, and they were more likely to have victims who were sex workers compared to NSSOs.

Finally, and most recently, Sea and colleagues (2016) utilized cluster analysis to identify offender types within a sample of both serial and non-serial sex offenders in Korea. The analysis resulted in six clusters, three SSO clusters and three NSSO clusters. The SSO clusters consist of the *Housebreaking robbery-rape* cluster (13.5%), the *Outdoors rape* cluster (2.7%), and the *Impulsive outdoor robbery-rape* cluster (14.4%). The NSSO clusters consisted of the *Planned housebreaking robbery-rape* cluster (10.8%), the *Sex aroused house breaking rape* cluster (17.1%) and the *Outdoor minority rape* cluster (41.4%). These results suggest that both SSOs and NSSOs engage in break-ins, robbery, weapon use, aggressive control, substance use and psychopathologies (Sea et al., 2016). Although, the study only provided differences between clusters, not all serial and all non-serial offenders in the sample; it can be seen that SSOs reported paraphilic interests at higher rates. All SSO groups had significantly higher occurrences of paraphilias than the NSSO groups.

The above comparative studies hold that serial and non-serial sex offenders are not simply one homogeneous group of sexual offenders, but that they differ in their crime

scene behaviours, victim selection, modus operandi, and forensic awareness. Although limited comparative studies are available, a number of studies have looked at serial sex offenders in a non-comparative light.

2.3. Crime Characteristics

2.3.1. Criminal Career

Although SSOs commit multiple sexual offences, it is not necessarily their only criminal activity. In their sample of 22 serial and 22 non-serial sex offenders, Park et al. (2008) found 68% of the SSOs in their sample had an arrest history unrelated to sexual offences. However, there was a higher presence of criminal versatility amongst the NSSOs in the sample (81.8%).

Applying the criminal career approach to a sample of serial sex offenders, Deslauriers-Varin and Beauregard (2014) analyzed the consistency in offending series of serial sex offenders and they found that serial sex offenders were not homogeneous in their patterns but were better represented by four subgroups: (1) The *typical* offender: few victims in a short series, (2) the *explosive* offender: many victims in a short series, (3) the *opportunistic* offender: few victims over a long series, and (4) the *chronic* offender: many victims over a long series (Deslauriers-Varin & Beauregard, 2014). Similarly, Lussier, Bouchard, and Beauregard (2011) explained two types of “productive” SSOs: the *successful offender* and the *high-risk offender*. Both are serial; however, the *successful* offender has a low number of victims but a high number of criminal events. These SSOs offend many times against individual victim(s), lowering their chance of detection. The *high-risk* offender has less criminal events and a high number of victims, making him a greater target for police detection.

Creating subgroups for serial sex offenders can assist in criminal investigations through crime linkage because SSOs tend to be consistent in multiple aspects of their crime series (Deslauriers-Varin & Beauregard, 2013; Harbers et al., 2012; Hazelwood & Warren, 1989; Hewitt & Beauregard, 2014). Moreover, SSOs with a longer crime series are shown to become more consistent over time (Harbers et al., 2012). The gained

experience can allow serial offenders to find the *modus operandi* that works best for them and consistently use this approach throughout their offending series.

2.3.2. Modus Operandi

Most of the literature about serial sex offenders focuses on their *modus operandi*. More specifically, the offenders behaviours, actions, and way of committing their offences. These studies are aimed toward assisting crime-linkage and criminal profiling efforts, to better understand and apprehend sex offenders. This requires understanding of the offence context; including occurrences before, during, and after the crime, as well as victim selection patterns.

Pre-crime. Instances before the offence are of significant importance as behaviours leading up to the crime can differentiate offenders by their approach. This information includes premeditation, state before the offence (i.e. intoxication, mental state), the offender's victim-search methods, choice of environment, and victim selection. A number of authors have taken this information and used it to create subtypes or *typologies*, of the different ways in which serial sex offenders commit their crimes (Beauregard, Proulx, Rossmo, Leclerc & Allaire, 2007; Deslauriers-Varin & Beauregard, 2014; Hewitt, Beauregard, & Davies, 2016; Kocsis, Cooksey, & Irwin, 2002; Sea, Kim, & Youngs, 2016; Ward & Hudson, 1998). Differentiating and understanding the consistency of these patterns can assist in crime linkage, criminal profiling, and investigations.

In 1997, Rossmo conceptualized four hunting patterns of serial murderers: the *hunter*, *poacher*, *troller*, and *trapper*, which were used to describe the methods by which a serial murderer searched for their victims. He also suggested three attack patterns: the *stalker*, *raptor*, and *ambusher*, used to identify the three ways in which serial murderers initiate the offence (Rossmo 1997, 2000). Beauregard, Proulx, Rossmo, Leclerc, and Allaire (2007) applied this form of categorization to serial sex offenders and developed three hunting process scripts: *coercive*, *manipulative*, and *non-persuasive*. In 2016 Hewitt, Beauregard, and Davies used latent class analysis with a sample of serial sex offenders to develop what could be considered a hybrid between the two subsets of typologies. The analysis resulted in six subgroups; four fitting the hunting methods theorized by Rossmo (1997) (retitled the *environmentally static hunter*, *risky poacher*,

selective troller, and the *place specific trapper*) and two additional victim search methods (labeled the *indiscriminate opportunist* and the *walking prowler*) (Hewitt et al., 2016).

The *environmentally static hunter* (9%) offended in specific and familiar locations because they are attracted to offending in a specific type of environment more so than against a specific type of victim. This location attraction was also suggested by Warren and colleagues 1998. The smallest subgroup in the sample was the *risky poacher* (7%), a highly detailed offender who increases his risk of apprehension by traveling to specific and unfamiliar locations in order to find a particular kind of victim. The *selective troller* was the second most common in the sample (24%). These offenders have fantasies about offending but wait for a chance to do so, as they are looking for a specific type of victim and do not seek out offending opportunities. Finally, the group of *place-specific trapper* (9%) primarily find their victims through their occupation and only offend in environments where they have the control (also known as the *ambusher* attack method; Rossmo, 1997).

The larger of the two, and the most prominent victim search method in the sample (32%) was that of the *indiscriminate opportunist*. These offenders rarely premeditate or seek out their crimes, but offend when the opportunity presents itself during their everyday lives (also referred to as premeditated opportunism) (Hewitt et al., 2016). Similar findings were reported by Lundrigan and Czarnomski (2006) and Beauregard, Rossmo, and Proulx (2007).

When adapted to SSOs half of the offenders were in subgroups that participated in structured premeditation, while the other half were opportunistic (Hewitt et al., 2016). Using a rational choice approach to the same sample, Beauregard and Leclerc (2007) found that although half of the sample engaged in premeditated opportunism, SSOs were still engaging in a cost/benefit analysis when offending. This characteristic has seemingly remained consistent over time, as the previous FBI study found most SSOs premeditated across their series, followed by impulsive or opportunistic offending (Hazelwood & Warren, 1990) and Kocsis et al. (2002) found premeditation to be one of an SSOs most common behaviours.

All victim search methods conceptualized by Hewitt et al. (2016) chose their victim due to their location. Similar findings have been reported by, Hazelwood and

Warren (1989) and Beauregard, Rossmo, and Proulx (2007). The significance of victim availability and location infers SSOs primarily look for victims who are easily accessible, vulnerable, or isolated (Beauregard, Rossmo, & Proulx, 2007; Hazelwood & Warren, 1989; Park et al., 2008).

Additionally, the majority of serial sex offenders appear to be consistent in their choice of victim search methods and environments (Deslauriers-Varin & Beauregard, 2013; Harbers et al., 2012; Hazelwood & Warren, 1989). Although, Deslauriers-Varin & Beauregard (2013), found serial sex offenders were geographically inconsistent when it comes to changing location during the offence. Almost half (41%) of serial sex offenders do not move their victims from the attack location to a crime location (Beauregard, Rossmo, & Proulx, 2007). However, Beauregard, Rossmo, and Proulx (2007) did find that 42% of SSOs in their sample changed their attack/approach method from one offence to another. Comparatively, SSOs are overall more likely to offend at outdoor and public locations than NSSOs (Lovell et al., 2017), especially in the instance of stranger victims (Beauregard, Rossmo, & Proulx, 2007; Park et al., 2008).

During crime. Once the offender has encountered their victim and initiated their offence with an attack or approach method, they need to maintain control in order to commit the offence. When serial sex offenders are compared to non-serial sex offenders, they appear to maintain control differently. SSOs are more likely than NSSOs to use a weapon, physical force, or make threats to maintain control of their victim (Corovic et al., 2012; Lovell et al., 2017). These methods of control have also been seen in SSOs by Beauregard, Rossmo, and Proulx (2007) and Hazelwood and Warren (1990). Moreover, Beauregard and Leclerc (2007) found SSOs used a weapon as a part of their MO 39% of the time, primarily as a way to force victim compliance. However, weapon use is shown to be inconsistent across a SSOs series (Harbers et al., 2012). Although most SSOs respond to victim resistance with the minimal force necessary (Hazelwood & Warren, 1990) some will use excessive force to regain control or to satisfy deviant sexual preferences (Beauregard & Leclerc, 2007). Interestingly, research has shown NSSO's to be more likely than SSOs to be violent, use physical force, and penetrate their victim. Yet, they were also more likely to engage in "interpersonal behaviours" with their victims, such as kissing and promoting victim participation

(Corovic et al., 2012; Park et al., 2008). Differentially, SSOs were more likely to gag their victim, complete the act of rape, and ask their victim questions (Park et al., 2008).

Yet, conclusively SSOs primarily appear to be versatile in the acts they commit during their offences; such as sexual behaviours, communication, control, and levels of aggression or violence. However, those who are sexually intrusive and use the most force tend to be the most consistent in their offence behaviours over their crime series (Hazelwood & Warren, 1990; Hazelwood et al., 1989; Hewitt & Beauregard, 2014; Warren et al., 1999). However, Hazelwood and Warren (1990) and Hewitt and Beauregard (2014) found a small number of SSOs steadily increase in level of force and violence used throughout their series. These offenders also offended against twice as many victims, were more likely to cause fatal injuries and engage in anal rape three times more often (Hazelwood & Warren, 1990; Hazelwood, Reboussin, and Warren, 1989).

Post Crime. Research discussing after-crime events typically focus on victim release methods and forensic awareness. After an offence has been 'completed' the offender may release the victim in various ways, However, some offences end and the victim is released due to the victim escaping or interruptions (Beauregard, Rossmo, & Proulx, 2007). Beauregard, Rossmo, and Proulx (2007) report that the majority of SSOs leave their victim where the offence took place (79%), some empathetic offenders will release the offender somewhere they can receive help (9%).

Additionally, Beauregard, Rossmo, and Proulx (2007) found a small number of SSOs will move the victim to a far-off location in hopes of avoiding detection (4%), similar to the findings of Hazelwood et al. (1989). Not only is this a victim release method but it also speaks to forensic awareness. Conclusively, SSOs more often present forensic awareness than NSSOs by remaining anonymous, selecting stranger victims, engaging in minimal interaction, and remaining inconsistent throughout their series (LeBeau, 1987). Also by planning the offence (Corovic et al., 2012), maintaining victim control, avoiding DNA detection (wearing gloves, condom), removing possible traces of DNA (wiping off surfaces), and eliminating evidence (Corovic et al., 2012; Park et al., 2008). Interestingly, LeBeau (1987), Park et al. (2008), and Corovic et al. (2012) all cited using a blitz attack style as an indication of forensic awareness because this method

quickly controls the victim and diminishes interpersonal interactions; making it more difficult for a victim to recognize or notice characteristics of the offender.

While much of the above information can be used to better understand the offending patterns, preferences, and methods of serial sex offenders, they are subject to discrepancy. As Beauregard, Rossmo, and Proux (2007) explain, situational and contextual features of an offence can cause change amongst any aspect of that crime. It is partly due to this inconsistency that the offender characteristics of serial sex offenders are crucial to any form of offender profiling, as aspects of the offender themselves are not subject to situational changes.

2.4. Offender Characteristics

Developmental factors. Throughout childhood and adolescence, an individual's behaviours, temperament, and experiences shape the development of their personality in adulthood, which remains relatively constant over the life course (Caspi & Roberts, 2001). Research on the development of sex offenders continually shows above average rates of adverse childhood experiences, such as family dysfunction, substance use, as well as psychological, physical, and sexual abuse (Dhawan & Marshall, 1996; Haapasalo & Kankkonen, 1997; Hazelwood & Warren, 1989,1990; Martin & Tardif, 2014; McCuish, Cale, & Corrado, 2017; Smallbone & Dadds, 2000, 2001; Ward, Hudson & Marshall, 1996; Way & Urbaniak, 2008). While this would imply that an offender's development likely influences their criminality, few researchers have looked specifically at the characteristics of serial sex offenders. Additionally, no research has compared SSOs and NSSOs in an attempt to possibly find differences influencing the likelihood of re-offending or becoming a serial sex offender (with the exclusion of James & Proulx (2014, 2016) and Chan et al. (2015) who compared serial and non-serial sexual murderers).

The FBI study conducted by Hazelwood and Warren (1989) was the first, and currently the only, study to assess the childhood development of serial sex offenders. Through their extensive analysis of 41 incarcerated SSOs Hazelwood & Warren (1989) assessed the childhood development and demographic, parental, and sexual experiences of each offender. First, Hazelwood & Warren (1989) learned that the

majority of SSOs in their sample appeared to be “normal” adults. Most came from middle to high class backgrounds, maintained a proper physical appearance, were employed and intelligent. However, the authors note that abnormalities present in the childhood and adolescent development of these offenders. When looking at parental relationships, less than half reported a positive relationship with either parent. Additionally, 33% reported negative relationships with their mother and 57% reported negative relationships with their father (Hazelwood & Warren, 1989). The same sample also presented high rates of parental alcoholism (McCormack et al., 1992). These adverse parental relationships are likely associated with the correspondingly high proportion of childhood abuse within the sample. While a modest number reported experiencing physical abuse (30%), a significant portion (73%) reported experiencing psychological abuse, and an alarming number (76%) reported experiencing sexual trauma (discussed further in *sexual development* below) (Hazelwood & Warren, 1989). This sample was then compared based on groupings of increasers and non-increasers, Hazelwood and colleagues (1989) found increasers in the sample did not differ from non-increasers on demographic or developmental experiences.

When looking at deviance and criminal behaviour in childhood and adolescence, Hazelwood and Warren (1989) found that the majority of SSOs had engaged in juvenile criminal behaviour; primarily, robbery, break-and-enters, and assault. Moreover, these offenders also exhibited high rates of alcohol abuse, chronic lying, hyperactivity, and temper-tantrums in childhood.

Currently, the work of Hazelwood and Warren with the FBI is the only study to assess the development of serial sex offenders. This overlooked component of the literature is necessary to understand serial sex offending, as research has continually shown, across varying designs and samples, that maltreated children are more likely to engage in delinquent and violent behaviours (Widom, 2017). Moreover, Levenson and Socia (2016) found that higher rates of childhood sexual victimization, emotional neglect and domestic violence in the home lead to sex offenders having a higher number of arrest for sexually related crimes.

Sexual development. Offender focused research on sexual crimes has found that sexual development may influence the nature of a perpetrators sexual offences

(Beauregard, Lussier, & Proulx, 2004; Reckenwald, Mancini, & Beauregard, 2014). Adverse sexual experiences in childhood and adolescence do not cause sex offending, however, inappropriate sexual experiences as a youth can influence an offender's deviant sexual interests (Beauregard, Lussier, & Proulx, 2004; Burgess et al., 1988; Knight & Sims-Knight, 2003; Lee, Jackson, Pattison, & Ward, 2001). Interestingly both adolescent (McCuish et al., 2017; Seto & Lalumiere, 2010; Wanklyn, Ward, Cormier, Day, & Newman, 2012) and adult (Dhawan & Marshall, 1996; Haapasalo & Kankkonen, 1997; Hazelwood & Warren, 1989, 1999; Jespersen, Lalumiere, & Seto, 2009) sexual offenders are more likely to have been a victim of sexual abuse as a child than non-sex offenders.

Additionally, the *sexually abused-sexual abuser* hypothesis, attempts to explain the high rates of sexual abuse in the childhoods of sex offenders. This hypothesis proposes that men who were sexually abused as children are significantly more likely to become sexual abusers in adulthood, as the childhood abuse conditioned the offender to these acts through sexual stimulus (Burgess et al., 1988; Burton, 2003). Indicating a relation to the sexual "victim to offender" or "victim to abuser" cycle, which is hypothesized to occur when pleasure is associated with the abuse, masturbation and deviant sexual fantasies can further the association of sexual violence with pleasure, or when emotional comfort is associated with the abuse and abuser (Beauregard et al., 2004; Lambie et al., 2002; Thomas and Fremouw, 2009). It has also been hypothesized that childhood sexual abuse from parents who are aggressive may create an inappropriate connection for the victim between aggression and sex, causing future sexual violence (Marshall & Barbaree, 1990).

Childhood and adolescent sexual trauma experienced by SSOs were assessed by Hazelwood and Warren (1989), their evaluation revealing high rates of exposure to sexually inappropriate behaviours and situations, such as witnessing sexual violence, parental/familial sexual activity, sexually stressful situations, and sexual abuse. Only 24.4% of the sample could not recall any sexually abusive experiences in childhood or adolescence (Hazelwood & Warren, 1989; Burgess et al., 1988). Additionally, the most violent of these behaviours were primarily perpetrated by familial males (Burgess et al., 1988). Comparatively, SSOs also exhibit higher rates of childhood sexual abuse than NSSOs (Baltieri & Andrade, 2007). Researchers have hypothesized that for some,

experiencing childhood sexual abuse can cause reenactment and repetition of abuse behaviours due to normalizing unhealthy sexual behaviours, social learning and modelling (Beauregard et al., 2004; Burgess et al., 1988; Knight & Sims-Knight, 2003; McCormack et al., 1992).

Sexual Lifestyle. Engaging in deviant sexual fantasies is a common sexual behaviour of both those who engage in criminal activity and those who do not. However, a minority of individuals will progress from deviant sexual fantasy to physically engaging in deviant and coercive sexual activity (Carabellese, Maniglio, Greco, & Catanesi, 2011; Hazelwood & Warren, 1995; Leitenberg & Henning, 1995). While deviant sexual fantasies may not be the cause of sexual offending, the degree to which specific individuals experience and engage in sadistic behaviours, could distinguish those who simply engage in fantasies and from those who are willing to act on them (Woodworth, Freimuth, Hutton, Carpenter, Agar, & Logan, 2013).

Concentrating on serial crime, Kocsis and Irwin (1998) explain that while sexual deviancy in sexual crimes is apparent, the motivation behind these interests are not. However, it is widely supported that a SSOs deviant sexual fantasies serve as a planning function, where ideal sadistic fantasies are then enacted in reality and the behaviours within the offence are a part of their paraphilic interests, differing between offenders (Hazelwood & Warren, 1995; Kocsis & Irwin, 1989; Woodworth et al., 2013). Deviant sexual fantasies may not be enough to sustain some individuals, who then offend against victims to physically engage in their paraphilic preferences, suggesting that fantasies may work as a motivator, leading to behaviours through offending (Chan et al., 2015; Leitenberg & Henning, 1995; Prentky, Burgess, Rokous, Lee, Hartman, & Ressler, 1989). This was further confirmed by Woodworth and colleagues (2013) who assessed “high-risk offenders” (serial or deemed high-risk to re-offend) and found that components of their fantasies were present in their offences, such as violent fantasies and violent offences, as well as pedophilic fantasies and pedophilic offences.

These particular erotic preferences are a product of paraphilic interests. Paraphilias are specific atypical sexual attractions, those identified in the Diagnostic and Statistical Manual of Mental Disorders (DSM) are intense, chronic, cause distress, may harm others, and generally receive societal disapproval (American Psychiatric

Association, 2013). Most sex offenders will exhibit more than one sexual paraphilia; however, one commonly dominates the others (Abel, Becker, Cunningham-Rathner, Mittelman & Rouleau, 1988). When assessing the paraphilic interests of SSOs, Hazelwood and Warren (1989) found that many reported engaging in *fetishism* (specific sexual fixation on non-genital body parts or inanimate objects) and cross-dressing, more commonly referred to as the paraphilia *transvestism* (American Psychiatric Association, 2013). The authors also reported that SSOs presented high rates of other atypical erotic behaviours, such as indecent phone calls, bondage, prostituting, pimping, and compulsive masturbation (Hazelwood & Warren, 1989). As this study was 30 years ago, the authors did not account for the remaining six paraphilias (they accounted for fetishism and transvestism) identified by the most recent edition of the DSM in 2013, the DSM-5: *voyeurism* (spying on unsuspecting persons), *exhibitionism* (exposing genitals to unsuspecting persons), *frotteurism* (rubbing or touching an unsuspecting person), *sexual masochism* (personally being humiliated, made to suffer, or harmed), *sexual sadism* (humiliating, harming or the suffering of other persons), and *pedophilia* (pre-pubescent children) (American Psychiatric Association, 2013).

Furthermore, the most prevalent paraphilia reported by SSOs in the sample assessed by Sea and colleagues (2016) was sexual sadism (62.5%); present in all three SSO clusters. Followed by voyeurism (46.7%), pedophilia (18.8%), and exhibitionism (6.3%) (Sea et al., 2016). However, it should be noted that similar to the SSO assessment by Hazelwood and Warren (1989) this study also did not include all DSM-5 paraphilias. The authors assessed what they called “peculiar sexual habits”, which included the paraphilias listed above but not all. Additionally, they reported behaviours such as homosexuality as a “peculiar sexual habit” which is no longer considered a paraphilia in North America. As this study was conducted in Korea and used a Korean sample, these discrepancies are likely due to cultural differences.

Interestingly, no other studies have evaluated distinctions in the paraphilic disorders of serial and non-serial sex offenders; even though they are a substantial component of re-offending, treatment, and sentencing. Serial sex offenders experiencing higher rates of deviant sexual fantasies and paraphilias aligns with recidivism research, which suggests that these sexual interests increase the likelihood of reoffending and number of victims (Hanson & Morton-Bourgon, 2005; Hazelwood, Reboussin, & Warren,

1989). These attractions also remain consistent and chronic over time (Hazelwood & Warren, 1995). Accordingly, deviant sexual preferences are a fundamental consideration when designating an offender as a Long-Term Offender (LTO) or a Dangerous Offender, in Canada (Woodworth et al., 2013).

Psychopathology. The presence or absence of psychopathologies is an integral component of an individual's profile, especially in regard to criminality and serial offenders. Sex offenders, both serial and non-serial, have a high prevalence of mental disorders (Ahmmeyer, Kleinsasser, Stoner, & Retzlaff, 2003; Harsch, Bergk, Steinert, Keller, & Jockusch, 2006; Leue, Borchard, & Hoyer, 2004; Sea et al., 2016). However, studies have found an array of prevalent disorders within the sex offender population, making it difficult to determine any mental disorders that are definitely characteristic. However, in a review of recidivism literature, Hanson and Morton-Bourgon (2005) did find that antisocial personality disorder (or traits), as well as deviant sexual preferences, to be the two most significant predictors of sex offender recidivism.

Accordingly, when differentiating offender types by cluster analysis, Sea and colleagues (2016) found all three SSO clusters, from their Korean sample, presented antisocial personality disorder, compared to two out of three NSSO clusters. Additionally, numerically SSOs overall more often presented antisocial personality traits than NSSOs. SSOs also more often displayed aggression and anxiety disorders, while borderline personality disorder, depression, and substance abuse were more prevalent among NSSOs. Other personality traits such as impulsivity and lack of empathy were also higher for SSOs than NSSOs (Sea et al., 2016). Interestingly, similar findings of impulsivity in SSOs were found by Baltieri and Andrade (2007) in Brazil, as well as Beaugard and Leclerc (2007) in Canada.

It is evident that psychiatric disorders and personality traits are a significant component of the profile of sex offenders in general, however it can also be inferred that psychopathology is also a significant dimension, and possible motivator, of serial sex offending as SSOs and NSSOs appear to present differing psychological profiles. However, there is not enough research to generalize findings to the full population of sex offenders.

Chapter 3. Current Study

The area of SSO research is flooded by crime scene, modus operandi, victim selection, and criminal career research. Albeit important, the majority of these studies do not compare serial sex offenders to non-serial. Moreover, the current literature predominantly ignores the importance of personal characteristics and behaviours in this offender population. So much so that in the large and comprehensive field of sex offender literature, no study has looked at the personality differences between serial and non-serial sex offenders, with the exclusion of James and Proulx (2014) and Chan et al. (2015) who looked at the differences of serial and non-serial sexual murderers. While some studies suggest that rapists and sexual murderers are similar (e.g., Oliver, Beech, Fisher & Beckett, 2007), SSMs are rare and the outcome of the crime is unusual, and therefore do not provide a full understanding of a serial sex offender.

Additionally, crime scene behaviours, modus operandi, and victim selection change throughout a crime series due to environmental, confounding, and unseen variables (Beauregard, Rossmo, & Proulx, 2007). Yet, an individual's characteristics remain principally consistent over their life course (Caspi & Roberts, 2001). Therefore, the consistent component of serial sex offenders is not their offences per se but their characteristics. Moreover, this is likely what may partially distinguish serial sex offenders from those who do not re-offend.

Therefore, the current study seeks to expand this body of literature by focusing on the personalities of SSOs and NSSOs through two specific research aims. The first is to examine whether there are differences in personal characteristics between SSO's and NSSO's, and if there are, in what areas of their personality? This will be explored through bivariate analyses, followed by binary logistic regression analyses, of multiple factors relating to each offender's development, sexual development, adult sexual life style, and psychopathologies. The second research aim is to determine if a profile can be formed from differences found between the two offender groups. These profiles will be constructed based on predictive factors found within the binary logistic regression analyses. Similar to studies comparing serial and non-serial sexual murderers (James & Proulx, 2014,2016; Chan et al., 2015) we hypothesize that SSOs and NSSOs will present differing predictive characteristics in all examined components (developmental,

sexual development, sexual lifestyle and psychopathological factors) and that these predictive features will allow for a distinct profile of a serial and a non-serial sex offender.

Chapter 4. Method

4.1. Sample

The sample for this study consisted exclusively of adult men, convicted of an indictable sexual offence, in Quebec, Canada, between the years of April 1994 and June 2005. 93% of offenders ($n = 624$) voluntarily consented to participate in the research project. Data collection was conducted at a Canadian Correctional Services run, maximum-security facility, using semi-structured interviews and the Computerized Questionnaire for Sexual Aggressors (Proulx, St-Yves, & Mckibben, 1994). Response reliability testing was maintained through the use of cross-referencing inconsistencies or discrepancies with official documentation in correctional files, such as police records, victim statements, and institutional casefiles.

The portion of this data used for this analysis consisted of 553 offenders. 20 cases were removed from the sample, due to missing values, creating a final sample of $n=533$ male sex offenders. Select variables from the database and all 533 offender cases were included in this study.

4.2. Measures

Dependent Variable: The current study aims to uncover predictive factors of being a serial or non-serial sex offender. To assess the differing motivations of sex offenders, specifically the motivation to reoffend, a dichotomous variable of serial and non-serial offenders is used as the dependent variable. This variable, *type of offender*, was coded as 0 (non-serial) or 1 (serial). Offenders were coded based on their number of convictions; this number placed them as either a non-serial offender (1 conviction) or a serial offender (2 or more convictions). Although other studies have coded serial offenders having had 3 or more victims (James & Proulx, 2014; James & Proulx, in press), this study uses two or more victims to identify a serial offender, as they consciously decided to commit a sexual offence for a second time, which may indicate a positive experience in their first offence, creating a desire to re-offend.

Independent variables: Developmental factors. As the present study is exploratory a total of 19 developmental variables were used to assess multiple developmental factors, as research has shown various childhood and adolescent behaviours/exposures are experienced at a higher rate for sex offenders, specifically those that are atypical (Lussier, LeBlanc and Proulx, 2005; Seto & Lalumiere 2010), such as serial sexual murderers (James and Proulx, 2014). All developmental variables were coded dichotomously (0=no, 1=yes). Fifteen developmental factors were included: (1) social isolation in childhood, (2) social isolation in adolescence, (3) social isolation in adulthood, (4) rebellious attitude in childhood, (5) rebellious attitude in adolescence, (6) rebellious attitude in adulthood, (7) poor-self-image in childhood, (8) poor self-image in adolescence, (9) poor self-image in adulthood, (10) dangerous behaviours in childhood, (11) dangerous behaviours in adolescence, (12) dangerous behaviours in adulthood, (13) self-mutilation in childhood, (14) self-mutilation in adolescence, and (15) self-mutilation in adulthood. These variables were measured at childhood, adolescence and adulthood, each their own dichotomous variable; in order to better understand development through the life course. Additionally, 4 variables were used to measure exposure to inappropriate behaviours before the age of 18: (a) excessive alcohol consumption, (b) excessive drug consumption, (c) psychological violence, and (d) physical violence. Developmental progression is generally considered an individual's progression through childhood and adolescence, ending at adulthood. However, evidence suggests that while behaviour, temperament, and experience through these life stages can influence individual development, changes in development continue into adulthood (Caspi & Roberts, 2001). It is for this reason that adulthood is included in the analysis of development.

Independent variables: Sexual development. When assessing development of sex offenders, it is important to consider their sexual development, as research presents evidence to suggest deviant sexual interests of sex offenders begins in youth (Beauregard et al., 2004; Myers, Chan, Vo, & Lazarou, 2010; Seto & Lalumiere, 2010). To measure this, variables used to assess sexual development focus on adverse behaviours and interests as opposed to indicators of common sexual development. The current study includes 10 variables concerning adverse sexual development, again all with dichotomous coding (0=no, 1=yes). Two variables measure masturbation behaviour: (1) compulsive masturbation during childhood and (2) compulsive masturbation during

adolescence. All paraphilias experienced by offenders as a juvenile were combined to form a single variable: juvenile paraphilias. The paraphilias included in this variable were: coprophilia, fetishism, partial fetishism, masochism, sadism, transvestism, urophilia, and zoophilia. This variable was then coded (0= no juvenile paraphilias, 1= one or more juvenile paraphilias).

Furthermore, a significant number of studies have shown sex offenders have been exposed to (Beauregard et al., 2004), or a victim of sexual abuse before adulthood (McCuish et al., 2017; Seto & Lalumiere, 2010; Wanklyn, 2012). In order to assess this in our sample we used four variables measuring exposure before the age of 18 to inappropriate models of sexual behaviours: (1) sexual promiscuity, (2) pedophilic or hebephilic sexual abuse, (3) sexual attack on adult women, and (4) incest. This is followed by variables measuring the offender's sexual victimization before the age of 18: (1) victim of incest, and (2) victim of sexual abuse.

Independent variables: Sexual Lifestyle. Variables relating to an offender's sexual lifestyle were separated from the developmental factors in order to assess adult sexual interests and behaviours; as sex offenders and SSMs have been found to exhibit high rates of deviant sexual preferences (Chan et al., 2015; James & Proulx, 2014; Prentky et al., 1989), paraphilic interests (Chan et al., 2015; James & Proulx, 2014; Myers et al, 2010; Prentky et al., 1989) and compulsive masturbation (James & Proulx, 2014). All variables were recoded dichotomously (0=no, 1=yes). This analysis consisted of one variable measuring behaviour: compulsive masturbation in adulthood. Four variables were used to assess the offender's perception of their personal sex life as being: (a) unsatisfied, (b) moderately satisfied, (c) satisfied, and (d) entirely satisfied. Finally, we measured adverse sexual interests in adulthood using eight variables. All sexual paraphilias in the dataset were re-coded to a combined dichotomised variable measuring 0= no paraphilic interests, 1= one or more paraphilic interests. The paraphilias included in this combined variable are: coprophilia, fetishism, partial fetishism, masochism, sadism, transvestism, urophilia, zoophilia, exhibitionism, frotteurism, voyeurism, telephone scatologia, necrophilia, and klismaphilia.

Six non-specified paraphilias, focusing on age attraction, were separated from this recoding because they are non-specified and are specific to an attraction to a 'type'

of person as opposed to an activity: (a) rape, (b) heterosexual pedophilia, (c) homosexual pedophilia, (d) pedophilia restricted to incest or pseudo incest, (e) heterosexual hebephilia, and (f) homosexual hebephilia. Lastly, deviant sexual fantasies were measured using a single dichotomous variable.

Independent variables: Psychopathology. To develop a full profile of serial and non-serial sex offenders it was important to include offender psychopathology, as current research suggests sex offenders have a high prevalence of disordered personality traits, which differ between serial and non-serial murderers (Chan et al., 2015; Harbot & Mokros, 2001; James & Proulx, 2014). Ten mental disorder variables were dichotomized to (0=no, 1=traits of disorder, or diagnosis of disorder) and only disorders with >10% prevalence in the sample were included to increase statistical power. Axis I disorders included are: (a) obsessive compulsive, (b) generalized anxiety, and (c) schizophrenia. Axis II personality disorders included are: (a) paranoid, (b) borderline, (c) histrionic, (d) narcissistic, (e) avoidant and (f) dependent. Finally, we included four non-specified personality traits/disorders: (a) passive aggressive, (b) impulsive, (c) immature, and (d) sadistic. One dichotomous (0=no, 1=yes) variable assessing suicide was included as an assessment of depression : (a) offender has previously attempted suicide, was included.

4.3. Analytic Strategy

First, an exploratory bivariate analysis was conducted by assessing all independent variables against the dependent variable, using chi-square analyses. Only statistically significant variables were then included in analyses at the multivariate level. The second step of analysis consisted of four binary logistic regression analyses using each independent variable group (developmental factors, sexual development, sexual lifestyle, and psychopathology). All binary logistic regressions followed a sequential integration of variables in order to create multiple hierarchical models within each analysis. Each final model consisted of all variables within the independent variable groups. All analyses were performed using SPSS 24.

Chapter 5. Results

We first conducted a bivariate analysis of relationships between offender type and indicators of development, sexual development, sexual lifestyle, and psychopathology. Table 1 presents the 56 variables analyzed using chi-square analysis, 43 of which were statistically significant or approaching significance. To attain the best models and assess all relevant variables in the second level of analysis, any indicator variable below $p < 0.15$ was considered as approaching significance, as seen in (Reale, Beauregard & Martineau, 2017).

At the bivariate level, developmentally, serial sex offenders within this sample were more likely to experience social isolation, have a rebellious attitude, poor selfimage, engage in dangerous behaviours, and engage in compulsive masturbation as a child, adolescent and adult, when compared to non-serial offenders. However, dangerous behaviours in adolescence and self-mutilation during childhood are only approaching significance. SSOs are also more likely to engage in self-mutilation in childhood and adulthood. Additionally, before the age of 18, SSOs had more often been exposed to models of psychological violence, physical violence, sexual promiscuity, pedophilia or hebephilic sexual abuse, and incest compared to NSSOs; as well as victims of incest and sexual abuse. SSOs have also more often been exposed to models of excessive alcohol consumption and sexual attack(s) on women before the age of 18 than NSSOS, however only approaching significance.

Table 5.1 Bivariate associations between predictors and offender type

	Non-Serial % (N=364)	Serial % (N=169)	Total % (N=533)	Phi
Developmental Variables				
Social Isolation during childhood	28.0 (102)	47.3 (80)	34.1 (182)	.190***
Social Isolation during adolescence	30.2 (110)	50.3 (85)	36.6 (195)	.194***
Social Isolation during adulthood	34.1 (124)	50.3 (85)	39.2 (209)	.155***
Rebellious attitude during childhood	17.0 (62)	26.6 (45)	20.1 (107)	.111**
Rebellious attitude during adolescence	34.3 (125)	43.2 (73)	37.1 (198)	.085*
Rebellious attitude during adulthood	24.5 (89)	35.5 (60)	28.0 (149)	.115**
Poor self-image during childhood	23.9 (87)	42.0 (71)	29.6 (158)	.185***
Poor self-image during adolescence	33.5 (122)	52.7 (89)	39.6 (211)	.182***
Poor self-image during adulthood	37.9 (138)	55.0 (93)	43.3 (231)	.161***
Dangerous behaviours during childhood	3.3 (12)	9.5 (16)	5.3 (28)	.129**
Dangerous behaviours during adolescence	12.6 (46)	18.3 (31)	14.4 (77)	.76 †
Dangerous behaviours during adulthood	16.8 (61)	27.2 (46)	20.1 (107)	.122**
Self-mutilation during childhood	0.8 (3)	2.4 (4)	1.3 (7)	.063 †
Self-mutilation during adolescence	2.7 (10)	3.6 (6)	3.0 (16)	.022
Self-mutilation during adulthood	5.5 (20)	14.2 (24)	8.3 (44)	.147***
Compulsive masturbation during childhood	1.4 (5)	4.7 (8)	2.4 (13)	.101*
Compulsive masturbation during adolescence	14.6 (53)	24.9 (42)	17.8 (95)	.125**
Compulsive masturbation during adulthood	8.0 (29)	24.9 (42)	13.3 (71)	.231***
<i>Before the age of 18 the offender was exposed to models of:</i>				
Excessive alcohol consumption	53.6 (195)	61.5 (104)	56.1 (299)	.075 †
Excessive drug consumption	11.8 (43)	10.1 (17)	11.3 (60)	-.026
Psychological violence	47.8 (174)	60.9 (103)	52.0 (277)	.122**
Physical violence	42.0 (153)	55.6 (94)	46.3 (247)	.127**
Sexual promiscuity	4.9 (18)	9.5 (16)	6.4 (34)	.086*
Pedophilic or hebephilic sexual abuse	3.6 (13)	10.7 (18)	5.8 (31)	.141***
Sexual attack on adult women	1.4 (5)	3.6 (6)	2.1 (11)	.071 †
Incest	6.0 (22)	12.4 (21)	8.1 (43)	.109*
<i>Before the age of 18 the offender was a victim of:</i>				
Incest	8.8 (32)	15.4 (26)	10.9 (58)	.099*
Sexual assault	33.0 (120)	58.0 (98)	40.9 (218)	.237***
Adult Sex Life				
Deviant sexual fantasies	27.7 (101)	53.8 (91)	36.0 (192)	.253***
Juvenile Paraphilias	0.5 (2)	5.9 (10)	2.3 (12)	.168***

Sexual paraphilias	15.7 (57)	29.0 (49)	19.9 (106)	.155***
<i>Self-perception of personal sex life:</i>				
Unsatisfied	6.9 (25)	26.6 (45)	13.1 (70)	.272***
Moderately satisfied	21.7(79)	23.1 (39)	22.1 (118)	.015
Satisfied	44.0 (160)	33.7 (57)	40.7 (217)	-.097*
Entirely satisfied	25.8 (94)	13.0 (22)	21.8 (116)	-.144***
<i>Non-specified paraphilias:</i>				
Rape	27.2 (99)	28.4 (48)	27.6 (147)	.013
Heterosexual pedophilia	32.4 (118)	42.0 (71)	35.5 (189)	0.93*
Homosexual pedophilia	12.1 (44)	34.3 (58)	19.1 (102)	.263***
Heterosexual hebephilia	31.6 (115)	27.8 (47)	30.4 (162)	-.038
Homosexual hebephilia	8.8 (32)	17.2 (29)	11.4 (61)	.122**
Pedophilia restricted to incest or pseudo incest	26.9 (98)	14.2 (24)	22.9 (122)	-.141***
Mental Health:				
Offender has attempted suicide	28.6 (104)	45.0 (19.5)	33.8 (180)	.161***
<i>Personality Disorders:</i>				
Paranoid	6.9 (25)	5.9 (10)	6.6 (35)	-.018
Antisocial	31.6 (115)	39.1 (66)	34.0 (181)	.073 †
Borderline	11.3 (41)	23.1 (39)	15.0 (80)	.154***
Histrionic	2.2 (8)	1.2 (2)	1.9 (10)	-.035
Narcissistic	24.5 (89)	18.3 (31)	22.5 (120)	-.068 †
Avoidant	19.5 (71)	30.2 (51)	22.9 (122)	.118**
Dependent	47.5 (173)	50.9 (86)	48.6 (259)	.031
Obsessive compulsive	3.6 (13)	1.2 (2)	2.8 (15)	-.067 †
Generalized anxiety	0.5 (2)	1.8 (3)	0.9 (5)	.059
Schizophrenia	0.3 (1)	0.6 (1)	0.4 (2)	.024
<i>Non-specified personality disorders:</i>				
Passive aggressive	17.9 (65)	22.5 (38)	19.3 (103)	.055
Impulsive	19.0 (69)	20.7 (35)	19.5 (104)	.021
Immature	21.2 (77)	27.8 (47)	23.3 (124)	.073 †
Sadistic	3.6 (13)	1.8 (2.4)	3.0 (16)	-.049

† p < 0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

The bivariate analysis of sexual lifestyle variables indicated that SSOs are more likely to engage in deviant sexual fantasies and report being unsatisfied with their personal sex life compared to NSSOs. SSOs also more commonly reported experiencing paraphilias consisting of heterosexual pedophilia, homosexual pedophilia and homosexual hebephilia, and have experienced paraphilic attractions as a juvenile and as an adult than the NSSOs. However, heterosexual hebephilia was not a significant indicator of offender type. Conversely, NSSOs were more likely to report having a paraphilic interest in incest or pseudo incest.

Finally, the differences between offender type and psychopathology were assessed using various personality disorder variables and other indicators of mental health. SSOs were more likely to have a diagnosis of borderline and avoidant personality disorder than the NSSOs. Findings approaching significance indicate that SSOs are also more likely to present antisocial personality disorder and an immature personality, while NSSOs are more likely to present narcissistic and obsessive-compulsive personality disorders.

Bivariate analyses were followed by four binary logistic regression analyses used to predict offender type. These tables consisted of four categories: development, sexual development, sexual lifestyle, and psychopathology. As previously mentioned, in order to create the most inclusive and accurate to life models, all variables below $p < .15$ were included in the regression analyses.

Table 2 presents the results of the binary logistic regression using developmental factors to predict serial sex offending. Model 1 consists of developmental behaviours in childhood that were significant at the bivariate level. The model was significant ($X^2 = 33.717, p < .001$). As seen in bivariate analyses, childhood social isolation is a significant indicator of being a SSO ($\beta = .543, p < .05$), as well as childhood poor-self image ($\beta = .473, p < .05$). Within this model experiencing migraines during childhood was a marginally significant indicator of being a SSO ($\beta = .868, p < .10$). However, all other developmental behaviours during childhood were not significant at the multivariate level. Model 2 consists of all developmental behaviours during childhood and adolescence that were significant at the bivariate level. Once adolescent behaviours were introduced all variables became insignificant, although the model itself was significant ($X^2 = 39.592,$

$p < .001$). Model 3 was expanded by including all developmental factors throughout the life course by adding adulthood variables. However, all variables were not significant, despite the model itself being significant ($\chi^2 = 52.816$, $p < .001$). Finally, Model 4 assesses exposure to inappropriate models of alcohol consumption, psychological and physical violence, while taking into account developmental life course behaviours. This model was also significant ($\chi^2 = 53.737$, $p < .001$). Similar to Models 2 and 3, all developmental factors were not significant at the multivariate level. The correct classification percentage remains similar with a slight decrease from Model 3 (72.2%) to Model 4 (71.9%). The Nagelkerke pseudo R^2 steadily increases from Model 1 to Model 4.

Table 5.2 Logistic regression predicting offender type using developmental factors

	Model 1	Model 2	Model 3	Model 4
	B (SE) OR	B (SE) OR	B (SE) OR	B (SE) OR
Developmental Factors				
Social isolation during childhood	.543 (.215) 1.721*	1.68 (.345) 1.183	.111 (.356) 1.118	.109 (.357) 1.115
Rebellious attitude during childhood	.204 (.242) 1.226	.062 (.298) 1.064	.100 (.305) 1.106	.106 (.305) 1.112
Poor self-image during childhood	.473 (.224) 1.605*	.257 (.321) 1.293	.255 (.330) 1.290	.212 (.334) 1.236
Dangerous behaviours during childhood	.587 (.425) 1.799	.700 (.481) 2.013	.735 (.492) 2.086	.733 (.493) 2.082
Migraines during childhood	.868 (.492) 2.382†	.717 (.578) 2.049	.786 (.585) 2.195	.778 (.587) 2.178
Self-mutilation during childhood	.407 (.812) 1.502	.339 (.819) 1.403	-.164 (.863) .849	-.257 (.869) .773
Social isolation during adolescence		.453 (.334) 1.574	.416 (.374) 1.515	.401 (.374) 1.494
Rebellious attitude during adolescence		.227 (.253) 1.255	-.046 (.299) .955	-.087 (.304) .916
Poor self-image during adolescence		.290 (.299) 1.337	.099 (.327) 1.104	.127 (.329) 1.135
Dangerous behaviours during adolescence		-.217 (.330) .805	-.454 (.373) .635	-.430 (.375) .650
Migraines during adolescence		.323 (.369) 1.381	.082 (.393) 1.085	.085 (.395) 1.089
Social isolation during adulthood			-.031 (.269) .969	-.021 (.269) .980
Rebellious attitude during adulthood			.353 (.279) 1.423	.361 (.280) 1.434
Poor self-image during adulthood			.346 (.246) 1.413	.341 (.249) 1.406
Dangerous behaviours during adulthood			.410 (.280) 1.507	.384 (.283) 1.468
Migraines during adulthood			.311 (.235) 1.365	.278 (.240) 1.320
Self-mutilation during adulthood			.550 (.363) 1.733	.538 (.363) 1.712
<i>Before the age of 18 the offender had been exposed to models of:</i>				
Excessive alcohol consumption				.076 (.222) 1.079
Psychological violence				-.067 (.314) .935
Physical violence				.207 (.301) 1.230
Constant	-1.242 (.135) .289***	-1.398 (.160) .247***	-1.603 (.180) .201***	-1.676 (.209) .187***
X ₂ of model	33.717***	39.592***	52.816***	53.737***
% correct classification	70.2	70.5	72.2	71.9
Nagelkerke R ₂	.086	.100	.132	.134

† p < 0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

The second binary logistic regression analyses examined the predictability of offender type from sexual development factors (see Table 3). Model 1 specifically examines juvenile sexual interests, along with compulsive masturbation in childhood and adolescence. Findings for Model 1 suggest when all juvenile sexual interests are taken into account, compulsive masturbation in adolescence ($\beta = .489, p < 0.05$) and presence of juvenile paraphilia(s) ($\beta = 2.275, p < 0.01$) are indicators of a sex offender being serial. Model 2 encompasses both sexual interests and exposure to inappropriate models of a sexual nature before the age of 18. When these components are both accounted for compulsive masturbation in adolescence becomes not significant, while presence of juvenile paraphilic interests remains significant ($\beta = 2.415, p < 0.01$). Additionally, SSOs are more likely to have been exposed to models of pedophilia or hebephilic sexual abuse before the age of 18 ($\beta = 1.041, p < 0.01$). Finally, Model 3 takes sexual interests, inappropriate sexual exposure and sexual victimization into account. Findings show that presence of juvenile paraphilia(s) remains a significant indicator of a SSO ($\beta = 2.275, p < 0.01$). Similar to Model 2, exposure to models of pedophilic or hebephilic sexual abuse before the age of 18 remained a significant indicator of SSOs. Moreover, SSOs are significantly more likely to have been a victim of sexual assault before the age of 18 ($\beta = .849, p < 0.001$), however not a victim of incest. The models remained significant through Model 1 ($\chi^2 = 22.20, p < .001$), Model 2 ($\chi^2 = 38.079, p < .001$), and Model 3 ($\chi^2 = 55.585, p < .001$). The correct classification percentage remained consistent across all models (Model 1, 70%, Model 2, 71.5%, Model 3, 70.2%) and presented an increasing Nagelkerke pseudo R^2 score from Model 1 (5.7%) to Model 3 (13.9%).

A third binary logistic regression was conducted to assess the influence of an offender's sexual lifestyle on offender type (see Table 4). Similar to the previous analysis, Model 1 accounts for sexual interests. SSOs are more likely to engage in compulsive masturbation during adulthood ($\beta = 1.051, p < 0.001$) and experience deviant sexual fantasies ($\beta = .940, p < 0.001$), while a presence of sexual paraphilias was not significant. Model 2 sees the addition of sexual paraphilia(s); compulsive masturbation ($\beta = .966, p < 0.001$) and deviant sexual fantasies ($\beta = .888, p < 0.001$), remain significant, while sexual paraphilias was not significant within this model.

Table 5.3 Logistic regression predicting offender type using sexual development

	Model 1	Model 2	Model 3
	B (SE) OR	B (SE) OR	B (SE) OR
Sexual Development			
Compulsive masturbation in childhood	.930 (.608) 2.535	.968 (.617) 2.633	.722 (.633) 2.059
Compulsive masturbation in adolescence	.489 (.246) 1.631*	.383 (.253) 1.467	.249 (.259) 1.283
Juvenile Paraphilias	2.275 (.788) 9.727**	2.415 (.791) 11.186**	2.275 (.807) 9.726**
<i>Before 18 the offender was exposed to models of:</i>			
Sexual promiscuity		.565 (.381) 1.760	.384 (.397) 1.468
Pedophilic or hebephilic sexual abuse		1.041 (.391) 2.832**	.785 (.396) 2.193*
Sexual attack on adult woman		.795 (.634) 2.215	.402 (.642) 1.495
Incest		.395 (.351) 1.485	.373 (.408) 1.452
<i>Before 18 the offender was a victim of:</i>			
Incest			.237 (.370) 1.268
Sexual assault			.849 (.205) 2.337***
Constant	-0.937 (.107) .392***	-1.083 (.116) .339***	-1.418 (.149) .242***
X ₂ of model	22.20***	38.079***	55.585***
% correct classification	70.0	71.5	70.2
Nagelkerke R ₂	.057	.097	.139

† p < 0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

Model 3 incorporates specific non-specified paraphilias focusing on pedophilic or hebephilic interests. When sexual interests and these non-specified paraphilias were taken into account, compulsive masturbation in adulthood ($\beta = .939, p < 0.01$) and deviant sexual fantasies ($\beta = .645, p < 0.01$) remained significant indicators of being a SSO. Interestingly, this incorporation of non-specified paraphilias caused interests in sexual paraphilias to become an indicator of SSOs approaching significance ($\beta = .502, p < 0.10$). Results also show that SSOs are more likely to have heterosexual pedophilic interests ($\beta = 1.063, p < 0.001$) and homosexual pedophilic interests ($\beta = .925, p < 0.001$). Conversely, NSSOs are more likely to report pedophilic interests restricted to incest or pseudo incest ($\beta = -1.318, p < 0.001$). Finally Model 4 includes the new addition of an offender's self-perception of their personal sex life. When adult sexual interests, non-specified paraphilias and perception of sex life are all accounted for results indicate that compulsive masturbation in adulthood ($\beta = .852, p < 0.01$) and sexual paraphilias ($\beta = .625, p < 0.05$) are statistically significant indicators of a SSO. As presented in Model 1 and Model 2, SSOs are more likely to experience deviant sexual fantasies, however the significance in Model 4 is only marginal ($\beta = .456, p < 0.10$). Moreover, SSOs remain more likely to have heterosexual pedophilic interests ($\beta = 1.036, p < 0.001$) and homosexual pedophilic interests ($\beta = .821, p < 0.01$), as well as report being unsatisfied with their personal sex lives ($\beta = 1.145, p < 0.001$). All models remained significant throughout the analysis (Model 1, $\chi^2 = 48.284, p < .001$; Model 2, $\chi^2 = 50.443, p < .001$; Model 3, $\chi^2 = 96.820, p < .001$; Model 4, $\chi^2 = 115.993, p < .001$). Correct classification percentage increased from Model 1 and 2 (71.7%) to Model 3 (73.2%) and again for Model 4 (75.6%). Additionally, Nagelkerke pseudo R^2 scores also increased from Model 1 (12.1%) to Model 2 (12.7%) to Model 3 (23.3%) and through to the final model (27.4%).

Table 5.4 Logistic regression predicting offender type using sexual lifestyle

	Model 1	Model 2	Model 3	Model 4
	B (SE) OR	B (SE) OR	B (SE) OR	B (SE) OR
Sexual Lifestyle				
Compulsive masturbation during adulthood	1.051 (.274) 2.861***	.966 (.281) 2.627***	.939 (.299) 2.557**	.852 (.308) 2.369**
Deviant sexual fantasies	.940 (.201) 2.559***	.888 (.204) 2.430***	.645 (.223) 1.905**	.456 (.235) 1.578 †
Sexual paraphilia(s)		.362 (.244) 1.437	.502 (.257) 1.653 †	.625 (.265) 1.869*
<i>Non-Specified Paraphilias:</i>				
Heterosexual pedophilia			1.063 (.259) 2.895***	1.036 (.266) 2.817***
Homosexual pedophilia			.925 (.270) 2.521***	.821 (.279) 2.272**
Pedophilia restricted to incest or pseudo-incest			-1.318 (.310) .268***	-1.222 (.314) .295***
Homosexual hebephilia			.280 (.323) 1.323	.346 (.333) 1.413
<i>Self-perception of personal sex life:</i>				
Unsatisfied				1.145 (.347) 3.143***
Satisfied				.009 (.272) 1.009
Entirely satisfied				-.453 (.334) .636
Constant	-1.303 (.133) .272***	-1.346 (.137) .260***	-1.622 (.175) .197***	-1.637 (.272) .195***
X ₂ of model	48.284***	50.443***	96.820***	115.993***
% correct classification	71.7	71.7	73.2	75.6
Nagelkerke R ₂	.121	.127	.233	.274

† p < 0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

Finally, we conducted a binary logistic regression analysis to predict offender type using psychopathology variables that were significant at the bivariate level ($p < 0.15$) (see Table 5). Model 1 assesses previous suicide attempts only. Finding that SSOs are more likely than NSSOs to have attempted suicide ($\beta = -.714, p < 0.001$). Model 2 added the only significant non-specified personality disorder, at the bivariate level, immature personality. However, this was not statistically significant while suicide attempts remained significant indicators of an SSO ($\beta = .712, p < 0.001$). Lastly, for Model 3, five personality disorders were incorporated. When suicide attempts, immature personality and personality disorders are all considered SSOs are more likely to have previously attempted suicide ($\beta = .583, p < 0.01$), and have an immature personality ($\beta = .387, p < 0.10$), antisocial personality disorder ($\beta = .371, p < 0.10$), borderline personality disorder ($\beta = .781, p < 0.01$), and avoidant personality disorder ($\beta = .810, p < 0.001$). All models remained significant throughout the analysis (Model 1, $\chi^2 = 13.602, p < .001$; Model 2, $\chi^2 = 16.232, p < .001$; Model 3, $\chi^2 = 39.988, p < .001$). Furthermore, correct classification percentage increased throughout the analysis (Model 1, 68.3%; Model 2, 68.3%; Model 3, 70.5%) as did the Nagelkerke pseudo R^2 score from Model 1 (0.35%) to Model 3 (10.1%).

Table 5.5 Logistic regression predicting offender type using psychopathology

	Model 1	Model 2	Model 3
	B (SE) OR	B (SE) OR	B (SE) OR
Psychopathology			
Offender has attempted suicide	.714 (.193) 2.043***	.712 (.194) 2.037***	.583 (.203) 1.791**
Non-specified Personality Disorder: Immature		.355 (.217) 1.426	.387 (.224) 1.472 †
<i>Personality Disorders:</i>			
Antisocial			.371 (.212) 1.449 †
Borderline			.781 (.269) 2.184**
Narcissistic			-.127 (.250) .881
Avoidant			.810 (.236) 2.247***
Obsessive compulsive			-.847 (.784) .429
Constant	-1.028 (.121) .358***	-1.114 (.133) .328***	-1.490 (.192) .225***
X ₂ of model	13.602***	16.232***	39.988***
% correct classification	68.3	68.3	70.5
Nagelkerke R ₂	.035	.042	.101

† p < 0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

Chapter 6. Discussion

6.1. Differentiating SSOs from NSSOs

The first objective of this study was to determine whether SSOs and NSSOs differ as to their characteristics. More specifically, what features of their development, sexual development, sexual lifestyle and psychopathology are predictive of offender type. Predictive features were determined using bivariate analysis, followed by a series of binary logistic regression analyses to determine significance. As hypothesized, SSOs and NSSOs differed in varying psychosocial characteristics, however, contrary to our prediction, they did not differ in all categories measured.

As shown in our results, neither SSOs or NSSOs presented any statistically significant differences in developmental factors. This is interesting, as Hazelwood and Warren (1989) found SSOs exhibited high rates of adverse developmental experiences, such as parental alcoholism, physical and psychological abuse, as well as participation in juvenile criminality. The reason for this discrepancy may be due to statistical methods. Hazelwood and Warren (1989) reported rates of occurrence in a sample of only SSOs, while SSOs in our sample still presented high rates of adverse developmental behaviours and experiences, they were not statistically significant when compared to NSSOs. Our lack of significant findings also conflicts with research by Levenson and Socia (2016), which suggests that the more emotional neglect and domestic violence there is in the family home, the more arrests the offender was likely to have for sexually related crimes in adulthood. However, this difference may have occurred because our analysis utilized number of convictions as opposed to Levenson and Socia (2016) who employed number of arrests.

In agreement with our hypothesis, SSOs and NSSOs differed on factors of sexual development. However, significant findings were only predictor variables for SSOs. SSOs and NSSOs significantly differed on three main components of sexual development. First, SSOs were more likely to experience one or more juvenile paraphilias. Similarly, Seto and Lalumiere (2010) found that juvenile sex offenders have higher rates of atypical sexual attractions, including paraphilias and paraphilic interests when compared to juvenile non-sex offenders. Although, juvenile sex offenders are not

likely to reoffend as adolescents or adults (McCann & Lussier, 2008; Zimring, Piquero & Jennings, 2007), those that do re-offend would likely then be classified as a serial sex offender. As this study also showed a significant prevalence of paraphilias in adulthood for SSOs, it is likely that these paraphilic and deviant sexual interests began at a young age and continue into adulthood.

Additionally, the present study found SSOs are more likely to have been exposed to, or a victim of, pedophilic or hebephilic sexual abuse before the age of 18. Specifically, before the age of 18, SSOs were significantly more likely than NSSOs to have been a victim of sexual abuse and to have been exposed to models of pedophilic or hebephilic sexual abuse. This finding supports a magnitude of other studies that have found high rates of childhood sexual abuse amongst sex offenders (Jespersen et al., 2009; McCuish et al., 2017; Seto & Lalumiere, 2010; Wanklyn, 2012); as well as serial sex offenders (Baltieri & Andrade, 2007; Hazelwood & Warren, 1989; Levenson and Socia, 2016).

Conclusively, the development of an SSO when differentiated from a NSSO, presents adverse childhood experiences that are sexual in nature, suggesting offenders who were either exposed to or a victim of pedophilic or hebephilic sexual abuse are more likely to recidivate than those sex offenders who are not. This finding was to be expected as prior research shows evidence that sexual abuse, as opposed to physical or psychological abuse, more strongly predicts future sexual offending (Lee et al., 2001; Reckenwald et al., 2014).

Moreover, sexually abused sex offenders are more likely to abuse against children once they are adults and report having preferential sexual arousal to children (Jespersen et al., 2009). Our study supports these claims, as SSOs were not only more likely to have been sexually abused but are also more likely to have non-specified paraphilias exclusive to age. Specifically, SSOs were significantly more likely than NSSOs to have non-specified paraphilias of heterosexual pedophilia and homosexual pedophilia. Heterosexual pedophilia was a slightly stronger predictor of being a SSO than homosexual pedophilia. However, this is a common finding as those with a paraphilic attraction children tend to be indifferent to the gender of their victim. This

indifference is due to lack of prominent physical differences between males and females before puberty (Freund & Kuban, 1993; Freund, Watson, Dickey, & Rienzo, 1991).

Further findings of this study indicate that, as adults SSOs are significantly more likely to engage in compulsive masturbation as well as have two or more sexual paraphilias; and moderately more likely to engage in deviant sexual fantasies. These findings were foreseeable as many studies have reported high rates of paraphilias and deviant sexual fantasies amongst SSOs (Hazelwood & Warren, 1989; Sea et al., 2016) and SSMs (Chan et al., 2015; James & Proulx, 2014; Myers et al, 2010; Prentky et al, 1989). Moreover, our findings are similar to those of Sea and colleagues (2016), who also compared serial and non-serial sex offenders; finding SSOs more often presented paraphilias than NSSOs.

Relatedly, when examining an offender's self-perception of their personal sex lives (unsatisfied to entirely satisfied) there was only one significant, predictive, difference between offender types. SSOs were considerably more likely than NSSOs to report being unsatisfied with their adult sex lives. It is possible that SSOs are unsatisfied with their sex lives due to their deviant and paraphilic interests. Deviant sexual preferences likely make finding an appropriate partner difficult. Additionally, many paraphilias, such as voyeurism, exhibitionism, frotteurism, pedophilia and hebephilia, require uncentring partners. An individual with multiple paraphilias would theoretically need to rely on deviant sexual fantasies to obtain sexual gratification, outside of offending. Coinciding with our finding that compulsive masturbation is a predictive behaviour of being a SSO.

McCormack and colleagues (1992) reported that victims of childhood incest would be likely to re-enact these behaviours in adulthood. While being a victim of incest during development was not a significant finding for SSOs or NSSOs, it is possible that this lack of significance was due to our sample, because we did find that NSSOs were more likely to report having a paraphilic preference for incest or pseudo incest as adults. While this is statistically a predictor for a non-serial offender, this is likely due to the fact that most incest offenders will likely be separated from family after a first conviction; making re-offending in an incestual capacity impossible.

Our investigation of a serial offender's psychopathological characteristics indicates that a presence of previous suicide attempts, borderline personality disorder (BPD) and avoidant personality disorder (APD) are significant predictors of being a SSO, when compared to NSSOs. Particularly, avoidant personality disorder emerged as the strongest psychopathological predictor of becoming a serial offender. A potential explanation may be that their sexual dissatisfaction, deviant sexual preferences, criminal engagement, and childhood sexual trauma, could result in feelings of inadequacy, as well as social, emotional, and interpersonal difficulties. These interpersonal struggles could theoretically lead to avoidance of interpersonal relationships and the development of an avoidant personality throughout their life span. While Curnoe and Langevin (2002) have found sex offenders who participate in deviant sexual fantasies are more likely to be emotionally unstable and socially alienated, the pattern we suggest has yet to be assessed in serial offenders.

Furthermore, SSOs were more likely than NSSOs to have attempted suicide. A likely explanation for this is their borderline personality disorder, as suicidal ideations are a symptom of BPD (American Psychiatric Association, 2013). Although, contradictory to our findings, Sea et al. (2016) found BPD and depression to primarily present among NSSOs. A possible reason for this difference could be due to the use of different statistical tests used (logistic regression as opposed to cluster analysis) or cultural differences between the Korean and Canadian samples. Moreover, in our study, antisocial personality disorder was found to be only a moderately significant predictor of being a SSO. Yet, all serial clusters reported by Sea and colleagues (2016) presented antisocial personalities. However, many of their NSSO clusters also presented antisocial personality disorder. Therefore, results from both Sea et al. (2016) and our study indicate both SSOs and NSSOs present high rates of antisocial personality disorder, as is common amongst sex offenders overall (Berger, Berner, Bolterauer, Gutierrez, Berger, 1999; Leue et al., 2004). However, in both comparative studies, antisocial personality disorder is relatively more predictive of SSOs than NSSOs. This is interesting because in a meta-analysis of recidivism amongst sex offenders, Hanson and MortonBourgon (2005) reported antisocial personality disorder as one the two most significant predictors of sexual recidivism (the second being deviant sexual preferences).

6.2. Psychosocial Profile

No current study has created a psychosocial profile of the serial sex offender, in comparison to non-serial. The most similar assessment, providing an overview of the SSO is the FBI pilot study by Hazelwood and Warren (1989). Comparatively, our findings are similar. Both present adverse childhood experiences, childhood sexual trauma, and adult paraphilias, adult compulsive masturbation as characteristics indicative of SSOs. Primary methodological differences between the FBI study and our own, is that the assessment by Hazelwood and Warren (1989) did not examine the psychopathologies, nor compare their offenders to those who did not re-offend.

James and Proulx's (2016) systematic review presented a detailed psychosocial profile of sexual murderers, both serial and non-serial. Their psychosocial and developmental profile of SSMs focused on similar components as our study. Both SSOs and SSMs were found to be significantly motivated by sexual deviance; specifically, deviant sexual fantasies, paraphilias, and compulsive masturbation. However, James and Proulx (2014) found developmental predictors of SSMs while our study did not indicate any developmental difference between SSOs and NSSOs. Moreover, they found borderline and antisocial personality disorders were predictive characteristics of non-serial offenders, while we found they were significant predictors of serial. A reason for this variance may be that NSSMs are SSOs who engage in multiple sexual offences but only a singular murder due to a contextual or environmental change, as opposed to a preferred modus operandi for homicide. This would theoretically make NSSMs most similar to SSOs.

The findings of our study provide 14 psychosocial characteristics that are predictive of being a SSO. The second aim of this study was to create a psychosocial profile of a SSO using these experiences, behaviours, attractions, and psychopathologies. There appear to be no current studies that present a psychological or psychosocial profile of NSSOs, making it difficult to understand the lack of predictive variables for NSSOs in our results. However, a hypothesis we propose is that NSSOs are a more of a heterogeneous group than SSOs and therefore potentially less likely to yield consistent and generalizable results. Moreover, to my knowledge there are currently no studies that have formulated a psychosocial profile for SSOs based on

statistical comparisons to non-serial. Therefore, this SSO profile is exploratory and should be built upon in future research. That being said, results from our analyses suggest that the psychosocial profile of a SSO is characterized by sexual and psychological influences.

Based on our findings, SSOs are men who have been both sexually abused and exposed to models of pedophilic or hebephilic sexual abuse before the age of 18. Similar to authors such as Beaugregard et al. (2004), Lambie et al. (2002), and Thomas and Fremouw (2009), we propose that the childhood sexual trauma may have created an association between sexual violence and pleasure and that this association could be the reason for the juvenile and adult sexual paraphilias presented by SSOs. As adults, SSOs are likely to exhibit more than one paraphilia and significantly likely to present a non-specified paraphilia for both heterosexual and homosexual pedophilia. It is therefore reasonable to believe that these paraphilic preferences are reason for their deviant sexual fantasies. Furthermore, SSOs are exceptionally unsatisfied with their sex lives and more likely to engage in compulsive masturbation, compared to those who do not re-offend. Their sexual dissatisfaction and compulsive masturbation may be a result of their deviant sexual interests, making finding a willing partner (or victim) difficult. Theoretically, SSOs may repeatedly offend as sexual violence and unconcenting victims are the only way to achieve sexual gratification outside of masturbation.

These serial offenders also present avoidant, borderline, or antisocial personality disorders, as well as an immature personality. It is possible that the lack of empathy concurrent with antisocial personality disorder is what allows them to commit a series of offences and that their taboo sexual preferences, beginning at a young age, cause an avoidant personality. Finally, SSO's are likely to have attempted suicide; likely a symptom of their borderline personality. However, a possible hypothesis is that in addition to borderline personality disorder, their childhood sexual trauma, deviant sexual preferences, sexual dissatisfaction and avoidance of interpersonal relationships due to an avoidant personality, may collectively increase the likelihood of suicidal ideations amongst SSOs.

Interestingly, our findings inadvertently add to components of the *sexually abused-sexual abuser* hypothesis. This hypothesis proposes that some victims of child sexual abuse become conditioned to the sexual stimuli and associate the events with

pleasure; leading to re-enactment in the form of adult sexual offending (Burgess et al., 1988; Burton, 2003). Knight and Sims-Knight (2003) suggested a three-path model within which there is relation to sexualization due to abuse but also the contributing factors of antisocial behaviours, callousness and emotionality. All of which create heightened risk for victims of sexual abuse to become sexual abusers later in life.

Although our study cannot confirm that childhood sexual abuse results in adult sexual offending, it can corroborate that those who become SSOs are likely to have been sexually abused during development. Our results do not assess, and therefore cannot confirm, that a sexualization of sexual abuse occurs in these offenders. However, SSOs are more likely than NSSOs to have been sexually victimized during development and supplementary research suggests that some sex offenders may have sexualized their abuse experiences (Beauregard et al., 2004; Lambie et al., 2002; Thomas & Fremouw, 2009). Therefore, it is possible that the SSOs experience sexualization of their sexual abuse and that this sexualization could result in the paraphilic sexual interests and coinciding deviant sexual fantasies, found in the profile of an SSO. Additionally, as suggested by Knight and Sims-Knight (2003), the presence of antisocial personality disorder in SSOs can support the callous ability to act on these attractions by offending as an adult. In summation, it is important to note that due to our results and current sex offender research, we hypothesize that a possible sexualization of developmental sexual trauma occurs for SSOs. Leading to paraphilic and pedophilic sexual preferences, which may drive their serial offending in attempts to achieve sexual gratification.

Chapter 7. Conclusion

The present study aimed to address a current lack of information regarding the personal characteristics of serial sex offenders. More specifically, this study provides a comprehensive profile of SSOs by comparing these offenders to non-serial sex offenders on a number of topics related to personal characteristics and behaviours. Our findings provide evidence to suggest that SSOs and NSSOs have differing personal characteristics. This supports the theory that not all sex offenders are the same offender type, but that those who become serial present different characteristics pertaining to their sexual development, sexual lifestyle, and psychopathologies.

The available literature examining the serial offending of sex offenders has primarily focused on the crime context, victim selection, and modus operandi of SSOs. Few researchers have assessed the personal characteristics of these offenders, and those that do, focus on serial sexual murderers (Chan et al., 2015; James & Proulx, 2014; Prentky et al., 1989). A profile of SSOs was provided in 1989 by Hazelwood and Warren of the FBI, however this profile was not created in comparison to non-serials. Moreover, to our knowledge no other study has assessed the personalities of serial sex offenders, in comparison to non-serial; outside of Sea et al.'s (2016) study which was a comparison of SSO and NSSO clusters. Despite the lack of analogous literature, similar to findings on SSOs (Hazelwood & Warren, 1989) and SSMs (James & Proulx, 2014), we found that ultimately SSOs are characterized by their sexual deviance and psychopathologies.

Although we did not find any variables to be predictors of being a NSSO, the significant predictors of SSOs in comparison remain essential to understanding the differences between these offender types. Specifically, our findings suggest that sex offenders who, during development, had sexual paraphilias, were exposed to models of pedophilic and hebephilic sexual abuse, and were victims of sexual assault, are more likely to become serial. These characteristics of sexual deviance appear to persist into adulthood. As adults, SSOs are more likely to have sexual paraphilias and interestingly, are also significantly more likely to have non-specified paraphilias for heterosexual and homosexual pedophilia. They are also more likely to engage in compulsive masturbation and deviant sexual fantasies than NSSOs, and considerably more likely to report being

unsatisfied with their adult sex lives. These findings have significant clinical implications for treatment strategies of childhood sexual trauma, understanding the cycle of sexual abuse, and trauma informed practices of therapeutic treatment for sex offenders. Moreover, these findings have strategic investigative implications, in that record of sexual abuse may be present when attempting to identify a SSO.

The current study additionally assessed personality disorders and suicide attempt rates in order to determine offender differences based on psychopathology. It appears SSOs are more likely to have avoidant, borderline, and antisocial personality disorders. They are also more likely than NSSOs to present an immature personality and have previously attempted suicide. These findings also offer clinical implications in the form of offender focused therapies, risk assessment strategies, and investigative implications as possible documentation of previous suicide attempts or hospital stays may be present in an SSOs records. Additionally, these personality disorders could potentially provide a framework of the characteristics investigators should be looking for when investigating serial sexual offences.

The second aim of this study was to utilize differences found between SSOs and NSSOs to create a profile of the serial sex offender. Based on this profile, SSOs appear to be individuals who were exposed to or a victim of sexual abuse in childhood. This victimization and inappropriate exposure may have resulted in the development of paraphilic interests at a young age, which progressed in adulthood and coincide with deviant sexual fantasies and non-specified paraphilias specific to pedophilia and hebephilia. However, due to the nature of paraphilias, these offenders can only achieve sexual gratification through masturbation (which is seen in this study to be compulsive) or offending; explaining the SSOs dissatisfaction with their adult sex life. Moreover, the serial sex offender is likely to show immature, avoidant, borderline and antisocial personality disorders which may aid in the ability to commit a sexual offence due to the lack of empathy provided by antisocial personality disorder and instability from borderline personality disorder. The SSO has also likely previously attempted suicide, possibly as an attempted escape from their sexual abnormality and sexual trauma or a symptom of their borderline personality. Although we found SSOs are more likely to have been sexually abused as children, have juvenile and adult paraphilias, deviant sexual

fantasies and pedophilic sexual preferences; a limitation of this study is that we cannot conclude that their childhood sexual abuse causes their sexual deviance in adulthood.

Other authors have hypothesized a correlation between childhood sexual abuse and developing a sexual preference for children or sexual violence in adulthood (Burgess et al., 1988; Burton, 2003). Specifically, it is hypothesized that some individuals may sexualize their experiences of childhood sexual abuse, creating a sexual preference for the behaviour (Beauregard et al., 2004; Lambie et al., 2002; Thomas & Fremouw, 2009). However, to our knowledge there are no available studies providing evidence of this hypothetical pattern. Therefore, future research would significantly benefit from an indepth analysis of the sexual abuse experiences of SSOs compared to both NSSOs and victims of childhood sexual abuse who do not become offenders.

The present study should be understood with acknowledgement of additional limitations. First, the study sample is comprised exclusively of charged, convicted, and incarcerated sex offenders. Although researchers utilized official documentation to corroborate self-reports from participants, subjective concepts such as sexual fantasies, paraphilias, and sexual behaviours could not be verified and therefore the data may contain unavoidable inaccuracies. Furthermore, the results of this study can only speak to offenders who were unable to escape police detection. This limitation implies that some of the non-serial offenders in the sample may have become serial had they not been caught after their first offence or incarcerated at the time of data collection. Additionally, it is possible that some NSSOs in the sample may go on to become serial after release. Moreover, in the current study SSOs and NSSOs were coded based on the offender's number of convictions; this may have yielded different results from an analysis defining serial by number of victims. Future research should attempt to determine these differences between serial and non-serial sex offenders where offender type is defined by number of victims to assess potential offender differences outside of the present statistical strategy. As previously mentioned, the present study is a tentative and exploratory investigation of SSOs and therefore should be built upon and verified through future research.

References

- Abel, G. G., Becker, J. V., Cunningham-Rathner, J., Mittelman, M., & Rouleau, J. (1988). Multiple paraphilic diagnoses among sex offenders. *The Bulletin of the American Academy of Psychiatry and the Law*, 16(2), 153-168.
- Ahmmeyer, S., Kleinsasser, D., Stoner, J., & Retzlaff, P. (2003). Psychopathology of incarcerated sex offenders. *Journal of Personality Disorders*, 17, 306-318.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Balteri, D. A. & Andrade, A. G. (2007). Comparing serial and non-serial sexual offenders: alcohol and street drug consumption, impulsiveness and history of sexual abuse. *Revista Brasileira de Psiquiatria*, 30(1), 25-31.
- Beauregard, E., Lussier, P., & Proulx, J. (2004). An exploration of developmental factors related to deviant sexual preferences among adult rapists. *Sexual Abuse: A Journal of Research and Treatment*, 16(2), 151-161.
- Beauregard, E. & Leclerc, B. (2007). An application of the rational choice approach to the offending process of sex offenders: A closer look at the decision-making. *Sex Abuse*, 19, 115-133.
- Beauregard, E., Rossmo, K., & Proulx, J. (2007). A descriptive model of the hunting process of serial sex offenders: A rational choice perspective. *Journals of Family Violence*, 22, 449-463.
- Beauregard, E., Proulx, J., Rossmo, K., Leclerc, B., & Allaire, J. (2007). Script analysis of the hunting process of serial sex offenders. *Criminal Justice and Behavior*, 34(8), 1069-1084.
- Berger, P., Berner, W., Bolterauer, J., Guitierrez, K., & Berger, K. (1999). Sadistic personality disorder in sexual offenders: Relationship to antisocial personality disorder and sexual sadism. *Journal of Personality Disorders*, 13, 175-186.
- Burgess, A. W., Hazelwood, R. R., Rokous, F. E., Hartman, C. R., & Burgess, A. G. (1988). Serial rapists and their victims: Reenactment and repetition. *Annals of the New York Academy of Sciences*, 227-295.
- Burton, D. L. (2003). Male adolescents: Sexual victimization and subsequent sexual abuse. *Child and Adolescent Social Work Journal*, 20, 277-296.
doi:10.1023/A:1024556909087
- Canter, D. (2000). Offender profiling and criminal differentiation. *Criminal and Legal Psychology*, 5, 23-46.

- Carabellese, F., Maniglio, R., Greco, O., & Catanesi, R. (2011). The role of fantasy in a serial sexual offender: a brief review of the literature and a case report. *Forensic Science, 56*(1), 256-260.
- Caspi, A. & Roberts, B. W. (2001). Personality development across the lifecourse: The argument for change and continuity. *Psychological Inquiry, 12*(2), 49-66.
- Chan, H., Beauregard, E., & Myers, W. C. (2015). Single-victim and serial sexual homicide offenders: Differences in crime, paraphilias and personality traits. *Criminal Behavior and Mental Health, 25*, 66-78.
- Corovic, J., Christianson, S. A., & Bergman, L. R. (2012). From crime scene actions in stranger rape to prediction of rapist type: single-victim or serial rapist? *Behavioral Sciences and the Law, 30*, 764-781.
- Deslauriers-Varin, N., & Beauregard, E. (2013). Investigating offending consistency of geographic and environmental factors among serial sex offenders. *Criminal Justice and Behavior, 40*(2), 156-179.
- Deslauriers-Varin, N., & Beauregard, E. (2014). Unravelling crime series patterns amongst serial sex offenders: Duration, frequency, and environmental consistency. *Journal of Investigative Psychology and Offender Profiling, 11*, 253-275.
- Dhawan, S., & Marshall, W. L. (1996). Sexual abuse histories of sexual offenders. *Sexual Abuse: A Journal of Research and Treatment, 8*, 7-15.
- Douglas, J.E., Burgess, A.W., Burgess, A.G., & Ressler, R.K. (1992). *Crime classification manual*. New York: Simon & Schuster.
- Federal Bureau of Investigation. (2005). Serial Murder: Multi-Disciplinary Perspectives for Investigators. Retrieved June 2018, from: <https://www.fbi.gov/stats-services/publications/serial-murder>
- Freund, K. & Kuban, M. (1993). Deficient erotic gender differentiation in pedophilia: A follow-up. *Archives of Sexual Behavior, 22*(6), 619-628.
- Freund, K., Watson, R., Dickey, R., & Rienzo, D. (1991). Erotic gender differentiation in pedophilia. *Archives of Sexual Behavior, 20*(6), 555-566.
- Haapasalo, J., & Kankkonen, M. (1997). Self-reported abuse among sex and violent offenders. *Archives of Sexual Behavior, 26*, 421-431.
- Hanson, R. K. & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73*(6), 1154-1163.
- Hanson, R. K., Steffy, R. A., & Gauthier, R. (1993). Long-term recidivism of child molesters. *Journal of Consulting and Clinical Psychology, 61*, 646-652.

- Hanson, R. K., Harris, A. J. R., Helmus, L., & Thornton, D. (2014). High-risk sex offenders may not be high risk forever. *Journal of Interpersonal Violence* 29(15), 2792-2813.
- Harbers, E., Deslauriers-Varin, N., Beaugard, E., & Van Der Kemp, J. J. (2012). Testing the behavioural and environmental consistency of serial sex offenders: A signature approach. *Journal of Investigative Psychology and Offender Profiling*, 9, 259-273.
- Harsch, S., Bergk, J. E., Steinert, T., Keller, F., & Jockusch, U. (2006). Prevalence of mental disorders among sexual offenders in forensic psychiatry and prison. *International Journal of Law and Psychiatry*, 29, 443-449.
- Hazelwood, R. R. & Burgess, A. W. (1987). An introduction to the serial rapist. *FBI Law Enforcement Bulletin*, 16-24.
- Hazelwood, R. R., & Warren, J. (1989). The serial rapist: His characteristic and victims (conclusion). *FBI Law Enforcement Bulletin*. 18-25.
- Hazelwood, R. R., & Warren, J. (1990). The criminal behavior of the serial rapist. *FBI Law Enforcement Bulletin*. 11-17.
- Hazelwood, R. R., & Warren, J. (1995). The relevance of fantasy in serial sexual crimes investigation. In R. R. Hazelwood & J. Warren (Eds.), *Practical Aspects of Rape Investigation* (55-65). Boca Raton, FL: Taylor & Francis Group.
- Hazelwood, R. R., Reboussin, R., & Warren, J. I. (1989). Serial rape: Correlated of increased aggression and the relationship of offender pleasure to victim resistance. *Journal of Interpersonal Violence*, 4(1), 65-78.
- Hewitt, A., & Beaugard, E. (2014). Offending patterns of serial sex offenders: Escalation, De-escalation, and consistency of sexually intrusive and violent behaviours. *Journal of Investigative Psychology and Offender Profiling*, 11, 5780.
- Hewitt, A., Beaugard, E., & Davies, G. (2012). "Catch and release" Predicting encounter and victim release location choice in serial rape events. *Policing: An International Journal of Police Strategies & Management*, 35(4), 835-856.
- Hewitt, A., Beaugard, E., & Davies, G. (2016). An empirical examination of the victim-search methods utilized by serial stranger sexual offenders: A classification approach. *Journal of Interpersonal Violence*, 1-28.
- James, J. & Proulx, J. (2016). The modus operandi of serial and non-serial sexual murderers: A systematic review. *Aggression and Violent Behavior*, 31, 200-218.
- James, J. & Proulx, J. (2014). A psychological and developmental profile of sexual murderers: A systematic review. *Aggression and Violent Behavior*, 19, 592-607.

- Jespersen, A. F., Lalumiere, M. L., & Seto, M. C. (2009). Sexual abuse history among adult sex offenders and non-sex offenders: A meta-analysis. *Child Abuse and Neglect*, *33*, 179-192.
- Kaseweter, K. Woodworth, M., Logan, M., & Freimuth, T. (2016). High-risk sexual offenders: Towards a new typology. *Journal of Criminal Justice*, *47*, 123-132.
- Knight, R. A., & Sims-Knight, J. E. (2003). The developmental antecedents of sexual coercion against women: Testing alternative hypotheses with structural equation modeling. *The New York Academy of Sciences*, *989*, 72-85.
- Kocsis, R. N., & Irwin, H., J. (1998). The psychological profile of serial offenders and a redefinition of the misnomer of serial crime. *Psychiatry, Psychology, and Law* *5*(2), 197-213.
- Kocsis, R. N., Cooksey, R. W., & Irwin, H. J. (2002). Psychological profiling of offender characteristics from crime behaviours in serial rape offences. *International Journal of Offender Therapy and Comparative Criminology*, *46*(2), 144-169.
- LeBeau, J. L. (1987). Patterns of stranger and serial rape offending: Factors distinguishing apprehended and at large offenders. *The Journal of Criminal Law and Criminology*, *78*(2), 309-326.
- Lee, J. K. P., Jackson, H. J., Pattison, P., & Ward, T. (2001). Development risk factors for sexual offending. *Child Abuse and Neglect*, *26*, 73-92.
- Leitenberg, H. & Henning, K. (1995). Sexual fantasy. *Psychological Bulletin*, *117*(3), 469-496.
- Leue, A., Borchard, B., & Hoyer, J. (2004). Mental disorders in a forensic sample of sexual offenders. *European Psychiatry*, *19*, 123-130.
- Levenson J. S. & Socia, K. M. (2016). Adverse childhood experiences and arrest patterns in a sample of sexual offenders. *Journal of Interpersonal Violence*, *31*(10), 1883-1911.
- Lisak, D., & Miller, P. M. (2002). Repeat rape and multiple offending among undetected rapists. *Violence and Victims*, *17*(1), 73-84.
- Lovell, R., Luminas, M., Flannery, D. J., Overman, L., Huang, D., Walker, T., & Clark, D. R. (2017). Offending patterns for serial sex offenders identified via the DNA testing of previously unsubmitted sexual assault kits. *Journal of Criminal Justice*, *52*, 68-78.
- Lundrigan, A., & Czarnomski, S. (2006). Spatial characteristics of serial sexual assault in New Zealand. *The Australian and New Zealand Journal of Criminology*, *39*(2), 218-231.

- Lussier, P. & Cale, J. (2013). Beyond sexual recidivism: A review of the sexual criminal career parameters of adult sex offenders. *Aggression and Violent Behavior, 18*, 445-457.
- Lussier, P., Bouchard, M., & Beauregard, E. (2011). Patterns of criminal achievement in sexual offending: Unravelling the “successful” sex offender. *Journal of Criminal Justice, 39*, 433-444.
- Lussier, P., LeBlanc, M., & Proulx, J. (2005). The generality of criminal behavior: A confirmatory factor analysis of the criminal activity of sex offenders in adulthood. *Journal of Criminal Justice, 33*, 177-189.
- Marshall, W. L., & Barbaree, H. E. (1990). An integrated theory of the etiology of sexual offending. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 257–275). New York: Plenum.
- Martin, G. M., & Tardif, M. (2014). What we do and don't know about sex offenders' intimacy dispositions. *Aggression and Violence, 19*, 372-382.
- McCann, K., & Lussier, P. (2008). Antisociality, sexual deviance, and sexual reoffending in juvenile sex offenders a meta-analytical investigation. *Youth Violence and Juvenile Justice, 6*, 363–385.
- McCormack, A., Rokous, F. E., Hazelwood, R. R., and Burgess A. W. (1992). An exploration of incest in the childhood development of serial rapists. *Journal of Family Violence, 7*(3), 219-228.
- McCuish, E. C., Cale, J., & Corrado, R. R. (2017) Abuse experiences of family members, child maltreatment, and the development of sex offending among incarcerated adolescent males: Differences between adolescent sex offenders and adolescent non-sex offenders. *International Journal of Offender Therapy and Comparative Criminology, 61*(2), 127-149.
- Mugford, R., Bourgon, G., Hanson, R. K., & Coligado, M. (2017). Offender risk assessment practices vary across Canada (Research Report 2017- R015). Public Safety Canada: Ottawa, ON.
- Myers, W. C., Chan, H. C., Vo, E. J., & Lazarou, E. (2010). Sexual sadism, psychopathy, and recidivism in juvenile sexual murderers. *Investigative Psychology and Offender Profiling, 7*, 49-58.
- Oliver, C. J., Beech, A. R., Fisher, D., Beckett, R. (2007). A comparison of rapists and sexual murderers on demographic and selected psychometric measures. *Offender Therapy and Comparative Criminology, 51*(3), 298-312.
- Park, J., Schlesinger, L. B., Pinizzotto, A, J., & Davis, E. F. (2008). Serial and single-victim rapists: Differences in crime-scene violence, interpersonal involvement, and criminal sophistication. *Behavioural Science and the Law, 26*, 227-237.

- Petee, T. A. & Jarivs, J. (2000). Analyzing violent serial offending. *Homicide Studies*, 4(3), 211-218.
- Prentky, R. A., Burgess, A. W., Rokous, F. R., Lee, A., Hartman, C., & Ressler, R. (1989). The presumptive role of fantasy in serial homicide. *American Journal of Psychiatry*, 146(7), 887-891.
- Proulx, J., St-Yves, M., & McKibben, A. (1994). CQSA: Computerized questionnaire for sexual aggressors. Unpublished manuscript.
- Reckenwald, A., Mancini, C., & Beauregard, E. (2014). Adolescent self-image as a mediator between childhood maltreatment and adult sexual offending. *Journal of Criminal Justice*, 42, 85-94.
- Reale, K. Beauregard, E., & Martineau, M. (2017). Sadism in sexual homicide offenders: identifying distinct groups. *Journal of Criminal Psychology*, 7(2), 120133.
- Rossmo, D. K. (1997). Geographic profiling. In J. L. Jackson & D. A. Bekerian (Eds.), *Offender profiling: Theory, research and practice* (pp. 159-175). Chichester, UK: John Wiley & Sons.
- Rossmo, D. K. (2000). *Geographic profiling*. Boca Raton, FL: CRC Press.
- Seto, M. C. & Lalumiere, M. L. (2010). What is so special about male adolescent sexual offending? A review and test of explanations through meta-analysis. *Psychological Bulletin*, 136(4), 526-575.
- Slater C., Woodhams, J., & Hamilton-Giachritsis, C. (2014). Can serial rapists be distinguished from one-off rapists? *Behavioral Sciences and the Law*, 32, 220239.
- Smallbone, S. W., & Dadds, M. R. (2000). Attachment and coercive sexual behavior, *Sexual Abuse: A Journal of Research and Treatment*, 12(1), 3-15.
- Smallbone, S. W., & Dadds, M. R. (2001). Further evidence for a relationship between attachment insecurity and coercive sexual behavior in non-offenders. *Journal of Interpersonal Violence*, 16(1), 22-35.
- Solicitor General Canada. (2001). High-risk offenders – A handbook for criminal justice professionals. [Catalogue number JS42-94/2000]. Public Safety Canada. Retrieved from: <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/hghrsk-ffndrshndb/index-en.aspx>
- Thomas, T. A., & Fremouw, W. (2009). Moderating variables of the sexual “victim to offender cycle” in males. *Aggression and Violent Behavior*, 14, 382-387.
- Ward, T., & Hudson, S. M. (1998). A model of the relapse process in sexual offenders. *Journal of Interpersonal Violence*, 13(6), 700-725.

- Ward, T., Hudson, S. M., & Marshall, W. L. (1996). Attachment style in sex offenders: A preliminary study. *The Journal of Sex Research, 33*(1), 17-26
- Warren, J., Reboussin, R., Hazelwood, R. R., Cummings, A., Gibbs, N. & Trumbetta, S. (1998). Crime scene and distance correlates of serial rape. *Quantitative Criminology, 14*(1), 35-59.
- Warren, J., Reboussin, R., Hazelwood, R. R., Gibbs, N., Trumbetta, S., & Cummings, A. (1999). Crime scene analysis and the escalation of violence in serial rape. *Forensic Science International, 100*, 37-56.
- Wanklyn, S. G., Ward, A. K., Cormier, N. S., Day, D. M., & Newman, J. E. (2012). Can we distinguish juvenile violent sex offenders, violent non-sex offenders, and versatile violent sex offenders based on childhood risk factors? *Journal of Interpersonal Violence, 27*(11), 2128-2143.
- Way, I. & Urbaniak, D. (2008). Delinquent histories of adolescents adjudicated for criminal sexual conduct. *Journal of Interpersonal Violence, 23*(9), 119-1212.
- Widom, C. S. (2017). Long-term impact of childhood abuse and neglect on crime and violence. *Clinical Psychology, 24*(2), 186-202.
- Woodworth M., Freimuth, T., Hutton, E. L., Carpenter, T., Agar, A. D., & Logan, M. (2013). High-risk sexual offenders: An examination of sexual fantasy, sexual paraphilia, psychopathy, and offence characteristics. *International Journal of Law and Psychiatry, 36*(2), 144-156.
- Zimring, F. E., Piquero, A. R., & Jennings, W. G. (2007). Sexual delinquency in Racine: Does early sex offending predict later sex offending in youth and young adulthood? *Criminology & Public Policy, 6*, 507–534.