CHARACTERISTICS OF MINOR ATTRACTED PERSONS IN THE COMMUNITY: DEVELOPING A BIOPSYCHOSOCIAL-SEXUAL TYPOLOGY OF MEN WITH SEXUAL INTERESTS IN CHILDREN

by

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ABSTRACT

Research investigating causes and factors that affect sexual recidivism among heterogenous forensic populations of child sexual offenders has shown that not all child sexual offenders express pedophilic interests, and not all individuals with pedophilia sexually offend against children. Extending findings from existing studies to community populations of minor attracted persons (MAPs) who have not been involved in the criminal justice system may clarify what distinctions are related to potential risk of child sexual abuse. This dissertation employed online recruitment strategies to identify latent clusters of self-reported developmental, biopsychosocial, sexual, and behavioural characteristics of self-identified MAPs in the community. The final sample consisted of men with self-endorsed sexual interests in minors (n = 609; M_{age} = 29.7 years) and a comparison group of men with other paraphilic interests (n = 224; M_{age} = 35.3 years). Data were used to develop a psychometric typology of community members with pedohebephilic interests with no detected justice-involvement. The Vulnerability Typology emerged from latent cluster analysis, with three groups differentiated by relative of endorsement of biopsychosocial-sexual factors, labeled as low vulnerability (n = 165), moderate vulnerability (n = 270), and high vulnerability (n = 149). Multiple analysis of variance was utilized to investigate discriminating factors across groups, identifying prominent biopsychosocial-sexual characteristics within and across clusters. Overall, low vulnerability MAP profiles appeared largely healthy and unimpaired, moderate vulnerability MAPs displayed modest characteristic deficits, and MAPs in the high vulnerability group showed significant impairment across most measured vulnerability constructs. High vulnerability MAPs perceived themselves to pose highest

risk for acting on pedohebephilic arousal, whereas lowest self-reported risk was observed among low vulnerability MAPs. Use of maladaptive or adaptive coping strategies did not moderate the relationship between MAP clusters and self-perceived risk of acting on sexual interest in minors. Results of this study provide guidance to inform secondary prevention and risk assessment approaches among community MAPs with no historical justice system contact related to their sexual interests in minors. Specifically, criminogenic needs and destabilizing factors in domains of antisocial cognitions, deviant sexual interests, and psychosocial functioning may be relevant targets for prevention and wellness approaches among minor attracted persons.

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CHAPTER ONE: INTRODUCTION

Child sexual abuse is acknowledged to be a serious social problem with negative short-term and long-term consequences across numerous developmental, social, legal, and economic domains (e.g., Fang et al., 2012). Given the prevalence and severe effects of child sexual abuse, researchers and practitioners have investigated causes of sexual offending and factors which increase or decrease risk for sexual recidivism (Klein et al., 2018). Studying people who are at higher risk of perpetrating child sexual abuse also is important for developing interventions and policies to reduce rates of child victimization and support preventative mental health initiatives. To this end, the current dissertation hoped to enhance public safety and individual well-being by improving understanding of community men who may be at risk for perpetrating child sexual abuse.

Prior to delving into the literature, it is important to recognize challenges inherent to the use of language in research and society. Particularly in research examining special populations, the use of language is often imperfect or imprecise for describing people and phenomena. Likewise, progressive advances in knowledge compel researchers, clinicians, and policy makers to develop and utilize language that is informative, inclusive, and non-stigmatizing. In these regards, language continues to evolve to use identity terminology which normalizes potential pathologies or characteristics while concurrently setting it apart from the "afflicted" individual. For example, forensic literature is attempting to find effective ways of talking about forensic populations. This includes a transition toward use of terms such as "justice involved person" rather than "offender" to denote individuals who have been involved with the criminal justice system. Likewise, as will be explored below, the term "minor attracted

person" (MAP) has emerged as an alternative terminology to the often pathologized and stigmatized term "pedophile." Despite these efforts toward change, inconsistency and imprecision in use of language present ongoing challenges such that language is not always friendly to researchers' intentions or pragmatic and colloquial uptake. Adding further complexity to the fray, conceptualizations of "deviance," including what sexual interests or behaviours may be considered deviant, are culturally-constructed based on informal and/or formal social norms within a particular sociocultural context. Since social norms may change over time, perceptions of deviance are dynamic and further influence the development, application, and uptake of language more broadly (Franzese, 2015). To better clarify nuances and consistency among concepts used throughout this dissertation, definitions of commonly used terms are provided in a glossary (Table 1).

Most research to-date has focused on examining forensic samples of men who already have been convicted of child sexual abuse. From this research, it is evident that populations of child sexual offenders are heterogeneous, with wide variations in individual characteristics that influence form, intensity, and frequency of child sexual offending behaviours (see Table 1 and Table 2). Comprehensive theoretical models, such as the Integrated Theory of Sexual Offending and the Pathways Model of Child Sexual Abuse, provide a framework for understanding interactions among internal and external factors involved in the etiology of and diverse pathways to child sexual abuse (Ward & Beech, 2008; Ward & Siegert, 2002). However, more research is needed to understand how these models apply to individuals in the public who might be at higher risk for sexually offending against children, such as men who experience sexual interests in minors (i.e., minor attracted persons, or MAPs). Moreover, there is often conflation between individuals who experience sexual interests toward children versus individuals

who perpetrate sexual offences against children. To clarify the differentiation between sexual interests and sexual behaviours, it is important to examine the factors that contribute to the onset and prevention of sexual offending against children. Gaps exist in understanding heterogeneity among MAPs, particularly those who have not been involved in the criminal justice system for sexual offences against children. In this regard, research is needed to explore how psychological profiles of subgroups of MAPs are similar or different from one another. Furthermore, research is needed to examine the factors that are associated with an individual's potential risk for sexual offending against children, which in-turn may inform areas of need for intervention and prevention.

Broadly, this dissertation aimed to contribute to the scientific differentiation of sexual interests versus sexual behaviours. To do so, this research explored heterogeneity among non-forensic community men with sexual interests in minors. Specifically, this dissertation examined whether subtypes of MAPs exist, what characteristics discriminate between subtypes, and how similarities and differences are related to perceived risk of sexually offending against children. By measuring risk and protective factors empirically related to child sexual abuse, a typology of MAP subgroups was developed based on congruencies across relevant developmental, biopsychosocial, and sexual characteristics. Next, patterns of specific factors within domains of developmental factors, self-regulation, sexual interests, cognitions, and socio-affective functioning were examined to understand how MAP subtypes are distinguished from one another. Finally, this dissertation examined how MAP subtypes and use of coping behaviours are related to self-perceived risk of sexually offending against children. Since this dissertation primarily focused on MAPs who have not been convicted of sexual offences against children, individuals' level of risk of sexually offending against children were measured

via self-reported perceived risk of engaging in sexual activities with minors. Overall, the current research supported a paradigm shift in interventions and correctional practices that differentiate between non-offending pedophilia and child sexual abuse.

Aligning with the underlying aim of the dissertation, the proceeding literature review is organized to first present research on sexual interests, then research on sexual behaviours, followed by an overview of theoretical models, existing sexual offender typologies, and empirically supported risk factors for child sexual abuse. These literatures were summarized and integrated to inform the current study. In the Sexual Interests section, constructs related to atypical sexual interests are defined and elucidated. Next, emerging research exploring differences between community MAPs and child sexual offenders is summarized. The Sexual Behaviours section presents a brief overview of sexual offending against children as a phenomenon, including a conceptualization of child sexual abuse, consequences of sexually offending, and the role of prevention as a means to reduce child victimization. Theoretical explanations of sexual offending, existing typology classification systems, and proposed pathways to child sexual abuse are critically examined to understand commonalities among heterogeneous child sexual offenders. Elaborating from these frameworks, factors that render individuals more vulnerable to or protected from engaging in illegal sexual activities with children are identified and reviewed. Information derived from literature review on forensic child sexual offenders is synthesized to inform the scope of the current study on heterogeneity among MAPs in the community.

CHAPTER TWO: LITERATURE REVIEW

Understanding Sexual Interest in Minors

Motivations to sexually offend against children emerge from a variety of origins and multiple pathways may lead to the perpetration of sexual abuse. Although sexual interests and sexual behaviours are not mutually exclusive, sexual arousal and sexual desire serve as powerful motivating forces for engaging in various sexual activities. In some cases, sexual arousal, desire, or interests may be directed toward targets considered to be atypical, such as sexual attraction toward children or young persons.

Sexual Arousal and Sexual Desire

Sexual arousal refers to activation of neural circuits which are functionally linked to sexual motivation and autonomic processes in the central nervous system involved in genital control and orgasms (Toates, 2009). In addition to neurophysiological processes of sexual arousal, individuals may experience affectively charged cognitive sensations of sexual desire (Kavanagh et al., 2005; Toates, 2009). Stimulated though external triggers, representations in memory, and/or internal affective states, sexual desire varies in length and intensity. It may manifest through sexual urges, fantasies, and behaviours typically associated with pleasure or release of discomfort (Fedoroff, 2018; Kavanagh et al., 2005; Toates, 2009). Sexual fantasies are normal and involve conscious elaboration of desire from a foundation of memories and synthesized, novel imagery (Toates, 2009). High sexual desire may be reflected in more frequent sexual thoughts and fantasies; in turn, sexual fantasies can induce sexual arousal (Leitenberg & Henning, 1995; Toates, 2009).

The content of sexual fantasies also can be significant for determining features related to sexual desire and arousal (e.g., gender preferences, body scheme and age of the "partner," favoured sexual practices; Tenbergen et al., 2015). Involving both

conscious and/or unconscious excitatory and restraint processes, the strong motivational potential of sexual arousal and sexual desire serve as vital determinants of behaviour. However, it is also important to note that sexual behaviours are the consequence of active, voluntary, and conscious decisions (Fedoroff, 2018; Fedoroff, 2016; Toates, 2009). As such, individuals are not required to act upon heightened sexual arousal and desire and are usually capable of resisting or inhibiting these subjective sensations.

Generally, sexual arousal and desire are healthy, natural phenomena experienced in some way by nearly all members of society. In some cases, however, components of these sexual processes can "go wrong," including individuals' sexual preferences (i.e., sexual interests) for erotic targets or activities. "Paraphilia" is the term used to describe sexual preferences, urges, or attractions toward "atypical" or "unusual" objects, situations, fantasies, behaviours, or individuals (American Psychiatric Association [APA], 2013). The etiological mechanisms underlying these unconventional sexual interests are complex and multifaceted, arising from influences of genetics (Alanko et al., 2013; Blanchard et al., 2007), early neurodevelopmental perturbations (Cantor et al., 2008; Schiffer et al., 2007; Schiltz et al., 2007), stressful life events (Fedoroff & Pinkus, 1996; Freund & Kuban, 1994; Freund et al., 1990), specific learning processes (Beech & Mitchell, 2005; Fedoroff, 2018; Jespersen et al., 2009), and other interacting biopsychosocial processes (Fedoroff, 2018; Fedoroff, 2016; Tenbergen et al., 2015).

Teleiophilia – sexual preference for sexually mature adults – is the most typically occurring sexual preference (Seto, 2017). Pedophilia and hebephilia are two paraphilias characterized by anomalous target preference (APA, 2013). In pedophilia and hebephilia, a sexual interest or erotic age preference is exhibited towards individuals of younger age and maturation (i.e., prepubescent and pubescent children, respectively).

Paraphilic Sexual Interests Towards Minors

Whereas most individuals experience sexual attraction toward physically and sexually mature adults, a minority experience sexual interests toward young persons, or minors. Typically, the term "minor" refers to a person who is under the age of majority. Notably, there is little consistency across laws and countries in terms of defining an "absolute" age of majority to engage in different activities. Although there are several ways that one may define the term "minor," the current dissertation defined a minor as being an individual who is aged 14 years or younger. This specification more closely aligns with clinical and developmental constructs of pedophilia and hebephilia, while still capturing the illegality of adults engaging in sexual activity with young persons.

Pedophilia is a paraphilia whereby an individual experiences persistent, intense, and recurrent, and intense sexual interest or sexual arousal directed toward prepubescent children, generally age 13 years or younger (APA, 2013). Along with sexual interest in children, researchers suggest a co-occurring tendency for desiring experiences of sexual intimacy with minors (Beier et al., 2009). The presence of pedophilic interest itself does not necessarily equate to having a disorder requiring clinical intervention (APA, 2013). However, a diagnosis of pedophilic disorder may be warranted in cases in which the interest is currently causing distress or impairment to the individual or to interpersonal functioning, or if acting on these sexual interests has generated personal harm, or risk of harm, to another person (APA, 2013). Diagnostic criteria are described in the Diagnostic and Statistical Manual of Mental Disorders – 5th Edition (DSM-5; Table 3).

For hebephilia, the preferred target of sexual interest refers to pubescent children who are beginning to show early signs of sexual development or secondary sexual characteristics but are sexually immature, approximately in the age range of 11 to 14

years old (Stephens et al., 2018; Seto, 2017). Research suggests that, although some neurobiological and psychosocial characteristics of those with hebephilia fall intermediately between those with pedophilia and those with teleiophilia, there tends to be significant overlap and similarities between pedophilia and hebephilia (Blanchard et al., 2009; Blanchard, 2013; Stephens, 2016). The APA Board of Trustees ultimately rejected recommendations to include hebephilia as an explicit or not otherwise specified disorder within the DSM-5 (Blanchard, 2013). Nevertheless, hebephilic behaviours are considered harmful and are typically illegal, since they would involve sexual activity with a developmentally immature youth who is under the age of sexual consent.

Importantly, the presence of sexual interest in minors is not equivalent to sexual behaviour involving minors. That is, having pedohebephilic interest is not illegal, but acting on non-consensual sexual interests (including engaging in sexual activities with children, who are below the legal age to provide consent to sex), is illegal (Fedoroff, 2018). However, sexual interest in minors may make some people more inclined to seek out situations where they can be involved with children. Since pedophilia and hebephilia tend to be stable over time and act as meaningful risk factors for child sexual abuse (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; Seto et al., 2006; Whitaker et al., 2008), interventions for the effective management of sexual interests towards children are important to reducing the likelihood that an individual acts on these attractions and victimize children.

Prevalence of Pedophilia and Hebephilia

In light of serious legal and social stakes involved with acting upon sexual interests towards minors, issues pertaining to pedophilia and hebephilia (to a lesser extent) have been highly researched (Seto, 2017). Among men, pedophilic sexual

preference is best estimated to have a prevalence of approximately 1%, with some older studies suggesting that the prevalence of pedophilia sits at approximately 3-5% of the general population at its upper limit (Seto, 2009; Seto, 2017; Tenbergen et al., 2015). However, approximately 5-9% of male respondents from the general population have acknowledged having general pedophilic fantasies involving prepubescent children (Seto, 2009; Tenbergen et al., 2015). Less is known regarding the prevalence and presentations of pedophilia among women. Although there is no reliable estimate of rates of pedophilia among women, research suggests that pedophilia appears to be much more common among males than among females (Seto, 2009; Tenbergen et al., 2015). Due to the dearth of literature clarifying manifestations of pedophilia in women and female child sexual offenders, the current dissertation focused on men with pedophilic sexual interests. Taken together, pedophilic sexual interests are rare, but still affect a sizeable number of men within any large population.

Although research regarding estimated prevalence rates of hebephilia are scarce, what research does exist seems to suggest that hebephilia occurs at a higher frequency than pedophilia, but less common than teleiophilia. A large dissertation sample of 2,238 convicted male contact sexual offenders referred to the Centre for Addiction and Mental Health's Sexual Behaviours Clinic classified the clinical sample as 14% pedophilic, 19% pedo-hebephilic (i.e., sexual interest in both prepubescent and pubescent children), 32% hebephilic, and 36% teleiophilic, with 1179 men unable to be classified due to ambiguity in measurements of their sexual interest (i.e., had child victim(s) but denied sexual interest in children; Stephens, 2016). Although precise estimates of prevalence are not available for hebephilia, especially within non-forensic populations, it does appear that hebephilia occurs at a frequency somewhere between that of pedophilia and teleiophilia.

Minor Attracted Persons

The term "minor attracted persons" (MAPs) has been adopted as a more humanistic approach conceptualizing people who experience sexual attraction towards pre-pubescent and pubescent children who are under the age of consent (B4U-ACT, 2014). Although first developed by B4U-ACT, an organization aimed at providing professional services and resources for individuals who experience sexual attraction toward children, the term "MAP" recently has been used more commonly among research communities (Cohen et al., 2018; Freimond, 2013; Levenson & Grady, 2018; Levenson et al., 2017; Moss, 2019; Stephens & McPhail, 2019; Wurtele et al., 2018). This term not only allows for more explicit separation between constructs of sexual interest and sexual behaviours, but is arguably associated with less perjury or clinical pathology compared to other commonly used terms, such as "pedophile" (Levenson & Grady, 2018). Furthermore, the minor attracted person is the preferred term among self-identified MAPs themselves (Kramer, 2011). Thus, the term MAP will be used to refer to individuals with sexual interests toward young persons throughout this dissertation.

Pedophilic Interests without Sexual Offending

Extant forensic research supports the idea that sexual offending processes are multifaceted, with heterogeneous child sexual offenders traversing several developmental trajectories towards perpetrating illegal sexual behaviours. As explored in subsequent sections, interactions among various risk and protective factors generate differences in *what* features characterize groups of people who have been convicted of sexual crimes against children and propose *how* people progress through multiple pathways towards sexual offending. However, not all people who demonstrate risk

factors and psychological dysfunctions sexually offend against children. This leaves questions of: *why* do some vulnerable people never perpetrate sexual crimes against children and *what* differences exist within and between these non-offending groups?

It is of upmost importance to conceptually differentiate between pedophilia (i.e., sexual preferences, attractions, arousal, interests, fantasies, and/or desires toward minors, which are not illegal in and of themselves) and commission of child sexual abuse (sexual behaviours and activities involving children by adults, which are illegal). The distinction between pedophilia and sexual offending is clear in that approximately 50% of child sex offenders experience sexual interests in children – that is, only 50% of offenders could be considered "pedophiles" (i.e., experience sexual attraction in minors; Blanchard et al., 2001; Schaefer et al., 2010; Seto, 2008; Tenbergen et al., 2015). The discrepancy between pedophilia and offence perpetration is further highlighted through typologies and pathways developed to classify child sexual offenders, in which only select groups exhibited preferential or "fixated" attraction towards children leading to offending behaviours (Beech, 1998; Groth et al., 1983; Henry et al., 2010; Knight & Prentky, 1990; Mandeville-Norden & Beech, 2009; Robertiello & Terry, 2007; Terry & Tallon, 2004). Together, these findings suggest that there exists a group of people with sexual interests towards children who do not commit sexual crimes.

Research is beginning to identify heterogeneity among MAPs. There exist groups of pedophilic-focused individuals who are committed to deliberately abstaining from sexual contacts with children (Virtuous Pedophiles, n.d.). This group emphasizes the necessity of a new conceptualization of MAPs as not necessarily being inherently antisocial or harmful. Whereas some community MAPs report experiencing no issues with managing their sexual interests to refrain from engaging in child sexual abuse,

others may be struggling in the community to remain offence-free (Bailey et al., 2016; Houtepen et al., 2016). Other MAPs may have previously perpetrated child sexual abuse that remains undetected by the criminal justice system or may have been previously detected and apprehended for sexual crimes (Beier et al., 2009; Moss, 2019). Due to these differences, existing research with forensic samples may not be sufficient for understanding different characteristics and vulnerabilities among non-forensic MAP groups. Extending forensic knowledge and research efforts towards investigating groups of non-offending men with pedophilia can provide valuable insight for recognizing factors that protect against sexual offending and possibly identifying key targets for proactive preventative interventions prior to criminal convictions.

Differentiation Between Forensic and Non-Forensic Samples

Recognizing the benefits of understanding both criminal and non-criminal groups recently has led researchers to investigate MAPs in the community. These studies often group participants based on offense status (i.e., sexual offending against child vs. no offending) and sexual preferences (i.e., pedophilic interests vs. no pedophilic interests). Much of this developing research is conducted using German samples; Germany does not have mandatory reporting laws for professionals, so participants are able to report past undetected offences without having to fear legal consequences (Beier et al., 2009; Beier et al., 2015; Gerwinn et al., 2018; Kärgel et al, 2015, 2017; Konrad et al., 2017; Massau, Kärgel, et al., 2017; Massau, Tenbergen, et al., 2017; Schaefer et al., 2010; Schiffer et al., 2017). Emerging research in this area has begun to identify intriguing differences between MAPs who have sexually offended and those who have not, along with behavioural variations in terms of types and severity of psychological risk factors.

Preliminary investigations regarding the differentiation of sexual interests and

sexual behaviours have begun looking at biological mechanisms underlying pedophilia specifically and sexual offending against children generally. The "Neural Mechanisms Underlying Pedophilia and Sexual Offending Against Children" (NeMUP) multisite research project in Germany has collected fMRI and behavioural data for people with pedophilic interests who have or have not sexually offended against children, as well as healthy controls (i.e., no history of criminal behaviour or current psychiatric disorder; Kärgel et al, 2015, 2017; Massau et al., 2017a, 2017b; Schiffer et al., 2017). Results suggest that, compared to those who sexually offend against children, non-offending MAPs display superior inhibitory control and increased inhibition-related recruitment of the fronto-parietal control network (Kärgel et al., 2017). In contrast to non-offending MAPs, MAPs who sexually offend against children demonstrate diminished functional activity at rest between brain networks critically involved in widespread motivational and socio-emotional processes (Kärgel et al., 2015), show significantly reduced grey matter volumes in the right temporal pole (implicated in deciphering social cues, theory of mind, and sexual disinhibition; Schiffer et al., 2017), and exhibit greater problems with withholding pre-potent action impulses (Massau et al., 2017b). Together, these results suggest that deficits in response inhibition may not necessarily be related to pedophilia per se, but rather to acting on sexual interests in an illegal manner.

Neurological examinations of brain regions involved with various sociocognitive abilities (e.g., theory of mind, moral judgments) suggest that cognitive distortions and impaired moral judgment related to sexual aggression are associated with pedophilia specifically, rather than child sex offending behaviour more generally (Massau et al., 2017b). Research on biological mechanisms underlying pedophilia and child sexual offending contributes to the literature and clinical practice by identifying potential

behavioural markers that may put some MAPs at higher risk of sexually victimizing children, that may subsequently be targeted in preventative interventions.

Research also has begun to examine disparities in psychological and social mechanisms in the etiology of pedophilia versus child sexual abuse. A recent study by Gerwinn and colleagues (2018) is one of the first large-scale exploratory clinical studies to clearly separate participants based on offence status and sexual preference. Non-offenders with pedophilia scored significantly higher than child sexual offenders with pedophilia on variables including education level, mean total intelligence score, and verbal intelligence sub-scores. This suggests that lower intelligence and lower educational level are associated with sexual offending against children, rather than pedophilia (Gerwinn et al., 2018). A propensity to perpetrate child sexual offending may be associated with a history of childhood sexual abuse, because men with history of childhood sexual abuse reported significantly higher rates of sexual offending against children (Gerwinn et al., 2018). These results depict childhood sexual abuse as a factor associated with perpetration of sexual offending against children more broadly, rather than with the development of pedophilic interests specifically. A sizable proportion of non-offending MAPs met criteria for any current DSM-IV Axis-I disorder (45.0%), whereas more than half of these participants had a lifetime history of any DSM-IV Axis-I disorder (58.4%; Gerwinn et al., 2018). Although unable to statistically differentiate offenders from non-offenders, men with pedophilic interests in the non-offending group reported lower rates of externalizing behaviours (e.g., lifetime substance use disorders, Cluster B personality disorders, and childhood conduct disorders, lower scores on impulsiveness and hyperactivity) and higher rates of internalizing behaviours (e.g., lifetime mood disorders and Cluster C personality disorders; Gerwinn et al., 2018).

Taken together, it is evident that people with pedophilic sexual interests are prone to experiencing substantial psychological distress, even if they have never perpetrated child sexual abuse. This reality is congruent with other literature that has found heightened levels of reported distress among self-identified men with pedophilia in the community (Beier et al., 2009; Konrad et al., 2017; Schaefer et al., 2010). Overall, research from Gerwinn and colleagues (2018) supports the argument that pedophilia and child sexual abuse are distinct, multi-causal phenomena arising from complex interactions of many developmental, internal, external, and psychological factors.

Stigmatization and Help-Seeking Among Maps

Pervasive cultural messages regarding the "repulsiveness" and "immorality" of pedophilia subject MAPs in the community to extensive stigmatization, regardless of whether they have acted on sexual attraction toward children. Stigmatization contributes to viewing oneself as being undesirable, tainted, or discounted (Goffman, 1963). Discriminatory behaviours (e.g., anger, avoidance, denial of housing, employment, or treatment) strengthen perceptions of social identities characterized by social rejection, negative judgment, disrespect, unacceptance, and disconnection (Jahnke, Imhoff, et al., 2015; Jahnke, Schmidt, et al., 2015; Levenson et al., 2017). Perceptions and experiences of stigmatization can lead to increased social isolation, lower levels of self-esteem and self-efficacy, a perceived lack of control, social and increased propensity for negative affective states and distress (Elchuk et al., 2021; Jahnke, Imhoff, et al., 2015; Jahnke, Schmidt, et al., 2015; Lasher & Stinson, 2017). Stigmatization is a barrier to seeking professional services due to fears of negative or judgmental reactions, mandatory reporting, or a lack of professional knowledge about pedophilia and how to manage distress (Elchuk et al., 2021; Houtepen et al., 2016; Jahnke, Imhoff et al., 2015; Jahnke,

Schmidt et al., 2015; Lasher & Stinson, 2017; Levenson et al., 2017). Social stigma, from both professionals and other community individuals, can deter help-seeking both before and after sexually offending, regardless of detection (Levenson et al., 2017).

For people at risk of sexually (re)offending against children, failure to obtain professional help and appropriate mental health support may result in exacerbation of any existing mental health symptoms (B4U-ACT, 2011). Notably, the lack of access to professional support or resources could potentially contribute to the escalation or continuation of maladaptive sexual fixation toward minors that later culminates in convictions for sexual (re)offences against children (B4U-ACT, 2011; Farmer et al., 2012). Along with contributing to subjective experiences of distress, exacerbated mental health and social symptoms may exacerbate criminogenic risk factors for sexual offending and recidivism (e.g., lifestyle instability; problems with intimacy; social skill deficits; poor behavioural, emotional, and sexual self-regulation; maladaptive and antisocial cognitions; deviant sexual interests), which can increase an individual's risk for perpetrating child sexual abuse (Allan et al., 2007; Craissati & Beech, 2003; Hanson & Morton-Bourgon, 2005; Neutze et al., 2012; Neutze et al., 2011; Thakker & Ward, 2012; Thornton, 2002; Ward & Beech, 2008; Whitaker et al., 2008). Studying populations of community MAPs may increase awareness in ways that could promote de-stigmatization and reduce discrimination of pedophilia as a mental illness, and concurrently support efforts to enhance public safety.

Emerging findings of differences between MAPs who have and have not perpetrated sexual offences further highlights the heterogeneity between forensic and non-forensic populations. Therefore, there is a need to identify key etiological factors related to child sexual abuse among MAPs in the community who have not been

detected by the criminal justice system to inform evidence-based research and practice.

From Sexual Interests to Sexual Offending: The Issue of Consent

The issue of consent is central to the definition of sexual offences and bridges the divide between legal pedophilic interests and illegal child sexual abuse. Sexual consent involves comprehension of the activities a person is engaging in, an understanding of consequences, and a lack of manipulation or coercion (Sanderson, 2006). Broadly speaking, Canadian law defines age of consent for sexual activity as being 16 years old, with some exceptions in cases specific cases (Department of Justice [DOJ], 2017). For example, the "close-in-age exception" means that youth who are 14 or 15 years old can consent to sexual activity with a partner as long as the individual is less than five years older, and youth who are 12 and 13 years old can consent to sexual activity with a partner who is less than two years older (DOJ, 2017). For all close-in-age exceptions as well as 16 and 17 years old, consent for sexual activity cannot be given if the relationship with the sexual partner involves a position of trust, authority, dependency, or any other exploitation of the young person (DOJ, 2017).

Sexual activity without consent is illegal and criminal (Criminal Code of Canada, 1985). The developmental immaturity of children renders them inherently incapable of providing legal and informed consent to engage in sexual activity with an adult (World Health Organization, 1999). Sexual activity involving a child may be pressured, such as cases where an adult utilizes persuasion, enticement, coercement, or manipulation strategies to initiate sex with a minor (Crosson-Tower, 2002). At other times, sexual activity involving a child may be forced, such as cases involving use of force or threat of harm toward a child (Crosson-Tower, 2002). This reality means that sexual activity with a child may or may not involve violence and may involve grooming processes by which

potential abusers attempt to establish special relationships with the child to gain access, trust, and protection against disclosure of abusive behaviors (Sanderson, 2006).

Sexual Offending Behaviours Against Children

Conceptualizing Child Sexual Abuse

Child sexual abuse is a serious social problem with devastating effects at both societal and individual levels. In the World Health Organization's Consultation on Child Abuse Prevention Report (1999), child sexual abuse is defined as:

> … the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship of responsibility, trust or power, the activity being intended to gratify or satisfy the needs of the other person (pg. 15).

More than half (55%) of police-reported sexual offences in Canada involve a youth victim, with police statistics suggesting that there were approximately 14,000 child victims in 2012 at a rate of 205 sexual abuse victims for every 100,000 youth (Cotter & Beaupré, 2014; most recent statistics available). On a global scale, it is estimated that approximately 7.9% of boys and 19.7% of girls are victimized by sexual abuse before the age of 18 years (Pereda et al., 2009). These numbers likely underestimate the true prevalence of child sexual abuse, given that delayed reporting and under-reporting results in many cases going undetected by the criminal justice system (Cotter & Baupré, 2014; Shields et al., 2016). In fact, it is estimated that only approximately 10% of child sexual abuse cases are reported or come to the attention of

the criminal justice system (Sanderson, 2006). Taken together, these findings show that child sexual abuse is a major, widespread issue around the world, across all cultures, communities, and social classes.

Victimization by child sexual abuse is a major problem associated with negative short-term and long-term consequences across numerous developmental, social, economic, and legal domains. At a societal level, child sexual abuse is a complex, multi-dimensional social issue with fiscal costs driving high expenditures in healthcare, criminal justice (e.g., policing, courts), education, employment, employment insurance, income tax, and social/public services and programs (e.g., child welfare; Fang et al., 2012; Hankivsky & Draker, 2003). Beyond the financial expenses assumed by public and government resources, child sexual abuse also carries immediate and long-term economic burdens for victims and their families themselves who access these services or experience distress following abuse.

The harm of child sexual abuse also can be evidenced in less tangible, albeit unequivocal ways. Child sexual abuse can have detrimental effects on the quality of life and future life prospects of those who have been victimized, their families, and their friends (Fang et al., 2012; Hankivsky & Draker, 2003). The impact of child sexual abuse can vary enormously between individuals, with a many short-and long-term impairments across domains of developmental (e.g., neurodevelopmental problems with dissociation, information processing, and memory deficits), psychological (e.g., distorted cognitive processes and schemas, distressing emotions, identify problems, affect dysregulation, acute and persistent mental health concerns and symptoms), social (e.g., difficulties with developing and maintaining relationships, social withdrawal, reluctance in help-seeking behaviours, loneliness, social isolation, alienation), behavioural (e.g., aggression,

violence, self-harm, substance use, destructive behaviours, delinquency, criminality), and physical (e.g., internal or external physical injuries or disabilities, reproductive and sexual health problems) functioning (Fang et al., 2012; Nielson, 2016; Sanderson, 2006). The ways that adults and professionals react and respond to disclosures of sexual abuse are other important factors influencing how the child comes to view the abuse and their role in the abuse and may contribute to further iatrogenic harm for the child (Nielson, 2016; Sanderson, 2006). Furthermore, child sexual abuse may have a "ripple effect" whereby secondary victims of child sexual assault (e.g., family members, significant others, friends) experience emotional, psychological, social, or behavioural difficulties coping with the primary and secondary effects of child sexual abuse (Morrison et al., 2007). It is evident that the harmful consequences of child sexual abuse can manifest in a variety of forms and severities across the victim's lifespan.

Child Sexual Abuse Behaviours. Behaviours constituting child sexual abuse can occur in many settings and contexts, and vary in terms of intensity, severity, involvement, frequency, and offender-victim relationship. In the majority of cases of child sexual abuse in Canada, the perpetrator was known to, or trusted by, the child victim (88%; e.g., acquaintance, family member, intimate partner; Cotter & Beaupré, 2014; Sanderson, 2006). In contrast, only 12% of child sexual abuse cases were committed by a stranger (Cotter & Beaupré, 2014). As such, the perpetration of child sexual abuse may be intrafamilial or incest/familial abuse if abuse is perpetrated by a family member, such as a parent or other relative (Cotter & Beaupré, 2014; Sanderson, 2006). Child sexual abuse is considered extrafamilial if perpetrated by someone unrelated to the victim, such as an acquaintance, intimate partner, or stranger (Cotter & Beaupré, 2014; Sanderson, 2006).

Sexually abusive behaviours come in many forms (Table 2) and many sexual actions and interactions involving children are illegal (Criminal Code of Canada, 1985). The sexual activities involving a child may involve physical contact with the child, whether penetrative or non-penetrative (Sanderson, 2006). A wide spectrum of other non-contact behaviours may also constitute sexual offences against children (e.g., Sanderson, 2006). Furthermore, the internet provides a medium to enact sexually abusive behaviours (Durkin, 1997; McCarthy, 2010). Specifically, the internet may be malevolently used in four primary ways by individuals who sexually offend against children: 1) to traffic child pornography; 2) to locate children for the purpose of sexual abuse; 3) to engage in inappropriate sexual communication with children; and 4) to communicate with others with sexual interests toward children (Durkin, 1997).

A perpetrator of child sexual abuse may engage in any number of sexual offence behaviours against a child. Some offenders may have perpetrated "non-contact" offences, "contact" offences, internet offences, or "mixed" offences (i.e., combination of offences). Diverse modalities of child sexual offenders result in different typologies and subgroups of offenders, which may present variations in terms of etiological pathways to offending, behavioural patterns, demographic makeup, biopsychosocial characteristics, criminogenic needs, and level of risk for sexual offending (Aslan et al., 2014; Elliott et al., 2013; Elliott et al., 2009; Ly et al., 2018; McCarthy, 2010).

Prevention as a Means to Reduce Rates of Child Sexual Abuse

Programs and policies for preventing victimization of children are a critical public health concern. Typical approaches for preventing child sexual abuse involve primary and tertiary prevention and tend to be reactive in nature. Community-based primary prevention efforts tend to be directed at potential victims, focusing on public

education to recognize and respond to signs of concerning behaviours involving children (Beier et al., 2009; Lasher & Stinson, 2017; Stephens & McPhail, 2019). For example, primary prevention may aim to enhance public safety by changing victim behaviour (e.g., teaching children to avoid strangers). Other social responses to sexual offending against children utilize tertiary prevention approaches by providing intervention to individuals who have perpetrated sexual offences to prevent reoffending (Stephens & McPhail, 2019). Tertiary prevention strategies may involve developing legislation and sanctions to punish and deter perpetrators (e.g., mandatory minimum sentences, incarceration, sex offender registries), mandating sexual offender treatment programs, and restricting known offenders' access to potential victims (Lasher & Stinson, 2017).

Many reactive correctional policies operationalize the deterrence hypothesis. The deterrence hypothesis is the idea that crime can be deterred through changing the costs or benefits derived from crime, such as implementing punitive sanctions and "tough on crime" approaches (Becker, 1968; Dunnette, 2011; Gendreau et al., 2000). However, a lack of support for the deterrence hypothesis finds that incarceration can have detrimental effects on offenders' successful social re-integration, including increased recidivism risk and rates of recidivism (Bonta & Andrews, 2017; Dunnette, 2011). Furthermore, legislation outlining policies for sex offender registration and community notification can have the inadvertent impact of destabilizing offenders under community correctional supervision (Klein et al., 2018; Lasher & Stinson, 2017). Although intended to assist law enforcement agencies in criminal investigation, public sex offender registries, vulnerable sector check requirements, and public notification can contribute to difficulties with the individual's ability to secure housing and employment, increase their rate of non-compliance, and enhance the probability of community vigilantism,

ostracism, and violence toward sex offenders and their families (Klein et al., 2018; Lasher & Stinson, 2017; Murphy et al., 2009; Murphy & Fedoroff, 2015). These policies may also interfere with processes involved in forming prosocial identities, such as opportunities for prosocial social contacts and decreasing social alienation, which have been linked with criminal desistance (Farmer et al., 2012; Klein et al., 2018; Lasher & Stinson, 2017). Rather than protect against recidivism, these factors may enhance social destabilization and thereby increase the risk of sexually offending against children.

Alternatively, tertiary preventative strategies may utilize remediation or rehabilitation models to reduce sex offenders' risk of reoffending again in the future (Marshall et al., 2005). These strategies may include using risk management protocols to reduce harm to the community by targeting individual factors that put a sex offender at risk of reoffending, such as the Risk-Need-Responsivity Model (Bonta & Andrews, 2017). Alternatively, remediation/rehabilitation models may utilize "good lives" strategies which seek to guide rehabilitation by improving the offenders' quality of life and personal life goals (Marshall et al., 2005). A recent meta-analytic review suggested that these sex offender treatment programs are effective, or at least promising, as they generally contribute small-to-moderate positive effects for reducing rates of recidivism by an approximate average of 22% (d = -.36; Kim, Benekos, & Merlo, 2016). Thus, even though tertiary prevention efforts through sex offender treatment programs support some reductions in recidivism, there remains opportunity to enhance the effect of reactive interventions and build better prevention strategies to reduce child sexual offending.

Recent efforts for intervention have begun to emphasize the development of proactive prevention strategies directed at potential perpetrators to reduce the likelihood that someone sexually offends against children in the first place, or prevent recurrence of

future criminal behaviours (Beier et al., 2009; Lasher & Stinson, 2017). Proactive secondary prevention adopts perspectives that recognize the importance of providing support and rehabilitation that change potential perpetrators' behaviours by addressing idiosyncratic areas of criminogenic need that elevate the risk of sexual offending (Beier et al., 2009; Lasher & Stinson, 2017). That is, secondary prevention strategies focus on service delivery to individuals who may be at-risk for offending to prevent sexual offences before they occur (Stephens & McPhail, 2019). Proactive strategies support child protection while concurrently benefiting those who may be at risk but have not yet engaged in child sexual abuse (Beier et al., 2009; Lasher & Stinson, 2017). However, most research to-date has focused on examining heterogenous forensic samples of men who already have been convicted of child sexual abuse. To support the development of empirically based proactive prevention strategies, research is needed to better understand how people in the general public come to initially commit sexual offences against children. Additionally, it is necessary to gain insight into the characteristics of individuals who may be at greater or lesser risk of sexually abusing children despite their sexual interest in children, how these individuals are similar or different from one another, and what targets for interventions may be most pertinent to effectively reduce risk for sexual offending across heterogeneous groups of individuals.

Etiological Theories of Sexual Offending and Child Sexual Abuse

The forms of child sexual abuse, and the people who perpetrate these crimes, are very heterogeneous. Comprehensive theoretical explanations have developed from clinical and empirical evidence supporting an array of biological, psychological, and sociocultural factors implicated in the etiology of sexual offending by a heterogeneous group of male individuals (Ward et al., 2006). The genesis of sexual offending in men is

understood to be a multifactorial process, involving the ongoing confluence of a variety of complex systems and factors. Theoretical models of sexual offending and child sexual abuse point to a range of interrelated distal and proximal causal contributors that interact through biological, social, cultural, social learning, and psychological phenomena to generate multiple developmental pathways leading to the commission of sexual offences (Ward & Beech, 2008; Ward et al., 2006). Distal causal contributors are conceptualized as indirect, predisposing vulnerabilities from genetic inheritance and/or developmental experiences (Ward & Beech, 2008; Ward et al., 2006). In contrast, proximal causal contributors are conceptualized as immediate precipitating factors or events that directly influence thoughts, feelings, and behaviours (Ward & Beech, 2008; Ward et al., 2006).

By developing and testing theoretical models that clarify the underlying causes contributing to sexual offending, intervention efforts may be more effective at assessing risk and reducing the likelihood of sexual offending against children. Several of the more prominent comprehensive etiological theories that have emerged to explain the development of sexual offending behaviours by men include Finkelhor's Precondition Theory (1984), Marshall and Barbaree's Integrated Theory (1990), and Ward and Beech's Integrated Theory of Sexual Offending (ITSO; 2008), which are briefly summarized in Table 4. Given that the ITSO sought to integrate strengths and address limitations inherent to Finkelhor's Precondition Theory and Marshall and Barbaree's Integrated Theory, it will provide the dominant foundation for understanding the etiology of sexual offending against children by men.

Integrated Theory of Sexual Offending

Ward and Beech's (2008) Integrated Theory of Sexual Offending (ITSO) arose through theory knitting to integrate strengths of existing theories into a comprehensive

etiological framework. Proposed to explain the emergence and maintenance of sexual offending, the ITSO describes how processes of biological predispositions and social learning interact to contribute to changes in brain development, which then may impair neuropsychological functioning. According to the ITSO, a dynamic network of causal biological (e.g., evolution, genetic predisposition, neurobiological functioning), ecological niche factors (e.g., sociocultural environment, personal circumstances, physical environments), and neuropsychological factors (e.g., motivational and emotional system, attention selection and control system, perception and memory system) continuously interact as distal and proximal factors to manifest as sexual offending. Clinical problems (symptom-level state factors; e.g., regulation problems, deviant sexual arousal, offence-supportive cognitions, social difficulties, needs for intimacy) emerge as a direct result of interactions between genes, social learning, and neuropsychological systems and lead to sexual offending. The consequences of sexual offending, the offender's ecological niche, and individual functioning characteristics subsequently generate feedback loops which discourage, maintain and/or escalate further deviant sexual behaviours as the individual's existing vulnerabilities become entrenched.

The predominant strength in the ITSO (Ward & Beech, 2008) is its breadth and inclusiveness, integrating factors from fields of biology, neuropsychology, neuroscience, ecology, psychopathology, developmental psychology, and clinical features to explain and conceptualize sexual offending as a clinical phenomenon. Thus, the ITSO is capable of accounting for diversity in multiple developmental pathways to sexual offending, thereby enabling recognition of heterogeneity in presentations within sexual offender populations (Thakker & Ward, 2012; Ward & Beech, 2008). By integrating several prominent theories of sexual offending, the ITSO builds on the strengths of the

Precondition Theory (i.e., integrating the four preconditions as state/clinical factors; Finkelhor, 1984) and Integrated Theory (i.e., contributions of biological and ecological components of the model; Marshall & Barbaree, 1990). What further sets the ITSO apart is that it attempts to provide an account for both the initiation and recurrence of sexual offending behaviours, providing a more comprehensive explanation of sexual offending processes (Salerno, 2014; Thakker & Ward, 2012).

In terms of weaknesses of the ITSO (Ward & Beech, 2008), more empirical evidence is needed to support the validity and applicability of the general framework for understanding more specific types of sexual offending behaviours, such as child sexual abuse, child pornography-related offences, mixed offending behaviours, and other specific forms of sexual crimes against children. Furthermore, the ITSO does not examine the role of protective factors in the etiology of child sexual abuse.

Theoretical Integration and Conclusions

Several key points emerge across the three dominant theoretical perspectives for understanding the etiology of sexual offending. Although theories proposed by Finkelhor (1984), Marshall and Barbaree (1990), and Ward and Beech (2008) offer different explanations for mechanisms and causes of the commission of child sexual offences, each of these models recognized the role of dynamically interacting micro- and macro-level factors and processes that act as mechanisms contributing to sexual offending. Moreover, each theory emphasizes, whether directly or indirectly, the importance of both distal and proximal vulnerability factors in sexual offending against children. For example, deviant sexual interests or behaviours may be a well-established risk factor for commission of sexual offences against children. This view suggests that some, but not all, individuals sexually abuse children due to deviant sexual interest,

arousal, preference, and/or fantasies involving children (Ward & Beech, 2008).

All three theories similarly identify the innate human need for intimacy and social connection as relevant sexual offending and argue that obstacles to attaining these needs can lead to problematic outcomes like sexual deviancy. These social difficulties are related to attachment insecurity and can include issues such as loneliness, low self-esteem, low sense of inadequacy, low personal efficacy, suspiciousness, passive victim stance, and difficulty establishing appropriate adult intimate relationships (Finkelhor, 1984; Marshall & Barbaree, 1990; Ward & Beech, 2008; Ward et al., 1996).

Another similarity that exists is that all three theories recognize the role of emotional or behavioural deficits or dysregulation. Finkelhor (1984) identified these deficits as preconditions to disinhibition and emotional congruence with children. Marshall and Barbaree (1990) identified individual vulnerabilities including anger and inadequate coping strategies. Ward and Beech (2008) suggested that emotional and behavioural regulation problems were the clinical factors involved in the commission of sexual offending. Ward and Beech (2008) elaborated to describe specific problems in emotional and behavioural regulation (e.g., poor emotional control, impulsivity, mood problems, emotional competency deficits, and disinhibition). Overall, these issues may render an individual especially vulnerable when confronted with precipitating situational risk factors such as intoxication, anger/hostility, or emotional collapse.

Finally, in some way, each integrative theory posits a role of antisocial cognitive styles that support sexual offending. Finkelhor (1984) suggested that perpetrators must possess motivations to sexually offend, while also overcoming internal and external inhibitions. Marshall and Barbaree (1990) recognized how sociocultural context can shape views and values regarding dominance, values, and aggression, how aversive

developmental experiences can shape one's socialization, and how post-offence cognitive distortions can be reinforced to support and maintain antisocial behaviours. Finally, Ward and Beech (2008) recognized that offence-supportive cognitions reflect values, beliefs, and attitudes that facilitate one's underlying antisocial explanations and interpretations of others' actions. For offenders who sexually molest children, pro-offending cognitions may include implicit sets of schemas viewing children as sexual beings or believing that sex does not cause harm to children (Ward & Beech, 2008).

Taken together, a variety of similarities across the three dominant comprehensive etiological theories reviewed above have provided valuable insight for understanding the sets of causes, vulnerabilities, and risk factors associated with sexual offending against children. In addition to the interactions of a variety of biopsychosocial variables, these theories allude to ways that the propensity to experience sexual arousal to child-related stimuli can act as a motivator for the perpetration of child sexual abuse. Overall, comprehensive theories modeling the etiology of sexual offending against children by men identify interacting vulnerabilities across broader domains of adverse developmental antecedents, self-regulatory deficits, deviant sexual interests, offence-supportive cognitions, and socio-affective and intimacy deficits. Elucidating variations and interactions between characteristics across these domains can provide insight regarding how vulnerabilities may influence differential trajectories toward non-offending behaviours versus sexual abuse. Theoretical models also provide a guiding foundation for exploring similarities and differences in characteristics across heterogeneous men who perpetrate child sexual abuse. The current dissertation explored variations between broad domains and specific characteristics noted in theoretical models among men with pedophilic interests in the community who have not had

contact with the criminal justice system as a result of their sexual interests.

Typologies and Offence Pathways in Forensic Samples of Child Sex Offenders

Theoretical models of child sexual abuse that allude to interactions among many proximal and distal factors, along with a vast assortment of sexually abusive behaviours, clearly demonstrates that child sexual offenders constitute heterogeneous populations of individuals. People who sexually offend against children exhibit diverse arrays of biopsychosocial-sexual characteristics, needs, and behavioural patterns in varying forms, intensity, and frequency. Responding to extensive heterogeneity, typologies have been developed in an attempt to classify sexual offenders across multidimensional axes (Knight & Prentky, 1990; Robertiello & Terry, 2007). Classification may be accomplished using standardized instruments and statistical profiling methods (e.g., cluster analysis) to explore methods of categorizing sexual offenders based on clusters of symptoms, behaviours, or traits (Martínez-Catena et al., 2017; Ward et al., 2006). Classification systems may be driven by approaches that are theory-led (e.g., based on main tenants of most relevant theories), clinically-derived (e.g., based on specific psychiatric symptom syndromes, such as those defined within the DSM-5), pragmatic-based (e.g., assess and predict offenders' risk by combining static risk factors), or purely statistical in generation (e.g., using psychometric approaches involving standardized instruments and statistical analytic methods; Bickley & Beech, 2001).

When psychometric systems of classifications account for clinically relevant variables, they may provide insight into pathways to sexual offending against children and beneficially guide empirical applications of forensic risk assessment, treatment, prevention, and risk management (Knight & Prentky, 1990; Mandeville-Norden & Beech, 2009; Martínez-Catena et al., 2017; Ward & Siegert, 2002). Clinically relevant

variables in typologies may include factors related to motivational precursors, criminogenic needs, recidivism risk, or therapeutic needs. Thus, typologies of child sexual offenders lend valuable insight about differences in clinical presentations, offence trajectories, and variations in motivations driving sexual offending against children.

The Fixated-Regressed Typology

The first attempts to generate systems of classification for child sexual offenders emerged in the 1980s, when researchers began to create basic typologies based upon motivations for perpetrating sexual offences (Finkelhor, 1984; Groth et al., 1982; Terry & Tallon, 2004). These systems consider the degree to which deviant sexual interest toward children is entrenched in the abuser to establish a continuum of fixated-regressed sexual offending (Groth et al., 1982).

The Fixated-Regressed typology developed by Groth and colleagues (1982) suggests that fixated offenders are characterized by persistent, continual, and compulsive sexual attractions to children, psychosexual immaturity, and a dearth of age-appropriate sexual relationships during adulthood (Finkelhor, 1984; Terry & Tallon, 2004). Typically, fixated offenders are proposed to meet diagnostic criteria for pedophilia, attempt to develop relationships with extrafamilial vulnerable children through grooming, present heightened risk for recidivism, and engage in actions which are more premediated in nature (Robertiello & Terry, 2007; Terry & Tallon, 2004). In contrast, regressed offenders' sexual involvements with children are seen as temporary, unfixed departures from their typical attraction toward adults (Robertiello & Terry, 2007; Terry & Tallon, 2004). Behaviours exhibited by regressed offenders typically emerges in adulthood and tends to be precipitated by external stressors (e.g., marital problems, environmental stressors, unemployment, substance abuse, negative affective states)

which act as precursors to sexual offending by undermining self-esteem and confidence (Groth et al., 1982; Robertiello & Terry, 2007; Terry & Tallon, 2004).

Attempts to empirically validate the fixated-regressed typology found that this classification system is incapable of accounting for all child sexual offenders, suggesting additional causal interactions between general criminality, antisocial behaviour, and child molestation (Terry & Tallon, 2004). These findings prompted modifications of Groth and colleagues' (1982) original model. That is, the Federal Bureau of Investigation (FBI) expanded the typology to include seven subgroups of offenders (Lanning, 1992; Robertiello & Terry, 2007; Terry & Tallon, 2004). This expansion includes three types of "fixed"/preferential offenders: 1) seductive (e.g., "court" or groom children by providing affection, love, gifts, or enticements to establish a "relationship"); 2) fixated (e.g., poor psychosexual development, compulsively attracted to children, desire child's affection); and 3) sadistic (e.g., aggressive, sexually excited by violence, target strangers, highly dangerous; Lanning, 1992; Terry & Tallon, 2004). The FBI also described four types of "regressed"/situational offenders: 4) regressed (e.g., poor coping skills, target easily accessible victims, child abuse as a substitute for adult relationships); 5) morally indiscriminate (e.g., do not prefer children over adults, use children or any other accessible individual to fulfill sexual and other needs); 6) sexually indiscriminate (e.g., interest in sexual experimentation, abuse children out of boredom); and 7) inadequate (e.g., insecure social misfits with low self-esteem, perceive children as the only available sexual outlet; Lanning, 1992; Terry & Tallon, 2004).

Despite these expansions of the fixated-regressed system of classification, the two central constructs of "fixation" and "regression" appear to confound several variables, including the style of offending, interpersonal relationships with victims,

intensity of pedophilic interests, and level of social competence achieved prior to perpetrating sexual abuse. Furthermore, the FBI's expansion of the fixated-regressed typology was specifically developed to provide aid for law enforcement professionals (Lanning, 1992). The developers of the FBI's expanded typology deliberately sought to recognize how perpetrators sexually victimize children to facilitate identification, arrest, and conviction, rather than to understand why perpetrators have sex with children as a means to guide efforts of professional help or treatment (Lanning, 1992). Thus, while the FBI's expanded typology has utility for law enforcement professionals and understanding potential motivations and patterns for child sexual abuse, its utility is limited in terms of informing targets for intervention to reduce sexual recidivism.

The Massachusetts Treatment Centre: Child Molester Typology, Version 3 (MTC:CM3) Typology

To further inform theory and intervention and to address limitations of Groth and colleagues' typology, Knight and Prentky (1990) employed deductive-rational and inductive-empirical research strategies to develop multidimensional typologies of child sexual offenders. Knight and Prentky (1990) used a research-informed approach and separated intensity of pedophilic interest and social competence (Axis I) and offender style and relationship with victims (Axis II). Axis I examined the degree of fixation with children (e.g., low fixation vs. high fixation), and level of social competence (e.g., low competence vs. high competence; Knight & Prentky, 1990; Terry & Tallon, 2004). Axis II considered the amount of contact an offender has with children (e.g., low amount of contact vs. high amount of contact), the meaning of contact with children (e.g., interpersonal vs. sexual/narcissistic), and the amount of physical injury involved (e.g., low physical injury vs. high physical injury, further broken into non-sadistic vs. sadistic

types of fantasies and/or behaviours; Knight & Prentky, 1990; Terry & Tallon, 2004).

The MTC:CM3 typology offered a taxometric account which demonstrated reasonable reliability for classifying subgroups of child sex offenders and could be connected with distinctive developmental antecedents for child sexual abuse (Knight & Prentky, 1990). Additionally, the MTC:CM3 was formulated by including variables that emerged from existing empirical literature as having discriminatory power among sexual offenders as a source of indirect validity for the model (Knight & Prentky, 1990). However, as a theory-based system of classification, the MTC:CM3 typology only includes extrafamilial child sexual offenders and has had limited practical applications for clinicians with respect to predicting recidivism and its relevance for treatment (Bickley & Beech, 2001; Camilleri & Quinsey, 2008).

The Deviance Typology

Seeking to develop a more clinically useful typology and recognizing the value of psychometric measures for examining treatment need and level of future risk, Beech (1998) expanded existing typologies by using psychometric scales in a sample of child sexual offenders (N = 140). Along with detailed information about criminal histories from official records, Beech (1998) used scales to measure social inadequacy, level of fixation on children, distorted thoughts about children's sexuality, level of denial of the impact of sexual abuse on their victims, sexual obsessions, justifications and admittance of offending behaviours, and level of accountability for their actions. Analyses yielded two distinct clusters of child sexual offenders: 1) high deviance; and 2) low deviance.

The Deviance typology established that it was possible to identify severity of problems or level of deviancy presented by child sexual offenders. The two deviance clusters are supported by offence history information including victim gender, victim

age, and familiarity with the victim (Beech, 1998; Mandeville-Norden & Beech, 2009). Furthermore, this psychometric typology supported the clinical utility of using deviancy as a baseline for defining risk and treatment needs beyond consideration of forensic risk level alone. Accordingly, the Deviance typology (Beech, 1998) can help inform Risk-Need-Responsivity-based interventions as low-deviancy child sexual offenders tend to receive shorter, less-intensive intervention compared to high-deviancy child sexual offenders (Elliott et al., 2013; Henry et al., 2010; Mandeville-Norden & Beech, 2009). Despite the strengths of the Deviance typology, limitations arise from the utility and generalizability of this model as the analyzed sample contained a large number of highly pedophilic child sexual offenders recruited from secure residential treatment settings (Beech, 1998; Mandeville-Norden & Beech, 2009).

Contact Child Sex Offender Typology

To more thoroughly investigate the utility of the Deviance typology, Mandeville-Norden and Beech (2009) recruited a larger, probation-based sample of convicted contact child sexual offenders who were about to enter a treatment program for their offending (N = 435). Psychometric data were collected for variables related to social inadequacy, accountability, and offence-related variables. Three groups were identified via cluster analysis, each characterized by primary sets of psychological dysfunctions: 1) social adequacy problems; 2) victim empathy deficits; and 3) global problems.

Men in the social adequacy problems cluster exhibited difficulties on measures of self-esteem, emotional loneliness, and personal distress, but did not demonstrate issues in any of the offence-related measures nor on the accountability measures (Mandeville-Norden & Beech, 2009). Lower scores on scales measuring emotional identification with children further suggest that individuals in this group are largely

unable to relate to children. In contrast, those in the victim empathy deficits cluster reported few problems on measures of social adequacy, cognitive distortions, or emotional identification with children, but expressed major problems with understanding the distress caused to victims and minimization of the impact of abuse (Mandeville-Norden & Beech, 2009). This group bore similarities to Beech's (1998) low deviancy group, who similarly reported deficits in victim empathy. Finally, the third global problems cluster mirror Beech's (1998) high deviancy group and were characterized by universal issues across scales of social adequacy, accountability, and offence-related measures (Mandeville-Norden & Beech, 2009). Specific difficulties included low self-esteem, anxiety when witnessing others experiencing distress, low sense of responsibility for actions, highest victim empathy deficits, highly distorted beliefs about children and sex, higher levels of emotional identification with children, and difficulties forming appropriate and intimate adult relationships with other adults.

Although there was no significant difference between groups in terms of sexual recidivism risk level, the utility of the contact child sex offender typology is apparent by empirically demonstrating that classes of child sexual offenders have distinctly different needs regardless of risk level that can help guide decisions regarding targets and dosage for intervention (Mandeville-Norden & Beech, 2009).

Internet-Based Sexual Offender Typology

Advancements in technology have expanded ways that individuals are capable of sexually offending against children. This includes internet-based sexual offences such as making indecent images of children (which, from a legal definition standpoint, also can include possession of indecent images), taking indecent images of children, or enticing a child into sexual activity via the internet (Henry et al., 2010). Internet-based sexual

behaviours were not yet a consideration in older typologies. Thus, Henry and colleagues (2010) sought to examine whether distinct categories could differentiate child sexual offenders convicted of internet sexual offenders (N = 422) using measures of pro-offending variables, socio-affective variables, and social desirability responding.

Henry and colleagues (2010) identified three groups of internet offenders: normal, inadequate, and deviant. Those within the normal group demonstrated profiles similar to that of the "normal" general population, except for self-esteem scores falling just below the normal range and higher social desirability scores (Henry et al., 2010). Scores on pro-offending measures were within the normal range for individuals in the inadequate group, but significantly lower socio-affective functioning was demonstrated through lower self-esteem and greater levels of emotional loneliness, personal distress, under-assertiveness, and external locus of control. The deviant group exhibited deficits across both socio-affective and pro-offending measures. Specifically, the deviant group reported higher scores on pro-offending measures than other groups, along with low levels of self-esteem and high degrees of emotional loneliness (Henry et al., 2010). These results supported Henry and colleagues' (2010) predicted hypotheses that classification of internet-based offenders would mirror clusters observed for contact sexual offenders (Mandeville-Norden & Beech, 2009).

Commonalities Across Child Sexual Typologies

Typological classification systems have been described to identify groups of child sexual offenders on the basis of theoretical, clinical, pragmatic, and statistical approaches. Using forensic samples of convicted child sexual offenders, these typologies empathize several major themes across clusters. Recognized as a prominent risk factor for child sexual abuse, the "fixated" nature of pedophilic sexual interests is examined as

a factor which may motivate decisions regarding methods of child sexual abuse and victim selection. In modern language, this fixation could be conceptualized in terms of the exclusivity of sexual preference for children versus adults and may be related to features such as emotional identification with children. The notion of deviancy was also identified across typologies, conceptualized through deviant sexual interests as well as pro-offending attitudes, justifications, and the nature of interactions with children. Finally, child sexual offender typologies recognize the important role of socio-affective deficits in the perpetration of sexual abuse. Combining variables related to both interpersonal and psychological functioning, these symptom clusters denote problems with intimacy and relationships, distress, loneliness, self-esteem, and social skills deficits. Existing forensic typologies also tend to triangulate clustered groups with historical and offence-related data in attempt to provide insight related to level of risk.

Many of the typological classification systems have been built from measured variables which align closely to various vulnerabilities proposed by theoretical models described above. That is, most child sexual offender typologies integrate characteristics across domains of adverse developmental antecedents, self-regulatory deficits, deviant sexual interests, offence-supportive cognitions, and socio-affective and intimacy deficits. Similarities pertaining to sexual interests, deviancy, and socio-affective deficits align particularly well with major risk domains identified within child sex offender literature (i.e., deviant sexual interests, offence-supportive attitudes, self-regulation difficulties, socio-affective and intimacy deficits; Allan et al., 2007; Craissati & Beech, 2003; Gannon et al., 2012; Hanson & Morton-Bourgon, 2005; Neutze et al., 2011, 2012; Thakker & Ward, 2012; Thornton, 2002; Ward & Beech, 2008; Whitaker et al., 2008). Congruency between forensic typologies for child sexual offenders and theoretically and

empirically supported criminogenic risk factors further strengthens the argument that statistically derived typologies can provide valuable clinical utility to guide RNR-based risk assessment, treatment, and rehabilitation. In this vein, developing a typology to understand heterogeneity among MAPs may be helpful to inform the development of evidence-based preventative intervention strategies. A typology of community MAPs also may inform clinicians and policymakers of central targets for risk-management and mental health intervention prior to the perpetration of child sexual abuse.

Pathways to Child Sexual Abuse

The notion that there are a range of vulnerabilities, traits, and motivations that cluster and drive the commission of illegal sexual behaviours is further exemplified through the reality that not all people who are at elevated risk of offending proceed to commit sexual crimes against children. People who perpetrate sexual offences against children may or may not experience sexual attraction to minors – that is, child sexual abuse is perpetrated by both people with and without pedophilic interests. In fact, the proposed likelihood of *any* individual committing a first-time sexual offence of any type is approximately 1-3% (Hanson et al., 2014). Along with apparent heterogeneity among child sexual offenders, it appears that individuals in different typological groups traverse discrete developmental trajectories leading toward the perpetration of child sexual abuse. The identification of distinct pathways to sexual offending can facilitate the recognition of sets of causal mechanisms and provide insight regarding the interaction of these mechanisms for different groups of people who sexually abuse children.

The Pathways Model of Child Sexual Abuse

Ward and Siegert (2002) used a theory knitting approach to develop a multifactorial etiological framework to define multiple pathways leading to child sexual

abuse. Similar to the later-developed ITSO (Ward & Beech, 2008), the Pathways Model proposes that a combination of developmental influences, core sets of dysfunctional mechanisms, and opportunity to perpetrate sexual crimes act together to initiate and maintain offending behaviour (Ward & Siegert, 2002). The Pathways Model describes a preliminary theoretical account of how sexual offending behaviours arise from the interaction of distal and proximal developmental factors with individual variables and other environmental, contextual, situational, and sociocultural factors and settings.

The Pathways Model posits that adults who perpetrate sexual offences against children typically display symptoms or problems that can be grouped as four clusters: 1) emotional regulation problems; 2) intimacy/social skill deficits; 3) deviant sexual arousal and distorted sexual scripts; and 4) cognitive distortions (Ward & Siegert, 2002). Each of these components tend to be present to some degree across all forms of sexual offending, but each pathway features a core set of dysfunctional primary mechanisms that exert impact upon the others (Ward & Sorbello, 2003). This contention is congruent with existing child sexual offender theoretical models, typologies and empirically supported risk domains (see Risk Factors section below), further suggesting that variations in these clusters arise in terms of severity, direction, and pervasiveness of problems to generate characteristic, typological psychological profiles (Ward & Siegert, 2002). Propensity to experience vulnerabilities arise from ecological factors in the individual's environment including family factors, biological factors, developmental learning history, and/or cultural models within early socialization processes (Ward & Siegert, 2002). Interactions between clusters of vulnerability factors serve as primary causal mechanisms for five proposed etiological pathways driving the initiation and maintenance of child sexual offending, as articulated by Ward and Siegert (2002).

Ward and Siegert's (2002) first pathway is related to primary dysfunctions in intimacy and social skills, known as the intimacy deficits pathway. Primary problems with insecure attachment and difficulties establishing satisfactory relationships with adults act as a primary causal mechanism, with inappropriate sexual behaviours often triggered by periods of rejection, sustained emotional loneliness, or dysphoria in relationships (Ward & Siegert, 2002). Men who traverse this pathway develop maladaptive interpersonal strategies to escape or avoid expectations of unsuccessful relationships with adults. As a result, those at-risk individuals may substitute a child in the place of an adult to fulfill needs for sex and intimacy and may attempt to create an adult-like relationship with a child as their surrogate partner (Ward & Siegert, 2002).

Distorted sexual scripts characterize Ward and Siegert's (2002) second etiological pathway, which interact with dysfunctional relationship schemas (i.e., attachment styles) and lead to sexualization of relationships. Sexual scripts refer to mental representations acquired through developmental processes to facilitate interpretations of intimate and/or sexual encounters, subsequently guiding sexual behaviours (Ward & Siegert, 2002). Distorted sexual scripts can manifest in clusters of problems related to deviant sexual arousal, intimacy deficits, inappropriate emotions, and cognitive distortions. Distortions can lead to the conflation of sex with intimacy, affection, and interpersonal closeness, whereby the primary mechanism for sexual offending resides in purely sexual representations of relationship schemas (Ward & Siegert, 2002). Children are selected as sexual partners due to both opportunity and to sexual or emotional needs, with offending styles that are episodic and triggered by rejection, negative affect, vulnerability, or extreme loneliness (Ward & Siegert, 2002).

Primary dysfunctions in components of the emotional regulation system, and

associated behavioural control responses, act as causal mechanisms for the third etiological pathway, labelled the emotional dysregulation pathway by Ward and Siegert (2002). Ineffective emotional regulation during times of negative affect may lead to a loss of control, disinhibited behaviours, sexualized coping, and opportunistic sexual behaviours, which can serve to increase one's sense of self-esteem and well-being (Ward & Siegert, 2002). Individuals who follow the emotional dysregulation pathway may select children as sexual partners to enable sexual coping strategies and fulfill emotional needs during periods of emotional dysphoria and stress (Ward & Siegert, 2002).

Ward and Siegert's (2002) fourth etiological pathway is characterized by antisocial cognitions, whereby a combination of pro-criminal attitudes and beliefs, sexual desire, and opportunity result in sexual abuse of a child. These individuals demonstrate general antisocial tendencies, often accompanied by extensive, diverse criminal histories and problems with self-regulation, impulsivity, substance use, and other criminogenic needs (Bonta & Andrews, 2017; Ward & Siegert, 2002). Rather than reflecting enduring sexual preferences for children (i.e., sexual scripts are not necessarily distorted), sexual offending behaviours in this group tends to exist among a broader pro-criminal orientation and beliefs supporting opportunistic self-gratification and disregard for predominant social norms (Ward & Siegert, 2002).

Finally, multiple dysfunctional mechanisms characterize Ward and Siegert's (2002) fifth etiological pathway to child sexual offending. These individuals have developed deviant sexual scripts, often specifying children as the preferred sexual partner, and present notable deficits across other primary psychological mechanisms, including attachment styles, intimacy skills, emotional dysregulation, and distorted cognitions about the self, others, children, and sex (Ward & Siegert, 2002). Oftentimes,

major flaws are exhibited in implicit theories relating to the sexual sophistication of children and the appropriateness of sexual contact with children, and this group may include "pure pedophiles" with exclusive pedophilic interests (Ward & Siegert, 2002). In certain circumstances, sexually abusive behaviours may arise from flaws in casual mechanisms as a method to satisfy primary and secondary goals of experiencing interpersonal connection, forming relationships, reducing negative affect, enhancing positive affect, and achieving pleasure and sexual satisfaction (Ward & Siegert, 2002).

Empirical Investigations of the Pathways Model

Although formulated on a comprehensive theoretical basis, the Pathways Model is considered provisional and tentative with its clinical utility contingent on whether it is empirically supported by research. Extant literature shows that the pathways described within the Pathways Model receive mixed support in populations of child sexual offenders, suggesting that there may be further developmental complexities, psychological mechanisms, and pathways to be explored in future research (Connolly, 2004; Gannon et al., 2012; Middleton et al., 2006).

As one of the first empirical investigations of the Pathways Model, Connolly's (2004) use of grounded theory for inductive qualitative thematic analysis of interviews with 13 incarcerated child sexual offenders found support for several pathways described in the Pathways Model (Ward & Siegert, 2002). Specifically, offenders exhibited evidence of traversing the intimacy deficits pathway ($N = 3$), the deviant sexual scripts pathway ($N = 4$), and the multiple dysfunctional mechanisms ($N = 3$). The three remaining participants in their study showed some features described by the remaining two pathways (i.e., emotional dysregulation and antisocial cognitions), but the patterns of these participants' experiences could not be sufficiently characterized by

these pathways (Connolly, 2004). Nevertheless, Connolly (2004) tentatively concluded that the Pathways Model has the potential to be clinically useful for identifying appropriate interventions for diverse groups of child sexual offenders.

Middleton and colleagues (2006) used a quantitative psychometric approach to examine the applicability of the Pathways Model in a probation-based sample of internet sexual offenders (N = 73). Of the 43 participants with elevated scores on measures of psychosocial risk factors, 33 were relatively easy to assign to one of the five specified pathways: intimacy deficits (35%, n = 15), distorted sexual scripts (5%, n = 2), emotional dysregulation (33%, n =14), antisocial cognitions (2%, n =1), and multiple dysfunctional mechanisms (2%, n = 1). The remaining 10 participants showed elevated scores in two or three of the main indictors used for pathway identification, including elevations in emotional loneliness, personal distress, emotional congruence with children, low self-esteem, and high impulsivity.

Middleton and colleagues (2006) proposed that some internet sexual offenders share similar psychological deficits as found in other types of child sexual offenders. Furthermore, the preponderance of participants who did not demonstrate psychometric elevations on any measures of psychosocial risk factors (40%, n = 30) suggested that some internet offenders do not demonstrate the typical psychological vulnerabilities of contact sexual offenders or may evidence dysfunctions beyond those captured by the Pathways Model (e.g., impulsivity, more general problems with internet use; Middleton et al., 2006). Taken together, Middleton and colleagues' (2006) findings provide tentative support to the use of the Pathways Model with internet offenders, while emphasizing the need for individualized and specific treatment approaches and the need to further investigate psychological mechanisms driving sexual offending.

A quantitative psychometric investigation by Gannon and colleagues (2012) sought to refine the Pathways Model more rigorously by exploring data for evidence of etiological pathways that confirm or contradict the original model for contact child sex offenders (N = 95). Using non-hierarchal cluster analysis, a five-cluster resolution was selected as the most interpretable fit for the data (Gannon et al., 2012). Clusters evidenced both similarities and disparities compared to the psychological deficits driving pathways predicted from the Pathways Model.

Gannon and colleagues (2012) found that participants in cluster 1 were labelled "impulsive" (n = 49) and were characterized by slight elevations of impulsivity and relatively normal functioning for intimacy deficits, deviant sexual scripts, antisocial cognitions. Cluster 1 participants showed relatively few prior convictions for sexual offences and seemed to target relatively older children. The authors labelled cluster 2 as "boy predators" (n = 18), who target male children and demonstrated pervasive deficits across the majority of psychological variables measured. However, these participants did not demonstrate intimacy deficits and had less pervasive sexual script deficits. Participants in cluster 2 were most likely to hold sexual offence convictions against male children, to target younger children, report a preference for impersonal and sadomasochistic fantasies, use sexual themes (particularly child themes) for coping, and report attitudes supporting child molestation. The third cluster was labelled "intimacy deficits," since these participants showed the highest elevations in intimacy deficits compared to all other clusters (except for the multiple dysfunction cluster), as well as unique emotional regulation deficits. Cluster 3 participants showed high levels of previous child sexual offence convictions, tended to target older children, and reported the highest sexual interest in adult women relative to other clusters. The label "general

antisocial" was given to cluster 4 to describe participants who reported high endorsements of antisocial cognitions supporting general criminal activity and elevated emotional dysregulation (e.g., physical and verbal aggression, anger, suppression). Participants in cluster 4 demonstrated some preference for extrafamilial male children, tended to target older children, and had low numbers of previous child sexual offence convictions (Gannon et al., 2012). Finally, cluster 5 was the smallest and most tentative cluster of participants. This final cluster showed dysfunctions across all tested psychological variables, with elevations prominent for preferences of sadomasochism, sex with all types of children, and the use of sexual themes (particularly involving children) for coping (Gannon et al., 2012).

Taken together, Gannon and colleagues' (2012) cluster 3 (intimacy deficits), cluster 4 (general antisocial), and cluster 5 (multiple dysfunction) displayed relatively good fit with Ward and Siegert's (2002) Pathways Model. To refine the Pathways Model, Gannon and colleagues (2012) suggested that the intimacy deficits pathway include problems with impulsivity and that the antisocial pathways be adjusted to account for more global antisocial traits. Given that most participants (69%, $n = 67$) did not fit into predicted pathways, there may be additional pathways characterized by individuals who behave opportunistically and impulsively (i.e., cluster 1) and a group of individuals who demonstrate multiple dysfunctions but show fewer intimacy deficits and did not display sexual interest in female children (i.e., cluster 2; Gannon et al., 2012).

Overall, studies by Connelly (2004), Middleton and colleagues (2006), and Gannon and colleagues (2012) emphasized heterogeneity in offence trajectories among people who sexually abuse children, regardless of the presence of pedophilic sexual interests. These preliminary studies support the idea that clusters of core deficits

contribute to multiple pathways for diverse types of sexual offending. Although psychological mechanisms leading to offending may not conclusively follow trajectories outlined by the Pathways Model (Ward & Siegert, 2002), these findings suggest that identifying underlying homogeneity shared by some child sex offenders can streamline strategies and targets for intervention. Unique pathways may be associated with distinct typologies of child sexual offenders with disparate treatment needs and targets.

Of note, only one of Ward and Siegert's (2002) proposed clusters outlined in the Pathways Model seemed to be directly applicable to child sexual offenders with pedophilic interests. That is, only the multiple dysfunctions pathway highlights deviant sexual scripts denoting sexual preference toward children. However, other features of the Pathways Model may provide useful guidance for understanding the psychological mechanisms behind why some MAPs sexually offend, and why others do not. Thus, MAPs who sexually offend against children may exhibit psychological difficulties across various domains, but there is little known about explicit differences in functional and behavioural profiles within MAP populations. Continued research is necessary to refine and amend empirical understanding of how and why some MAPs traverse multiple pathways to perpetrate sexual offences against children.

Risk Factors for Child Sexual Abuse

From theories and research exploring etiology, typologies, causes, mechanisms, and pathways of child sexual abuse, several factors consistently have emerged that appear to render individuals more vulnerable to the initiation and recurrence of criminal behaviours. Risk factors act as "red flag" markers providing predictive information about an individual's propensity to exhibit increased or decreased risk to an anticipated an outcome (e.g., perpetration of child sexual abuse; Bonta & Andrews, 2017; Heffernan

& Ward, 2017; Mann et al., 2010). Thus, risk factors facilitate recognition of problems correlated with sexual offending behaviours (Heffernan & Ward, 2015). Given that risk of perpetrating sexual offences is multi-determined, it is essential to consider a range of risk factors when assessing risk of child sexual abuse (Mann et al., 2010). By considering how motivational, psychological, and behavioural processes interact within different environments, risk factors are a valuable piece of the etiological puzzle for understanding sexual abuse perpetration (Heffernan & Ward, 2015; Mann et al., 2010).

Risk factors predictive of problematic antisocial behaviour generally can be conceptualized within several broad categories (Ward & Beech, 2006). Static factors are features within the individual's history which cannot be changed with time or amended through direct intervention or circumstances. In contrast, dynamic risk factors are potentially changeable and can be targeted through intervention. Dynamic risk factors may be either stable or acute. Stable dynamic risk factors are those features which are relatively enduring problems that can change slowly with time or intervention and include trait-like dispositions such as personality. Acute dynamic risk factors are more rapidly changing influences, such as being intoxicated or in offence-related psychological states or being in the presence of children (Hanson & Harris, 2000). Overall, dynamic risk factors often reflect surface manifestations of issues in underlying neuropsychological, affective, and behavioural systems (Ward & Beech, 2006).

Dynamic risk factors associated with the perpetration of antisocial or criminal behaviours constitute "criminogenic needs," which, when altered, are associated with changes in the probability of criminal offending (Bonta & Andrews, 2017). Bonta and Andrews (2017) identified eight major criminogenic risk factors for antisocial behaviour: criminal history, antisocial personality pattern, procriminal associates,

antisocial cognitions, substance use, and issues in domains of family/marital, school/work, and leisure/recreation. Beyond these main criminogenic risk factors, four domains of criminogenic risk factors have been identified as contributing to sexual offending, specifically: 1) deviant sexual interests; 2) offence-supportive cognitions; 3) emotional, behavioural, and sexual self-regulation deficits; and 4) socio-affective and intimacy deficits (Allan et al., 2007; Craissati & Beech, 2003; Gannon et al., 2012; Hanson & Morton-Bourgon, 2005; Mann et al., 2010; Neutze et al., 2011, 2012; Thakker & Ward, 2012; Thornton, 2002; Ward & Beech, 2008; Whitaker et al., 2008).

The role of contextual variables as risk factors in the perpetration of antisocial behaviours (i.e., acute dynamic risk factors) also are relevant. These antecedents include fluctuating situational, proximal, and temporal circumstances that function as potential triggers that may precipitate imminent antisocial behaviours (e.g., intoxication, negative mood, victim access, elevated stress; Hanson & Harris, 2000; Ward & Beech, 2006). Contextual antecedents may activate underlying vulnerabilities, or clinical risk factors, which act as acute state-related variables triggered by contextual cognitive, affective, behavioural, or situational factors (Ward & Beech, 2006).

When considering factors that raise the risk of sexual offending, it is important to take note of protective factors. In contrast to risk factors, research on protective factors for sexual offending is more recent and less well-established. Furthermore, existing theoretical models of sexual offending have not integrated the role of protective factors into etiological conceptualizations. As such, the roles of protective factors in terms of mediating or moderating the effects of risk factors for sexual offending are still emerging and present as more theoretical in description than empirically established. Protective factors are features or individual strengths that reduce the risk of antisocial

behaviour, buffer the effects of other risk factors, or enhance an individual's well-being (e.g., healthy sexual interests, capacity for emotional intimacy, constructive social and professional support networks, goal-directed living, good problem solving, sobriety, engaged in employment and/or constructive leisure activities; de Vries Robbé et al., 2015; Heffernan & Ward, 2017; Mann et al., 2010). Rather than existing at the opposite end of a continuum with risk factors, protective factors are established as a distinct concept of propensities or manifestations, instead of merely as an "opposite" or lack of a risk factor (de Vries Robbé et al., 2015; Heffernan & Ward, 2017). Similar to risk factors, protective factors also may be static or dynamic and constitute a range of internal and external individual psychological characteristics, social and interpersonal processes, behaviours, and environmental or contextual features (de Vries Robbé et al., 2015; Heffernan & Ward, 2017). The recognition of protective factors becomes an integral component of understanding a person's risk of perpetrating sexual offences against children as they may inform the development of proactive prevention strategies.

As evidenced through the development of multifactorial theories of sexual offending against children, a variety of developmental and biopsychosocial-sexual risk and protective factors function in dimensional, interactive, and mitigating ways to contribute to the perpetration of sexual offences against children, or lack-thereof (Finkelhor, 1984; Marshall & Barbaree, 1990; Ward & Beech, 2008). The presence of some risk factors may increase the propensity of exhibiting other criminogenic factors, especially when arising in particular situational or environmental contexts. Thus, the relationships between risk factors and protective factors are likely highly complex and interwoven such that no single risk or protective factor can serve to definitively predict the perpetration of child sexual abuse (Hanson & Morton-Bourgon, 2005; Mann et al.,

2010). A range of relevant individual features, characteristics, and differences should be considered in holistic combination with one another and the individual's unique environment to develop a full, comprehensive perspective of an individual's risk to sexually offend. The following section presents a review of pertinent developmental, biopsychosocial-sexual, and behavioural risk and protective factors for child sexual offending that have emerged across major functional domains (Figure 1). These major functional domains further align with conceptual vulnerability domains proposed within theoretical models like the ITSO and across existing child sexual offender typologies.

Risk Factors Related to Development

Adverse experiences during childhood can have very significant, detrimental effects for development throughout the lifespan. These experiences may include negative family experiences (e.g., rejection, violence, disruption in family structure or care, loss emotional detachment, inconsistency) and other adverse events, such as history of head injuries before age 13 or the experience of child abuse in various forms (e.g., physical, sexual, psychological, neglect; Beech & Mitchell, 2005; Craissati et al., 2002; Maniglio, 2011; Wekerle et al., 2014; Seto & Lalumière, 2010; Tenbergen et al., 2015). Abusive events during childhood can produce biochemical and neurological disruption of key processes in the limbic system, hippocampus, prefrontal cortex, and the hypothalamus-pituitary-adrenal (HPA) axis (Amador, 2016; Beech & Mitchell, 2005; Wekerle et al., 2014). Neurological disturbances can contribute to a variety of negative outcomes, including psychopathological disorders, antisocial attitudes, low self-esteem, poor sense of identity, intimacy skills deficits, insecure attachment, and emotional and behavioural dysregulation (Felitti et al., 1998; Hanson & Morton-Bourgon, 2005; Levenson, 2016; Marshall & Barbaree, 1990; Maniglio, 2011; Martin &

Tardif, 2014; Thomas et al., 2013; Wekerle et al., 2014).

Research consistently has shown that child sexual offenders encounter high rates of adverse childhood experiences compared to other types of offenders and non-offenders. In their meta-analysis on risk factors for child sexual abuse identified in studies published from 1990 to 2003, Whitaker and colleagues (2008) determined that sexual offenders against children were more likely to have a history of physical and/or sexual abuse compared to non-sexual offenders and non-offenders, respectively. More recent studies have similarly found higher rates of experiencing multiple adverse childhood events, including sexual, physical, and emotional abuse among juvenile and adult child sex offenders (Jespersen et al., 2009; Levenson et al., 2016; Seto & Lalumière, 2010; Simons et al., 2008; Widom & Massey, 2015; Wurtele et al., 2017).

The sexually abused-sexual abuser hypothesis posits that individuals who have been sexually victimized in childhood are more likely to perpetrate sexual abuse against child victims in the future (Seto, 2008). Although most children who have been sexually victimized do not later become sexual offenders, research indicates some support for this hypothesis. Specifically, child sexual offenders have significantly higher rates of sexual victimization in childhood than sexual offenders against adults and people from the general population (Babchishin et al., 2011; Bailey et al., 2016; Maniglio, 2009, 2011; Gerwinn et al., 2018; Jespersen et al., 2009; Levenson et al., 2016; Nunes et al., 2013; Seto, 2008; Seto & Lalumière, 2010; Whitaker et al., 2008). Others also have suggested that childhood sexual abuse may play an important role in the development of pedophilic sexual interests for men, with supportive evidence that childhood sexual abuse is associated with several established indicators of pedophilia (e.g., offending against many child victims, offending against younger child victims, having male child victims;

Craissati et al., 2002; Nunes et al., 2013; Simons et al., 2008; Seto, 2008). Sexual abuse during childhood can contribute to sexual offending in adulthood through pathways that include compensation for feelings of powerlessness, social learning whereby the abuser's behaviour and distorted thinking is modeled by the victim, and/or through association of sexual arousal with child-adult sexual situations (Seto, 2008).

Closely tied to childhood experiences, attachment style has emerged as a factor when discussing sexual offending against children. Early childhood experiences and interactions are integrated into an individual's cognitive structures to guide cognitive processes and inform behavioural responses throughout adulthood (Aslan et al., 2014; Bowlby, 1973). Although occasionally amenable to change, attachment tends to develop during childhood and generally remain stable over long periods of time throughout infancy, childhood, adolescence, and adulthood, serving as a template to guide future interactions and relationships with others (Aslan et al., 2014; Beech & Mitchell, 2005; Bowlby, 1973; Hazan & Shaver, 1987; Weinfield et al., 2000; Weinfield et al., 2004).

Adult attachment relationships may be conceptualized as four distinct styles, derived from two dimensions of attachment anxiety and attachment avoidance (Bartholomew, 1990; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994; Hazan & Shaver, 1987). Whereas a negative view of self and hyperactive strategy in interpersonal relationships is associated with high attachment anxiety, a negative view of others and deactivating interpersonal strategy characterizes high attachment avoidance (Wood & Riggs, 2009). The secure autonomous attachment style reflects a positive view of self and others, balancing autonomy and interpersonal connection in relationships (i.e., low attachment anxiety, low attachment avoidance; Bartholomew, 1990; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994). In contrast, three

insecure attachment styles are associated with a variety of maladaptive outcomes and behaviours (Bowlby, 1973; Craissati et al., 2002; Gunst et al., 2017; Levenson, 2016; Maniglio, 2011; Marshall & Marshall, 2000). Specifically, insecurely attached adults generally exhibit either a preoccupied attachment style with high attachment anxiety and low attachment avoidance (i.e., negative view of self but positive view of others, manifesting in sexually preoccupied or possessive behaviours), a dismissing attachment style with low attachment anxiety and high attachment avoidance (i.e., positive view of self but negative view of others, emphasizing independence and self-reliance at the expense of intimacy), or a fearful attachment style with high attachment anxiety and high attachment avoidance (i.e., negative view of both self and others, characterized by both fears of rejection and avoidance of closeness and intimacy; Bartholomew, 1990; Bartholomew & Horowitz, 1991; Beech & Mitchell, 2005).

Compared to adult sex offenders, non-sexual offenders, and non-offenders, child sex offenders are more likely to demonstrate a fearful or preoccupied attachment style, displaying fears of rejection and tendencies to seek impersonal sex, or sexualize attachment relationships, including those with children (McCormack et al., 2002; Marsa et al., 2004; Miner et al., 2010; Proeve, 2003; Wood & Riggs, 2009). In contrast, secure adult attachment relationships can serve a protective function against the development of cognitive distortions about adult-child sex (Wood & Riggs, 2009).

Attachment style can serve as a risk factor for child sexual abuse in several ways. Specifically, insecure attachment styles formed during childhood can result in issues during adulthood, including problems in interpersonal functioning (Beech & Mitchell, 2005; Martin & Tardif, 2014; McCormack et al., 2002; Miner et al., 2010). Individuals with insecure attachment styles may exhibit more fears of rejection and intimacy,

attempt to fulfill unmet intimacy needs through sexually abusive behaviours, confuse sex with intimacy or love, feel as though intimacy is easier with children than adults (i.e., difficulties forming relationships with adult peers), and use sex as coping to release distress- and intimacy-related tension (Beech & Mitchell, 2005; Maniglio, 2011; Martin & Tardif, 2014; Thomas et al., 2013). Insecure attachment also can contribute to psychological problems including affect dysregulation and negative emotional states (Bowlby, 1973; Craissati et al., 2002; Gunst et al., 2017; Marshall & Marshall, 2000). Taken together, developmental risk factors reflecting adverse experiences during childhood and insecure attachment during adulthood can contribute to individual vulnerabilities that may predispose people to other risk factors for child sexual abuse.

Risk Factors Related to Sexual Interests

Factors linked with sexual functioning consistently have been viewed as key factors in etiological conceptualizations and recidivism studies for the perpetration of sexual abuse against children (Finkelhor, 1984; Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; Marshall & Barbaree, 1990; Ward & Beech, 2008; Ward & Siegert, 2002; Whitaker et al., 2008). In their meta-analytic review of factors associated with the perpetration of child sexual abuse, Whitaker and colleagues (2008) found that, compared to non-sex offenders and non-offenders, child sexual offenders had more sexual problems (i.e., sexual externalizing problems, deviant sexual interests, sexualized coping) and evidenced more sexual interests in children. Similarly, Seto and Fernandez (2011) found that groups of sexual offenders with more "deviant" (i.e., paraphilic) sexual interests could be differentiated from groups of sexual offenders with lower (i.e., scores lower than overall sample mean) and more "typical" (i.e., moderate scores close to the overall sample mean) levels of criminogenic needs, as measured by the STABLE-

2000. Specifically, “deviant” sexual offenders reported higher scores on dynamic risk factors related to sex drive and sexual preoccupation, sex as a means of coping, and deviant sexual interests (Seto & Fernandez, 2011).

Variables related to sexual history are important considerations when studying the etiology of pedophilic interests and child sexual abuse. Specifically, child sexual offenders and people with pedophilic sexual interests may begin engaging in a variety of early sexual behaviours at younger ages than non-sexual offenders and non-offending individuals. People with pedophilia and those who have perpetrated sexual offences against children also report higher rates of early exposure to pornographic material, early engagement in sexual behaviours and interactions with other children (e.g., “playing doctor,” sexual play), and early and frequent masturbation at younger ages (Gerwinn et al., 2018; Houtepen et al., 2016; Levenson et al., 2017; Neutze et al., 2011; Santtila et al., 2010; Simons et al., 2008; Smallbone & McCabe, 2003). Correlations also have been found between early masturbation and other sexual factors, including sexual interests in children and consumption of sexually explicit materials (Wurtele et al., 2017). For some, exposure to sexual activity at early ages of development may serve to later influence cognitions related to children as sexual beings.

The presence of sexual interests and fantasies involving children has continuously emerged as one of the strongest risk factors for child sexual offending (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; Seto et al., 2006; Whitaker et al., 2008). Sexual interest in children may present in different forms, with some individuals expressing “exclusive” preference for children relative to adults and others having “non-exclusive” pedophilia characterized by sexual interest toward both children and adults (McPhail et al., 2018; Ó Ciardha, 2011). Recently, research has

suggested that the latent structure of pedophilic interest in criminal justice-involved men is trichotomous, such that the taxon of pedophilia exists as three classes: 1) non-pedophilic teleiophilic sexual interests; 2) non-exclusively pedophilic interests; and 3) exclusively pedophilic interests (McPhail et al., 2018). The distinction between exclusive and non-exclusive pedophilic preferences is clinically important given that exclusive pedophilic interest has been associated with perpetration of sexual offences, as well as higher rates of sexual recidivism (Bailey et al., 2016; Beier, 1998; Eher et al., 2015; Eher et al., 2010). In some cases, people with pedophilic interests may describe both sexual and romantic attraction toward children, reporting experiences of falling in love with children and fantasies related to having romantic relationships with minors beyond their sexual interest (Houtepen et al., 2016).

The presence of pedophilic sexual interest is especially important as it interacts with other biopsychosocial and situational risk factors. For example, pedophilic sexual desire can contribute to deviant sexual fantasies that reinforce pro-offending pedophilic cognitive distortions and sexual scripts, which can subsequently strengthen desires and motivations to engage in sexual offending behaviours against children in the presence of a lack of self-control and opportunities to offend (Aslan et al., 2014; Craissati & Beech, 2003; Howitt & Sheldon, 2008; Lindsay et al., 2007; Ward & Siegert, 2002). Thus, deviant sexual fantasies in men with co-existing antisocial characteristics can contribute to greater risk for sexually offending against a child as a combination of pedophilic arousal and inclinations to be disinhibited or opportunistic collectively work to lower one's perceived threshold against offending (Seto, 2008; Seto et al., 2015; Turner et al., 2016; Williams et al., 2009). In some cases, pedophilic desire may lead to escalation of behaviours so that actions become more chronic and riskier, progressing from using

fantasies to seeking lower-level indecent images and behaviours to pursuing more high-risk images and behaviours (Aslan et al., 2014; Williams, et al., 2009).

The presence of additional paraphilic sexual interests can provide valuable information regarding risk for sexual offending. In the DSM-5, paraphilic sexual interests are conceptualized as "any intense and persistent sexual interest other than sexual interest in genital stimulation or preparatory fondling with phenotypically normal, physically mature, consenting human partners" (APA, 2013, pg. 685). The subject of paraphilic sexual interests and arousal may concern the individual's erotic activities, or alternatively the individual's erotic targets, which may manifest as fantasies, urges, or sexual behaviours (APA, 2013). Other paraphilic sexual interests could include exhibitionism (i.e., exposing one's genitals to an unsuspecting person), voyeurism (i.e., observing an unsuspecting person who is naked, in the process of disrobing, or engaging in sexual activity), frotteurism (i.e., touching or rubbing against a nonconsenting person), sexual masochism (i.e., undergoing humiliation, bondage, or suffering), sexual sadism (i.e., inflicting physical or psychological suffering toward another person), fetishism (i.e., using of nonliving objects or having a highly specific focus on non-genital body parts; APA, 2013). In a recent study examining characteristics of people with pedophilic sexual interests who have and have not perpetrated sexual offences against children, Gerwinn and colleagues (2018) found that men with pedophilic sexual interests reported higher rates of additional paraphilic sexual interests than non-pedophilic child sexual offenders and healthy, non-offending controls. These findings replicate previous research suggesting that people with pedophilic interests tend to report additional paraphilic sexual interests, and individuals with multiple paraphilic interests have higher risk of sexual recidivism (Ahlers et al., 2011; Hanson & Morton-Bourgon,

2005; Knight & Thornton, 2007; Mann et al., 2010; Williams et al., 2009).

Risk Factors Related to Distorted Cognitions

Cognitive distortions (e.g., maladaptive attitudes, beliefs, and thinking styles) are crucial components of the perpetration of sexual abuse against children and are consistently recognized within comprehensive etiological models of child sexual abuse (Gannon et al., 2007). Abel and colleagues (Abel, Becker, & Cunningham-Rathner, 1984; 1989) suggested that people who sexually offend against children cognitively adapt to create an inner world of beliefs that support, justify, and excuse offending behaviour amidst a social climate that views sex with children as heinous and unacceptable. An individual's internal and external context can further activate or inhibit the accessibility of particular cognitive content and processes, and vice-versa, which can facilitate or reinforce other offence-supportive cognitions and behaviours (Mann & Beech, 2003; Marshall et al., 2006; Ward et al., 1998). Cognitions serve as dynamic risk factors predicting the perpetration of sexual offending by affecting how an individual perceives and attends to his environment, processes information, evaluates consequences of their behaviours, and makes predictions about future mental states and behaviours (Burn & Brown, 2006; Ó Ciardha, 2011; Ward & Siegert, 2002; Ward & Keenan, 1999; Wood & Riggs, 2009). An individual's maladaptive schemata can elicit cognitive distortions about child sexual abuse behaviours and potential victims, playing an important role in the initiation and maintenance of different sexual offending behaviours (Aslan et al., 2014; Blake & Gannon, 2008; Ward & Beech, 2008; Ward & Keenan, 1999; Ward & Siegert, 2002; Whitaker et al., 2008).

Ward and Keenan (1999) proposed that child sexual offenders use implicit theories about themselves, others, and the world to make assumptions about victims'

desires and intentions. Other studies confirm the presence of the offence-supportive cognitions described by Ward and Keenan (1999), finding higher endorsement of these beliefs by child sexual offenders when compared to community controls and other types of sexual and non-sexual offenders (Feelgood et al., 2005; Keown et al., 2008, 2010; Marziano et al., 2006; Ward et al., 2006; Whitaker et al., 2008).

Ward and Keenan (1999) identify five implicit theories. The first of these theories is the implicit theory of children as sexual beings and hypothesizes that children are inherently sexual beings who are capable of desiring, enjoying, and seeking out sex with adults. The second relates to the nature of harm, with the belief that unless involving physical violence or injury, children who are sexually abused by adults are relatively unharmed (Ward & Keenan, 1999). Third, the uncontrollability implicit theory posits that events "just happen" and since behaviour is dictated by powerful internal and external forces (e.g., emotions, urges, sexual desires, stress, intoxication, social pressures), individuals are unable to shape their day-to-day existence (Ward & Keenan, 1999). The fourth entitlement implicit theory is evidenced by a belief in one's right to have sex with children, driven by a core belief that their own needs are more important than the needs of others, and that they are entitled to use inferior individuals to meet those needs (Ward & Keenan, 1999). Finally, individuals who possess the dangerous world implicit theory see the world, and the people in it, as excessively menacing, abusive, and exploitative (Ward & Keenan, 1999). Offenders may view everyone, including children, as hostile and rejecting, with sexual abuse functioning to dominate and control others. Otherwise, the dangerous world belief may manifest through perceptions of adults as dangerous, whereas children are not. For these individuals, children are viewed as a type of safe haven who are more accepting and innocent than

adults, and thus the preferential choice as sexual partners.

Emotional congruence with children is another cognitive risk factor that facilitates initiation and maintenance of pedophilia and child sexual abuse (Hall & Hall, 2007; Finkelhor, 1984; McPhail et al., 2014; McPhail et al., 2013; Seto, 2008; Thornton, 2002; Ward & Beech, 2006). McPhail and colleagues (2013) defined emotional congruence with children as "an exaggerated affective and cognitive affiliation with children and childhood… including emotional attachment and dependency needs that are more likely met by interacting with children than with adults (pg. 737)," which can interfere with forming healthy adult relationships. Emotional congruence with children manifests through a variety of child-focused social behaviours and cognitions including: seeking relationships with children; deriving gratification and positive affect from spending time or thinking about children; feelings of being "in love" with a child; and endorsing a preference to spend time or form friends with children (Mann et al., 2010; McPhail et al., 2013). Other cognitive components of emotional congruence with children may include beliefs related to abilities to identify the thoughts and feelings of children, having a child-like self-concept, and thinking relationships with children can be mutual, intimate, and reciprocal (Mann et al., 2010; McPhail et al., 2013).

Attachment to children is particularly associated with elements of sexual preference, with higher endorsement demonstrated by people with general and exclusive pedophilic preferences (Konrad et al., 2018). Furthermore, presence of both pedophilic sexual attraction and a wish to emotionally connect with children may contribute to increased sexual deviance and elevated risk for engaging in sexual behaviours with minors (Konrad et al., 2018). However, it is worth noting that some elements of emotional congruence with children may be normative and adaptive (Fisher et al., 1999;

McPhail et al., 2013). Some non-forensic populations demonstrate a moderate level of emotional congruence with children, which may signify attentiveness and caring to children's needs within healthy parent-child relationships (Finkelhor, 1984; Fisher et al., 1999; McPhail et al., 2013). Indeed, research has demonstrated that nonoffending parents tend to demonstrate intermediate levels of emotional congruence with children between extrafamilial offenders and intrafamilial offenders (Fisher et al., 1999; McPhail et al., 2013). Thus, some elements of emotional congruence with children may reflect healthy parental attachments that are unrelated to offending, whereas others may reflect psychological immaturity as an element related to child sex offending (McPhail et al., 2013). Taken together, understanding the ways that emotional congruence with children can manifest in people with pedophilia is an important consideration for understanding risk for engaging in sexual behaviours with minors.

Risk Factors Related to Self-Regulation

Recent investigations into the neurological underpinnings of pedophilia and child sexual offending have begun to identify functional and structural differences in frontal, temporal, and limbic areas of the brain (Joyal et al., 2014; Kärgel et al., 2015, 2017; Mohnke et al., 2014; Poeppl et al., 2013; Schiffer et al., 2007; Tenbergen et al., 2015). These cortical regions are implicated with various operations related to sexual and executive functioning, including self-regulation, theory of mind, and sexual and emotional arousal processing (Joyal et al., 2014; Kärgel et al., 2015, 2017; Kruger & Schiffer, 2011; Massau et al., 2017b; Mohnke et al., 2014; Polisois-Keating & Joyal, 2013; Tenbergen et al., 2015). Deficits may manifest via issues with self-control (e.g., disinhibited behaviour), lifestyle instability (e.g., chronic instability in employment and/or housing, lack of structured activities or routine), irresponsible decisions, limited

or unrealistic long-term decisions, and substance misuse (Mann et al., 2010). Impairments in the neurobiological systems subsequently affect capacities for self-regulation within other sexual, psychosocial, cognitive, and behavioural systems that, in turn, can perpetuate an individual's risk for sexual offending against children.

Compared to the general population, inhibitory control functions are significantly impaired among sexual offenders (Joyal et al., 2014). Results from neurological studies (e.g., Kärgel et al., 2017; Massau et al., 2017a) suggest that general executive processing deficits in inhibitory control observed in child sexual offenders may be more related to child sexual offending than to deviant sexual interests in general (Eastvold et al., 2011; Kärgel et al., 2017; Massau et al., 2017b; Mohnke et al., 2014; Schiffer & Vonlaufen, 2011; Tenbergen et al., 2015). This finding suggests that inhibitory process deficits may impair capacity to prevent sexual arousal from emerging in inappropriate situations, control of the execution of sexual behaviours, and performance of cognitive appraisals to reduce enticement in the presence of arousing stimuli. Reduced executive functioning capacities related to self-control and behavioural inhibition can increase risk of sexual offending against children in individuals with premorbid pedophilic interests.

Problems with sexual self-regulation and heightened sexuality refers to the ability to control the expression of sexual impulses. "Hypersexual" individuals experience intense interests in sexual fantasies and behaviours at high frequencies, such that an interest in sex dominates psychological functioning. A failure to control sexual urges, especially when they are powerfully reinforced, serves as a causal factor for criminal behaviour in instances where there is opportunity to sexually offend (Aslan et al., 2014; Lindsay et al., 2007; Miner et al., 2010; Ward & Beech, 2006). Heightened sexuality may be conceptualized in several ways, including greater sexual arousability,

sexual promiscuity, frequent or compulsive masturbation, obsessive preoccupations with sex, perceived inability to manage sexual thoughts and behaviours, frequent or excessive pornography use, and engagement in unusual sexual fantasies and sexual behaviours (Wurtele et al., 2017). Strong associations have been found between heightened sex drive and the presence of paraphilic sexual interests in general (Gerwinn et al., 2018; Miner et al., 2010; Wurtele et al., 2017). Overall, individuals with pedophilic interest report significantly higher sexual desire and more sexual outlets per week compared to people without pedophilic interests (Gerwinn et al., 2018).

Self-regulatory problems may also manifest regarding affect. Deficits in affect regulation refer to a typical, dispositional inability to recognize, react to, and express emotions, and/or difficulty with effectively managing negative emotional states (Gannon et al., 2012; Gunst et al., 2017; Ward & Siegert, 2002). Emotional dysregulation is linked to a variety of negative outcomes including internalizing and externalizing forms of psychopathology and problematic behaviours, powerful or blunted negative affective states, ineffective coping, substance use, sexual aggression, and violence (Gunst et al., 2017; Mann et al., 2010; Serran & Marshall, 2006; Ward & Beech, 2008). Sexual offenders also tend to demonstrate emotional lability and propensity to experiencing low self-esteem, depression, anxiety, anger, loneliness, worthlessness, and inadequacy, which can act as triggering factors for maladaptive responses (Gunst et al., 2017; Ward & Beech, 2008). Unpleasant emotions can subsequently contribute to tendencies for rumination, suspiciousness, grievance thinking, and reluctance to consider others' point of view, which can further lead to difficulties in interpersonal functioning and heighten risk for engaging in antisocial behaviours (Craig et al., 2007; Gunst et al., 2017).

Behavioural Manifestations of Self-Regulatory Problems. Self-regulatory

problems also manifest behaviourally. Individuals who are predisposed to sexually offend against children may deliberately engage in behaviours which make acute situational risk factors more readily available. For example, risky behaviours may include alcohol and substance misuse (Aslan et al., 2014; Craissati & Beech, 2003; Levenson, 2016; Maniglio, 2011), poorly controlled expression of sexual impulses (Craissati & Beech, 2003), socializing with peer network who support pro-offending attitudes or deviant sexual interests (e.g., engaging with other adults with sexual interests in children; Durkin, 1997; McCarthy, 2010), engaging in activities where opportunities to access children are more available (e.g., child-focused occupations, spending time alone with children, coaching children; Aslan et al., 2014; Craissati & Beech, 2003; Houtepen et al., 2016; Turner et al., 2016; Turner et al., 2014), and particular internet activities (e.g., involvement with pornographic materials, use of non-pornographic material depicting children, online communication with minors; Aslan et al., 2014; Craissati & Beech, 2003; McCarthy, 2010; Quayle & Taylor, 2002).

Child sexual offenders also often engage in grooming behaviours toward minors. Grooming processes involve becoming friends with a child with the aim of "persuading" them into entering a sexual relationship. This includes related actions such as targeting a victim, gaining the child's trust by taking the child into confidence or gaining the trust of the child's family, filling a need for the child (e.g., giving them time or attention), isolating the victim, sexualizing the relationship, and maintaining control (South Eastern Centre Against Sexual Assault, 2014). Thus, when describing the application of relapse prevention intervention models for sexual offenders with pedophilia, Seto (2009) discussed the importance of using cognitive-behavioural techniques to recognize and effectively respond to high-risk situations and high-risk behaviours.

In terms of proactive secondary prevention, learning more about behaviours that put people with pedophilic interest at greater risk for offending can be helpful for prioritizing targets for change during intervention. Furthermore, identifying behaviours that are associated with lower risk of sexual offending against children may serve to reduce stigma, identify protective factors, and support the empirical development of useful case management strategies. Thus, continued research investigating how to weigh potential neutral, positive, or negative effects of a variety of behaviours on risk for sexual offending against children is essential for developing empirical proactive prevention strategies and informing clinical practice, especially for non-forensic MAPs.

In addition to behaviours and situational risk factors, an individual's ability to cope with problematic conditions are a component of etiological theories of sexual offending (Finkelhor, 1984; Marshall & Barbaree, 1990; Ward & Beech, 2008; Ward & Siegert, 2002). "Coping" refers to deliberate behavioural and psychological efforts employed to master, tolerate, reduce, or minimize the impact of stressful events. Ineffective coping styles are linked to executive functioning deficits such as impulsivity, poor emotional control, and poor problem-solving. Consequently, an individual may experience deficits in problem recognition and conceptualization, a lack of consequential thinking, and difficulties generating a suitably wide range of options (Mann et al., 2010; Serran & Marshall, 2006; Knight & Thornton, 2007; Ward & Beech, 2008). Because the underlying problem or stressor is not directly managed, the use of ineffective coping styles may lead to a habitual, self-perpetuating response cycle of co-occurring stressors, ineffective coping, negative emotional states, and further problems and distress (Feelgood et al., 2005; Maniglio, 2011). Compared to other types of offenders and non-offenders, child sex offenders tend to rely on more ineffective coping styles of stress

management, utilizing more avoidance and emotion-focused coping strategies (Cortoni et al., 1999; Feelgood et al., 2005; Maniglio, 2011; Whitaker et al., 2008).

Sexual coping has emerged as an ineffective coping strategy which can distinguish sexual offenders from other offenders and non-offenders (Cortoni & Marshall, 2001; Feelgood et al., 2005; Maniglio, 2011; Whitaker et al., 2008). A form of emotion regulation, individuals may use sexual coping strategies in attempt to avoid, alleviate, or interrupt unpleasant affective or situational states (e.g., loneliness, anger, interpersonal conflict, humiliation, separation, distress) through engagement in sexual activities (Cortoni & Marshall, 2001; Gunst et al., 2017; Maniglio, 2011; Ward & Beech, 2008). Sexual coping involves using sexual activities, such as masturbating, developing sexual fantasies, using pornography, or having sex, to cope with stressful events (Cortoni, 1998). In essence, the rewards achieved through sexual coping, which allows the individual to attain a sense of pleasure and control in their lives, may propagate deviant sexual activities and fantasies. Individual may become heavily reliant on sexual coping strategies to mitigate intimacy deficits and feelings of rejection and low sense of self-control (Cortoni & Marshall, 2001; Feelgood et al., 2005; Maniglio, 2011; Ward & Beech, 2008). For some, sexual coping can contribute to sexual offending behaviours because experiencing negative affect sensitizes individuals to the rewards of deviant fantasies and sexual activities, subsequently leading to maladaptive decisions, inhibited behaviours, and pro-offending cognitions which can progressively increase risk for sexually offending as the strength of temptation increases (Cortoni & Marshall, 2001; Feelgood et al., 2005; Maniglio, 2011; Wagner & Heatherton, 2014).

Given that sex offender relapse is directly linked with an individual's ability to successfully cope and self-regulate when encountering stressful situations (Pithers et al.,

1983), the increase of effective coping strategies (e.g., task-focused coping) and reduction of ineffective coping strategies (e.g., emotion-focused coping, avoidance coping, sexual coping) has been a common target in relapse-prevention interventions for sexual offenders for reducing risk behaviours and recidivism (Feelgood et al., 2000; Roger & Masters, 1997; Serran et al., 2007). Thus, the use of adaptive approach-oriented coping strategies may act as a protective factor against the perpetration of sexual abuse.

Risk Factors Related to Socio-Affective Functioning

Capacities for various forms of socio-affective functioning can generate feedback loops whereby psychological states, traits, and dispositions have important influence on an individual's behaviours and responses in any given internal, external, or interpersonal context. When comorbid with paraphilic sexual interests, such as pedophilia, the dysfunction of these various psychosocial systems may render an individual vulnerable to perpetrating sexual offences against children, with risk for offending fluctuating according to the individual's level of psychological and social functioning.

Psychological Risk Factors. Psychiatric disorders and overall psychological distress are common among sexual offenders in general and among child sexual offenders specifically (Gunst et al., 2017; Hanson & Morton-Bourgon, 2005; Henshaw et al., 2018; Jahnke, Schmidt, et al., 2015; Konrad et al., 2017; Kruger & Schiffer, 2011; Maniglio, 2010; McCarthy, 2010; Whitaker, 2008). In a sample of 1205 Australian individuals charged with child exploitation material offences and/or direct sexual victimization of children, Henshaw and colleagues (2018) found that approximately one third (32.6%) had received public mental health services. These rates were three times higher than that observed within the general population in the same community (11%; Short et al., 2010). Previous psychiatric diagnoses were recorded for 85.2% of the

sample, with 52.5% of these individuals receiving more than one psychiatric diagnosis suggesting high rates of psychiatric comorbidity (Henshaw et al., 2018).

Common mental health diagnoses observed for child sexual offenders include disorders related to depression, anxiety, trauma, substance use, personality disorder, and paraphilias, as well as problems with low self-esteem (Gunst et al., 2017; Hanson & Morton-Bourgon, 2005; Henshaw et al., 2018; Jahnke, Schmidt, et al., 2015; Konrad et al., 2017; Kruger & Schiffer, 2011; McCarthy, 2010; Whitaker et al., 2008). Although internalizing disorders are not generally considered criminogenic needs associated with recidivism (Bonta & Andrews, 2017; Gendreau et al., 1996; Mann et al., 2010), heightened prevalence among child sexual offenders suggests that mental health factors may indirectly contribute to the risk of sexually abusing children for people with pedophilic interests (Jahnke, Schmidt, et al., 2015; Whitaker et al., 2008).

In addition to other biopsychosocial-sexual and situational factors, characteristics of an individual's personality can serve an important role in whether they will perpetrate sexual crimes against a minor. Certain personality traits can serve as dispositional, distal factors that predispose an individual to perpetrating antisocial or criminal behaviours. Conceptualized as existing on continua, personality traits can affect individuals' functioning in realms of cognition (e.g., perceptions of self and others), affect (e.g., range/intensity of emotions, emotional lability, and emotion regulation), interpersonal functioning (e.g., levels of agency, independence/dependence, degree of connection with others, and quality of intimate relationships), and impulsivity control (e.g., self-control, level of self-restraint, inhibition or disinhibition; APA, 2013; Shiner & Tackett, 2014). Estimated rates of personality disorders (i.e., pathological personality traits causing functional impairments) among sexual offenders are higher than that of the general

population, with prevalence rates ranging from 40% to 74% (Acha et al., 2011; Craissati & Blundell, 2013; Fazel & Danesh, 2002; Kingston et al., 2015; Kruger & Schiffer, 2011). Personality disorders in general have been linked with sexual and general offending, recidivism, and resistance to treatment (Bogaerts et al., 2004; Hanson & Morton-Bourgon, 2005; Kingston et al., 2015; Looman et al., 2005; Whitaker et al., 2008). Overall, the influence of enduring personality traits on adaptive or maladaptive functioning across a variety of life domains provides a context that impact risk of perpetrating a variety of sexual acts and criminal behaviours.

Social Risk Factors. An individual's ability to successfully function in various social environments and interpersonal relationships has an important role in the potential perpetration of sexual offences against children. Social factors pertaining to affiliating with procriminal associates and the nature of an individual's social context (e.g., family, marital, occupational, leisure, and neighbourhood environments) are well-established as criminogenic risk factors predicting criminal behaviour in general (Bonta & Andrews, 2017). Social skills deficits can affect decisions regarding membership in self-selected social groups, abilities to form and maintain connection with others, and qualities of interpersonal relationships, which in combination with other biopsychosocial-sexual risk factors can render an individual more vulnerable to sexual offending.

An individual's propensity for effective social skills may be shown through observing the quality of their interpersonal and intimate relationships. Capability to form constructive and supportive relationships with other adults in social, professional, or authoritative roles may indicate well-developed social skills, which can be protective against child sexual abuse (de Vries Robbé et al., 2014; Heffernan, 2015). Receiving social support from individuals with non-pedophilic interests in offline environments

can contribute to the endorsement of more appropriate views regarding children's sexuality (Goode, 2010). In contrast, issues with social and intimate relationships suggesting interpersonal skill deficits may be indicative of difficulties in forming and maintaining healthy relationships (Heffernan, 2015; Mann et al., 2010; Martin & Tardif, 2014). Problems in interpersonal relationships may be exacerbated by insecure attachment and low self-esteem due to an individual's fears of interpersonal rejection, negative self-concept, and maladaptive cognitions regarding the self, others, and the world (Chakhssi et al., 2013; Marshall et al., 1997; Ward & Beech, 2008).

Experiences of social exclusion, social incompetence, insecure attachment, and atypical sexual preferences can contribute to social isolation and loneliness (i.e., a subjective sense that others do not care, along with feeling rejected, weakly connected, or lack of relationships with others) in child sex offenders and people with pedophilic interests (Mann et al., 2010). Child sex offenders and people with pedophilia may derive loneliness from reduced social contact, low levels of self-esteem, and stigma-related stress related to perceiving increased social distance from others, fear of discovery, and real-life experiences of discrimination (Jahnke, Schmidt, et al., 2015; Marshall et al., 1997). To escape or reduce feelings of loneliness and social isolation, vulnerable individuals may seek social company from less-threatening sources, such as children or anonymous online communities, or engage in various forms of sexual coping (Elliott et al., 2009; Gannon et al., 2012; Henry et al., 2010; Maniglio, 2011; Marshall et al., 1997; Ward & Siegert, 2002). Whitaker and colleagues' (2008) meta-analysis showed that, compared to non-sexual offenders and non-offenders, child sex offenders demonstrate significantly more difficulties with intimate relationships, lower social skill competence, and higher levels of loneliness. Thus, interpersonal skill deficits and loneliness are

implicated as important risk factors for child sexual abuse.

Current Study

In summary, sexual arousal and desire toward atypical sexual targets, such as sexual interests in children or "pedophilia," can be powerful motivators for sexual behaviours (Seto, 2017). Approximately 1% of men in the general population endorse pedophilic preferences, and 5-9% of men endorse pedophilic fantasies (Seto, 2009). Notably, research shows that not all child sexual offenders express pedophilic interests and that not all individuals with pedophilia perpetrate child sexual abuse (Fedoroff, 2018). However, since most of the existing literature has focused on men who have been convicted of sexual crimes against children, there is not as much clarity about what factors might lead to actual child sexual abuse among men with pedophilic interests.

Comprehensive etiological theories and research on convicted child sexual offenders can provide an empirical framework for understanding progressions from sexual interests to sexual behaviours. Integrating strengths of earlier theories, the ITSO posits that contributions from biological, ecological, neuropsychological, and clinical factors are dynamically implicated in processes of sexual offending against children (Ward et al., 2008). Moreover, interactions among developmental, biopsychosocial, sexual, and behavioural risk and protective factors are implicated in the initiation and maintenance of child sexual abuse (Mann et al., 2010). Together, research and theory suggests that risk factors for sexual offending against children occur across five major domains (Figure 1): 1) developmental factors (i.e., adverse childhood experiences, attachment); 2) self-dysregulation (i.e., sexual preoccupation, impulsivity, affect regulation); 3) sexual interests (i.e., pedophilia, other paraphilic interests, sexual history); 4) distorted cognitions (i.e., pro-offending cognitions, emotional congruence

with children); and 5) socio-affective deficits (i.e., mental health, distress, personality, loneliness). However, there is limited empirical evidence examining whether these same characteristics are relevant to "non-forensic," non-convicted MAPs living in the community. Applying these theoretical and empirical frameworks may provide insight to understand heterogeneity among community MAPs. In turn, understanding characteristic variations among community MAPS may inform what potential factors might influence one's risk of acting on sexual interests toward children. Since sexual interest in minors is presumed to render men more at-risk for committing child sexual abuse, examining how community MAPs may diverge from, or be similar to, comparison samples of men with other, non-minor oriented paraphilic interests can elucidate relationships between risk and protective factors when pedohebephilic arousal is present versus absent.

Researchers have attempted to understand heterogeneity among individuals who perpetrate child sexual abuse by developing psychometric typologies to classify child sexual offenders across risk factor domains (Robertiello et al., 2007). Such classification systems provide data on differential pathways to child sexual abuse and can guide empirical applications of forensic risk assessment, management, and prevention interventions (Martínez et al., 2017). Typologies are useful as they provide valuable insight about differences in clinical presentations, individual needs for intervention, offence trajectories, and underlying motives driving child sexual abuse. At this time, research examining heterogeneity among community MAPs is in its infancy. Developing a typology of developmental and biopsychosocial-sexual factors can help elucidate pathways to child sexual abuse prior to criminal behaviour, inform risk- and protective-related targets for proactive prevention, and identify important areas of need for client-centred mental health intervention. Variations across typology subgroups may reflect

differences in risk thresholds for potentially acting on sexual interest in minors.

Taken together, there exists a subset of MAPs who have not, and will not, sexually offend against children. Nevertheless, these individuals may present elevated risk of committing child sexual abuse and tend to experience significant distress and stigmatization (Konrad et al., 2017). Research identifying differences between MAPs who do and do not sexually offend is in its infancy (Gerwinn et al., 2018). Extending research on MAPs from correctional to community samples can foster understanding of important similarities and differences across heterogeneous profiles of community MAPs. This research also may clarify how community MAPs manage their sexual interests in minors, as well as how different individual characteristics and coping strategies are related to potential risk of sexually offending against children.

The current dissertation used an exploratory approach to examine psychometric clusters of community-based MAPs who have not been detected by the criminal justice system as acting illegally. Men who endorsed pedophilic sexual interests were recruited online to ensure anonymity, sample diversity, and promote honest reporting. Extending from existing theory and research regarding risk and protective factors for child sexual abuse, three major objectives were to: 1) identify underlying clusters of characteristics (e.g., developmental, self-regulatory, sexual, cognition, and socio-affective) among heterogeneous MAPs in the community to develop a psychometric typology; 2) examine variations across biopsychosocial-sexual variables that best characterize and distinguish profiles of MAP clusters; and 3) elucidate how features of heterogenous MAP profiles are related to differences in self-perceived risk of acting on sexual interest in minors. Specifically, the third objective comprised two parts: 1) to analyze how identified MAP clusters differ from one another on self-perceived risk of engaging in sexual behaviour

with children; and 2) examine whether the use of different coping strategies moderated the relationship between MAP group and self-perceived level of risk.

Research Question 1

Existing forensic theory and literature pertaining to the etiology of child sexual abuse was used to inform selection of developmental, biopsychosocial-sexual, and behavioural factors measured in this study. Although typologies of child sexual offenders have been developed, extant typologies include both people with and without pedophilic interests who have perpetrated sexual crimes against children. It was anticipated that the typology developed through the current research will share some common traits with existing typologies but may exhibit dissimilarities due to population differences related to antisociality, previous criminal offending, deviant sexual behaviours, and victim-related variables. Thus, the first research question was: Are there unique clusters of characteristics among MAPs in the community that constitute typological groups?

Hypothesis 1. Men with pedophilic interest are a heterogeneous population but were expected to be meaningfully classified into groups based on clusters of underlying homogeneities across biopsychosocial-sexual characteristics. Given the exploratory nature of this study, it was hypothesized that community MAPs can be meaningfully grouped into at least two clusters reflecting at least two or more underlying variations.

Latent cluster analysis was used to identify *a posteriori* groupings of underlying characteristics to develop a typology of community-based MAPs who have no detected justice involvement. Variables used in latent cluster analysis to identify MAP clusters included: adverse childhood experiences; dimensions of attachment style; facets of inhibition and impulsivity; sexual preoccupation; paraphilic interests; pro-offending

cognitions; emotional congruence with children; mental health and distress; personality; and subtypes of loneliness.

Research Question 2

How do biopsychosocial-sexual characteristics vary across identified latent clusters of non-forensic MAPs that emerge from the data, MAPs with a history of child sexual offending, and community men with other paraphilic sexual interests?

Hypothesis 2. Clusters of MAPs were expected to be differentiated based on characteristics related to major domains of sexual interests, socio-affective functioning, offence-supportive cognitions, self-regulation, and multiple dysfunctions across developmental, psychological, cognitive, behavioural, and sexual domains. Based on congruencies among existing typologies, MAPs in the community may exhibit groupings differentiated by the degree of fixation of pedophilic interest, other paraphilic interests, and/or deficits related to intimacy, social skills, emotional and behavioural regulation, procriminal cognitions, antisociality, or multiple dysfunctional mechanisms. Differences between biopsychosocial-sexual profiles were expected to exist when clusters of MAPs were compared to community men who endorse other paraphilias, with higher endorsement of vulnerability factors among some MAP subgroups. It was expected that profiles of MAPs with histories of detected child sexual offending would demonstrate elevated levels of criminogenic factors compared to MAP clusters.

Using the latent cluster groups identified in Research Question 1 and participants with other paraphilic sexual interests as the independent variable and biopsychosocial-sexual factors as dependent variables, multiple analysis of variance (MANOVA) and analysis of variance (ANOVA) were used to determine which factors significantly vary between MAP clusters, MAPs with historical justice-involvement, and men with no

sexual interests in minors to interpret meaningful nuances between groups on developmental and biopsychosocial-sexual characteristics. Chi square analyses were utilized to provide descriptive data on demographic, individual characteristic, and sexual history variables to further contextualize profiles for each MAP cluster.

Research Question 3.1

Do clusters of MAPs vary on degree of self-reported risk of engaging in pedophilic sexual behaviours? Which biopsychosocial-sexual characteristics are associated with self-perceived risk for each MAP cluster?

Hypothesis 3.1. Clusters of MAPs with profiles comprised of more elevated criminogenic risk factors (e.g., higher sexual preoccupation, more paraphilic interests, more pro-offending cognitions, higher emotional congruence with children, higher impulsivity) were expected to have higher self-reported risk of engaging in sexual behaviours with minors than clusters of MAPs whose profiles have fewer elevated risk factors. It was expected that criminogenic risk factors would be positively correlated with self-perceived risk across MAP clusters.

First, one-way ANOVA was used to examine whether self-reported risk significantly varies between clusters, with latent cluster groups identified in Research Question 1 as the independent variable and self-perceived risk as the dependent variable. Next, correlation analyses were used to evaluate associations for each MAP cluster between: 1) self-reported risk and total scores for biopsychosocial-sexual factors (i.e., adverse childhood experiences, attachment style, impulsivity, sexual preoccupation, paraphilic interests, pro-offending cognitions, emotional congruence with children, mental health, personality, loneliness); and 2) self-reported risk and subscale scores for each measured biopsychosocial-sexual factor.

Research Question 3.2

Does the relationship between clusters of MAPs and self-perceived risk of engaging in pedophilic sexual behaviours vary depending on coping styles used to manage their pedophilic interests?

Hypothesis 3.2. It was hypothesized that clusters of MAPs who endorsed less adaptive coping would self-report higher self-reported risk of engaging in sexual behaviours with minors. In contrast, MAP groups who endorsed more adaptive forms of coping would self-report lower risk of engaging in sexual behaviours with minors.

First, two one-way ANOVAs were conducted to examine whether level of adaptive and maladaptive coping styles used to manage sexual interests in minors significantly varies between clusters, with latent cluster groups identified in Research Question 1 as the independent variable and adaptive and maladaptive coping as the dependent variables in each analysis. Next, moderation analyses utilizing hierarchical multiple regression were conducted to test whether the relationship between MAP group membership (identified in Research Question 1) and self-reported risk of engaging in sexual behaviours with minors was moderated by the level of adaptive and maladaptive coping styles used to manage pedophilic sexual interests.

CHAPTER TWO: METHODOLOGY

Participants

Participants were adult (i.e., 18 years old or older), community-based men who self-endorsed any degree of pedohebephilic arousal (i.e., MAPs). Given the low base rate of pedophilia, a larger sample of men who reportedly had "non-traditional" (i.e., paraphilic) sexual interests were recruited to secure enough cases of community MAPs. The psychometric classification system only included men who reported sexual interests in minors and who have not been formally involved in the criminal justice system as a result of these interests (e.g., not charged or convicted for sexual offences against children). That is, MAPs who reported historical justice involvement for child sexual abuse were excluded from cluster analyses. Men with other paraphilic interests and MAPs with child sexual abuse histories were used as comparison groups for Research Question 2 to examine differences between biopsychosocial-sexual characteristics.

Sample Size and Power

There are currently no agreed upon guidelines for sample size for latent cluster analysis (LCA). Studies and simulations typically endorse large sample sizes in the range of 200 to 1000 participants for LCA, although samples as small as 30 may be sufficient in ideal conditions (Finch & Bronk, 2011; Nylund et al., 2007; Nylund-Gibson & Choi, 2018; Tein, Coxe, & Cham, 2013). Factors such as larger class separation and using high quality indicators, or indicators that strongly co-vary with class membership, tend to offer better statistical power to detect the most apt number of clusters (Nylund-Gibson & Choi, 2018; Tein et al., 2013; Wurpts & Geiser, 2014). A larger number of indicators also can help compensate for smaller sample size (Nylund-Gibson & Choi, 2018; Tein et al., 2013; Wurpts & Geiser, 2014). Thus, there is no single sample size

recommended for LCA, because sample size depends on analytical design conditions.

A priori power analysis indicated that a minimum of 132 participants were required to detect a medium effect size with adequate (i.e., 80%) statistical power when employing the traditional .05 criterion of statistical significance for proposed MANOVA analyses (Dziak et al., 2014; Tabachnick & Fidell, 2013; Faul et al., 2007). Based on previous research, the present study aimed for a sample size of 250 participants from a larger sample ($N \approx 1000$) to have enough statistical power for proposed analyses, while still having a large enough sample to improve generalizability of results and accounting for unequal group sizes (Dziak et al., 2014). After data conditioning and cleaning (raw $N = 2386$; see Data Cleaning and Conditioning section; Tables 5, 6, & 7), the final dataset ($N = 833$) consisted of MAP participants (73.1%, $n = 609$; of whom $n = 584$ denied any detected sexual offence against children) and other paraphilia participants (26.9%, $n = 224$). Thus, there was sufficient statistical power with the collected sample size to run analyses as planned.

Sample Characteristics of Community-Based Minor Attracted Persons

MAP and other paraphilia participants were recruited from various online media sources including MAP-related forums (50.6% and 2.2%, respectively), other social media forums (17.2% and 19.6%, respectively), MTurk (5.4% and 69.6%, respectively), or else did not disclose where the survey was accessed (26.8% and 8.5%, respectively). Descriptive characteristics for both the MAP and other paraphilia sample were examined and summarized in Tables 8 and Table 9, respectively. Descriptive characteristics for substance use in the last 30 days for both MAP and other paraphilia participants is summarized in in Table 10.

On average, MAPs were 29.7 years old ($SD = 9.81$, range = 19 to 68) and

identified largely as Caucasian (79.8%) and residing in the United States (50.4%) or in Europe (25.0%). Approximately two thirds (66.8%) indicated their relationship status as single, with 7.6% being parents and 15.1% regularly engaging in activities that involve access to children (i.e., involvement in any employment or non-employment activities involving access to children under the age of 18 years). The majority (91.3%) of MAP participants denied any previous criminal history, with 4.1% (n = 25) reporting previous charge(s) for a sexual offence against a child below 16 years of age; these cases were allocated to the "MAP-CSA" comparison group. Thus, a total of 584 "non-offending" MAP participants were included in typological hypotheses testing and analyses.

Overall, 91.1% of all MAP participants reported some degree of self-reported pedophilic arousal (i.e., minor of any gender below the age of 12) and 99.3% self-reported some degree of hebephilic arousal (i.e., minor of any gender between ages of 12 to 14). Specifically, 90.0% of all MAPs endorsed arousal to girls under the age of 14 years, and 58.8% endorsed arousal to boys under the age of 14 years. Many MAPs also reported arousal to adult females (87.2%) and males (48.6%). Including pedophilia, hebephilia, and teleiophilia, MAPs typically endorsed some degree of sexual arousal to 7.26 (SD = 2.37, *range* = 2 to 13) categories of paraphilic interests. A minority of MAPs reported "exclusive" sexual interest in minors (4.3%), whereas most MAPs reported non-exclusive sexual interest in minors as well as adults (95.7%). Approximately one-quarter of the full sample denied any sexual arousal toward minors (26.9%; n = 224); these participants were allocated to the other paraphilia group for comparative analyses.

Materials

Demographics

An author-constructed general demographics questionnaire (see Appendix F for prompts) was used to collect information about participants' age, relationship status, sexual orientation, ethnicity, country of residence, primary language, education, employment, parental status, access to children, and living situation. As data were collected during the 2020 COVID-19 pandemic, participants also were asked whether their employment status had been changed or otherwise affected due to COVID-19. Information regarding criminal history also was collected (i.e., past charges, nature of previous offence(s), current correctional supervision status), along with information regarding current substance use. These data were used descriptively to further contextualize profiles of MAP subtypes that emerge from analyses.

Adverse Childhood Experiences

The Adverse Childhood Experiences – Revised (ACES-R; Finkelhor et al., 2015; Appendix G) is a 14-item questionnaire that assesses adverse experiences during formative years. Specifically, the ACES-R covers a range of potentially traumatic or aversive experiences during childhood including experiences of abuse (i.e., emotional, physical, sexual), neglect (i.e., emotional, physical) and household dysfunction (i.e., domestic violence, parental separation, household substance use, household mental illness, household incarceration), and contextual adversity (i.e., low socioeconomic status, peer victimization, peer isolation/rejection, exposure to community violence). Each item dichotomously assesses childhood exposure to the adverse experience (*no* = 0, *yes* = 1). Total scores on the ACES-R range from 0 to 14, with higher scores indicative of exposure to a greater number of adverse childhood experiences. Exposure to four or more adverse childhood experiences is associated with higher risk of problems in other areas of psychosocial and health functioning (Felitti et al., 1998).

The ACES-R is a revised version of the original 10-item ACES questionnaire (Felitti et al., 1998) and includes variables assessing experiences of contextual adversity (i.e., adverse conditions that indirectly challenge the child; Wesarg et al., 2020). The revised version has been utilized in a variety of research populations including children, adolescents, and caregivers (Finkelhor et al., 2015), and sexual offenders (Levenson, 2016; Levenson & Socia, 2015; Levenson, et al., 2016). Extant research using the ACES-R or original ACES have shown evidence of association between number of adverse childhood experiences and negative outcomes in both prospective (Clark et al., 2010; Karatekin & Hill, 2018) and retrospective studies (Afifi et al., 2011). The original ACES has good internal consistency (α = .74; Karatekin & Hill, 2018) and good-to-excellent test-retest reliability (Dube et al., 2004). Finkelhor and colleagues (2015) demonstrated that the addition of the four contextual adversity items to the original 10-item scale led to more robust effects when measuring distress by trauma scores. The internal reliability for the ACES-R total score in the current study was acceptable to good across MAP (α = .77) and other paraphilia groups (α = .84).

Adult Attachment Style

The Experiences in Close Relationships – Short Form (ECR-S; Wei et al., 2007; Appendix H) is a 12-item scale designed to assess adult attachment styles in intimate interpersonal relationships. Using a 7-point Likert scale (*strongly disagree* = 1 to *strongly agree* = 7), the ECR-S measures two dimensional, dominant facets of adult attachment styles: 1) attachment anxiety; and 2) attachment avoidance. Attachment anxiety refers to the extent to which people experience a "fear of interpersonal rejection or abandonment, an excessive need for approval from others, and distress when one's partner is unavailable or unresponsive" (Wei et al., 2007, p. 188). In contrast, attachment

avoidance denotes the extent to which individuals experience "fear of dependence and interpersonal intimacy, an excessive need for self-reliance, and reluctance to self-disclose" (Wei et al., 2007, p. 188). Subscale scores range from 7 to 42, with higher scores indicative of higher levels of attachment insecurity; that is, attachment anxiety and attachment avoidance. Participants were asked to consider questions and provide ratings based on their experiences in emotionally intimate relationships in general, including what generally happens in both previous and current relationships.

The ECR-S has been used to assess attachment patterns in close relationships in diverse research populations including undergraduate students (Wei et al., 2007), young adults, psychiatric patients with severe psychopathology, early adolescents, older adults, individuals in same-sex relationships (Mikulincer & Shaver, 2015). When evaluating the psychometric properties of the ECR-S, Wei and colleagues (2007) found good internal consistency for the two factors measures by the ECR-S (attachment anxiety α = .78; attachment avoidance α = .84). Construct validity of the ECR-S also has been supported through: a) positive associations between excessive reassurance-seeking and emotional reactivity with attachment anxiety but not attachment avoidance; b) comfort with self-disclosure significantly negatively correlated with attachment avoidance but not attachment anxiety; and c) positive associations with emotional cut-off and fear of intimacy for both attachment anxiety and attachment avoidance (Wei et al., 2007). The internal reliability for the ECR-S attachment anxiety subscale and attachment avoidance subscale in the current study were all acceptable to good across MAP (α = .78 and α = .79, respectively) and other paraphilia groups (α = .79 and α = .86, respectively).

Sexual Preoccupation

The Hypersexual Behaviour Inventory (HBI; Reid et al., 2011; Appendix I) is a

19-item inventory to assess sexual preoccupation based on proposed DSM-5 criteria for the rejected "hypersexual disorder" (Stewart & Fedoroff, 2014). Using a 5-point Likert scale (*never* = 1 to *very often* = 5), the HBI is comprised of three facets: 1) [Sexual] Coping; 2) [Sexual] Control; and 3) [Sexual] Consequences. Specifically, these subscales provide a multi-faceted conceptualization of sexual preoccupation to suggest that people with hypersexual tendencies: 1) use sex in response to dysphoric mood states and to cope with stress; 2) feel unable to control or reduce sexual fantasies, urges, and behaviours; and 3) continue to engage in sexual fantasies, urges, or behaviours despite negative consequences that interfere in significant life domains (Reid et al., 2011). Total scores range from 19 to 95, with higher scores indicative of higher level of hypersexuality and scores ≥53 considered clinically elevated for men (Reid et al., 2011).

Sexual preoccupation has been assessed by the HBI in research examining populations of outpatient men and women (Reid et al., 2011), patients with hypersexual behaviours, patients with psychiatric or substance use disorders (Reid et al., 2012), and diverse, non-clinical community samples recruited online (Bőthe et al., 2018; Reid et al., 2011). These studies have found good internal consistency for each of the three subscales (Coping α = .86; Control α = .82; Consequences α = .75), and have supported the inventory's structural validity (Bőthe et al., 2018). Furthermore, the HBI has demonstrated adequate test-retest reliability (r = .76), as well as the ability to discriminate between hypersexual and non-hypersexual patients (Reid et al., 2012). Convergent validity has been found between the HBI and the Compulsive Sexual Behaviour Inventory (r = .92), the Sexual Compulsivity Scale (r = .82; Reid et al., 2011), and Hypersexual Behaviour Consequences Scale (r = .73; Reid et al., 2012). The internal reliability for the HBI-19 total score in the current study was excellent across

MAP and other paraphilia groups (α = .93 and α = .93, respectively).

Inhibition and Impulsivity

The 20-item Short UPPS-P Impulsive Behaviour Scale (SUPPS-P; Lynam, 2013; Appendix J) uses a 4-point Likert scale (*strongly agree* = 1 to *strongly disagree* = 4) to measure five facets of impulsivity. Specifically, the SUPPS-P produces five subscales of: 1) Negative Urgency (i.e., tendency to act rashly under extreme negative emotions); 2) Lack of Perseverance (i.e., inability to remain focused on a task); 3) Lack of Premeditation (i.e., tendency toward acting without thinking); 4) Sensation Seeking (i.e., tendency to seek out novel or thrilling experiences); and 5) Positive Urgency (i.e., tendency to act rashly under extreme positive emotions). In contrast to other measures of impulsivity, the SUPPS-P is briefer in length and measures individual facets of impulsivity, rather than lump several components into one measure of impulsivity (Cyders et al., 2014). Subscale scores on the SUPPS-P range from 4 to 16, with higher scores indicative of higher levels of that facet of impulsivity.

When evaluating psychometric properties of the SUPPS-P, Cyders and colleagues (2014) found that the SUPPS-P demonstrated moderate-to-high construct validity in associations with subscales within the long form of the measure (UPPS-P). Specifically, subscales on the SUPPS-S have moderate-to-high correlations with corresponding UPPS-S subscales (negative urgency r = .69; positive urgency r = .83; lack of perseverance r = .63; lack of premeditation r = .71; sensation seeking r = .64; Cyders et al., 2014). The UPPS-P and the SUPPS-P have been used to assess inhibition and impulsivity in populations of undergraduate students, trauma exposed individuals in residential treatment (Weiss et al., 2013), and incarcerated offenders (Weidacker et al., 2017). Furthermore, moderately high internal consistency has been found for the five

subscales comprising the SUPPS-P (α = .74 - .88) and criterion-related associations between the SUPPS-P subscales and a variety of risky behaviours (e.g., alcohol use, drug use, problematic eating, gambling, sexual behaviours, and self-harm behaviours; Cyders et al., 2014). In the current study, the internal reliability for the SUPPS-P subscales was acceptable to good across MAP and other paraphilia groups, including the negative urgency subscale (α = .737 and α = .821, respectively), lack of perseverance subscale (α = .667 and α = .775, respectively), lack of premeditation subscale (α = .801 and α = .828, respectively), sensation seeking subscale (α = .647 and α =.744, respectively), and positive urgency subscale (α = .801 and α = .853, respectively).

Coping Strategies

The Brief COPE (Carver, 1997; Appendix K) is a 28-item questionnaire which examines different cognitive and behavioural strategies individuals may employ to cope with a variety of specific stressors (Carver, 1997; Monzani et al., 2015). For the current study, instructions for the Brief COPE were modified to explicitly assess how individuals coped with having a sexual interest in young persons under the age of 16 years. Instructions for the Brief COPE previously have been modified in this way in other online research examining coping strategies used by community MAPs (Moss, 2019). Participants are asked to rate the applicability of various coping strategies on a 4-point Likert Scale (*I don't do this at all* = 1 to *I've done this a lot* = 4; range = 2 to 8). The Brief COPE comprises 14 coping subscales: 1) Self-Distraction; 2) Active Coping; 3) Denial; 4) Substance Use; 5) Use of Emotional Support; 6) Use of Instrumental Support; 7) Behavioural Disengagement; 8) Venting; 9) Positive Reframing; 10) Planning; 11) Humour; 12) Acceptance; 13) Religion; and 14) Self-Blame. The coping subscales of the Brief COPE can further be grouped in terms of their functionality: 1)

Adaptive Coping (i.e., Use of Emotional Support, Positive Reframing, Acceptance, Religion, Humour, Active Coping, Planning, Use of Instrumental Support; range = 16 to 64); and 2) Maladaptive Coping (i.e., Venting, Denial, Substance Use, Behavioural Disengagement, Self-Distraction, Self-Blame; range = 12 to 48; Meyer, 2001).

The Brief COPE has been used widely to measure coping styles reported by heterogeneous community populations in response to a variety of specific stressors (e.g., sexual interest in children, sexual assault victimization, therapist burnout, health-related stressors, intimate partner violence, natural disasters, personal goal-related difficulties; e.g., Carver, 1997; DeDios-Stern et al., 2017; Goldberg-Looney et al., 2016; Monzani et al., 2015; Moss, 2019; Ullman et al., 2014; Wallace et al., 2010). Psychometric properties of the Brief COPE remain in-tact when instructions are adapted to focus on specific stressors, and specific subscales have demonstrated minimally acceptable to excellent internal consistency across studies (α = .50 - .90; Carver, 1997; DeDios-Stern et al., 2017; Goldberg-Looney et al., 2016; Mozani et al., 2015; Moss, 2019; Ullman et al., 2014; Wallace et al., 2010). The 14-factor structure of the Brief COPE also has been replicated and empirically supported by other research (Monzani et al., 2015). In the current study, the internal reliability for the Brief COPE total score was good to excellent across MAP and other paraphilia groups (α = .87 and α = .90, respectively). For MAP and other paraphilia groups, the internal reliability for the Brief COPE Adaptive score was good (α = .86 and α = .88, respectively) and internal reliability for Brief COPE Maladaptive score was acceptable to good (α = .78 and α = .81, respectively). In the current study, data on adaptive and maladaptive coping styles were used in the context of examining the relationships between MAP subtypes and self-perceived risk of acting on sexual interests in minors.

Sexual History

An author-constructed sexual history survey (SHS; Appendix L) consisted of five self-report items. These items assessed age at first: 1) masturbation; 2) viewing pornography; 3) any sexual contact with another person; and 4) consensual sexual intercourse. Respondents also were asked to report how many sexual partners they have had in their lifetime. These data were used descriptively to further contextualize profiles of MAP subtypes that emerge from analyses.

Paraphilic Sexual Interests

A brief Paraphilic Interests Scale (PIS) originally was developed by Hsu and colleagues (2015) to measure a number of paraphilic interests. It assesses self-reported level of sexual arousal to engaging in behaviours and interactions that are characteristic of different paraphilias described in the DSM-5 (APA, 2013). For the purpose of the current study, six additional items were included to assess sexual arousal to chronophilia-related stimuli (i.e., pedophilia, hebephilia, teleiophilia), as well as three items where participants may specify and rate arousal to any "other" prominent sexual stimuli. Please note that teleiophilia is *not* a paraphilia per-se, but rather is the most common, species-typical sexual preference toward sexually mature adults. As a result, the extended paraphilia scale used in the current study (i.e., the PIS-E; Appendix M) was comprised of 20 items related to: 1) exhibitionism; 2) fetishism; 3) voyeurism; 4) frotteurism; 5) sexual masochism; 6) sexual sadism; 7) transvestic fetishism; 8) pedophilia; 9) hebephilia; 10) teleiophilic; and 11) other (participants specify). Responses were rated on a 5-point Likert scale (ranging from *not arousing at all* = 1 to *extremely arousing* = 5) for each paraphilic subscale. Total scores on the PIS-E range from 20 to 100, with higher scores indicative of higher endorsement of paraphilic sexual

arousal. When interpreted categorically, the PIS-E indicated the total number of paraphilic categories endorsed when rating on a subscale is greater than 1 (i.e., participant report the prompt as being "a little arousing" or higher; range = 1 to 13). The total number of paraphilic categories endorsed was used for cluster analyses, whereas paraphilia subscale scores were used to allocate participants into either the MAP or other paraphilia sample. The internal reliability for the PIS-E total score in the current study was acceptable across MAP ($\alpha = .74$) and other paraphilia groups ($\alpha = .70$).

Pro-Offending Cognitions

To evaluate the presence of offence-supportive cognitions, the current study combined two existing measures designed to assess cognitions regarding sexual activity with children. The 29-item Abel and Becker Cognition Scale (ABCS; Abel, Becker, Cunningham-Rathner, Rouleau, et al., 1984) is widely used in clinical and research settings to evaluate distorted beliefs related to children and sex. Given that statements in the ABCS predominantly assess cognition distortions related to contact sexual offending, beliefs which support non-contact sexual offences (e.g., child pornography offences) may be overlooked. Thus, the ABCS was extended to include items from the Children and Sexual Activities Inventory (CASA; Howitt & Sheldon, 2007; Appendix N). Development of the CASA was informed by Ward and Keenan's (1999) five implicit theories to assess offence-supportive cognitions relevant to online sexual offenders (Howitt & Sheldon, 2007). Psychometric development and interpretation of the full CASA measure was limited due to small sample size, low discriminant validity between types of sexual offenders, and accounted for only 40.4% of overall variance from the extracted two-factor solution (Howitt & Sheldon, 2017; Merdian, 2012; Merdian et al., 2014). Due to limitations for validating the full CASA, the current

research followed the procedure modelled by past research and include ten additional items which appear specific to child pornography offending (Merdian, 2012; Merdian et al., 2014). Specifically, items 3, 4, 7, 9, 12, 13, 15, 16, 18 and 19 from the CASA were selected for inclusion (i.e., items 30-39 in Appendix N) in addition to the original ABCS items. When combined, respondents were asked to rate their agreement with 39 statements on a 5-point Likert scale (*strongly agree* = 1 to *strongly disagree* = 5). As such, total scores range from 39 to 195, and lower scores suggests higher endorsement of beliefs that support sexual offending against children.

The ABCS has been used to assess pro-sexual offending cognitions in many populations of sexual offenders (i.e., against adults, children, child pornography), non-sexual offenders, people with paraphilic sexual interests, clinicians, lawyers, and non-offending members of the community (Abel et al., 1989; Marshall et al., 2001; Merdian, 2012; Merdian et al., 2014; Stermac & Segal, 1990; Szumski, 2014; Tierney & McCabe, 2001). Similarly, the CASA has been utilized to assess cognitive distortions among populations of contact-offenders, internet offenders, and mixed offenders (Howitt & Sheldon, 2007; Merdian, 2012; Merdian et al., 2014). Using principle component analysis, exploratory studies by Merdian and colleagues (2012; 2014) identified at least six meaningful dimensions underlying offence-supportive cognitive distortions assessed by the ABCS + CASA: 1) sexual objectification of children (α = .96; lowest inter-item correlation r = .66); 2) justification (α = .89; lowest inter-item correlation r = .64); 3) children as sexual agents (α = .89; lowest inter-item correlation r = .63); 4) denial of sexual offender status (α =.844; lowest inter-item correlation r = .51); 5) emphasis on cognitive element (α = .76; lowest inter-item correlation r = .45); 6) power and entitlement (α = .82; lowest inter-item correlation r = .52). In the current study, the

internal reliability for the ABCS + CASA total score was good to excellent across MAP ($\alpha = .96$) and other paraphilia groups ($\alpha = .89$).

Emotional Congruence with Children

Originally a component of the longer Children and Sex Questionnaire, the Emotional Congruence with Children Scale (CS-ECWC; Beckett, 1987; Appendix O) is a 15-item measure that assesses the degree to which an individual believes that adults can have "reciprocal", emotionally satisfying relationships with children aged 12 years or younger. Using a 5-point Likert scale (*very untrue* = 0 to *very true* = 4, where *don't know* = 2), research with the CS-ECWC suggests that it is comprised of three underlying facets (Waldron et al., 2006). The first facet, "Positive Affect from Children," included items relating to being cheered up by children, loving children at first sight, and perceptions that children have an interest or special feelings for the reporting adult. Second, the "Special Relationships with Children" factor tapped into perceptions regarding the respondent being better at understanding children and getting along with children than other adults. This factor also reflected beliefs that children seek out this individual and demonstrate a preference to be with the adult over their own parents. Finally, the third factor labelled "Preference for Relationships with Children" examines cognitions relating to being more comfortable around children than adults and preferring to spend time with children over adults. Total scores range from 0 to 60, with higher scores indicating higher emotional congruence with children.

The CS-ECWC is reportedly used widely in Irish and UK community-based and prison service treatment programs for sexual offenders and has been applied in other research examining populations of incarcerated sexual offenders, forensic inpatients, forensic outpatients, university students, child sexual offenders, non-sexual offenders,

and university students (Beech, 1998; McPhail, 2010; McPhail et al., 2013; McPhail et al., 2018; Waldron et al., 2006). Psychometric evaluations found the CS-ECWC to have high internal consistency for the total score (α = .90; Beech, 1998; Fisher et al., 1998; Mandeville-Norden & Beech, 2008), as well as for individual factors (Positive Affect from Children α = .84; Special Relationships with Children α = .80; Preference for Relationships with Children α = .74; Waldron et al., 2006). The CS-ECWC has demonstrated moderate-to-high test-retest reliabilities (*r* = .63 – .80; Beech, 1998; Fisher et al., 1998). In the current study, the internal reliability for the CS-ECWC total score was excellent across MAP (α = .92) and other paraphilia groups (α = .92).

Mental Health and Distress

Comprised of 21 items, the Depression, Anxiety, and Stress Scales – 21 items (DASS-21; Lovibond & Lovibond, 1995; Appendix P) is derived as a shortened version of the longer DASS-42 (Antony et al., 1998). Specifically, the DASS-21 is designed to measure emotional states and symptoms associated with negative affect states, including: 1) Depression (i.e., symptoms related to dysphoric mood and low positive affect); 2) Anxiety (i.e., physical symptoms of anxiety); and 3) Stress (i.e., general negative affective symptoms of nervous arousal, tension, and irritability). Respondents rated their experience over the previous week using a 4-point Likert scale (*did not apply to me at all* = 0 to *applied to me almost always* = 3). To be consistently comparable with the full-length DASS-42, total scores and subscale scores of the DASS-21 are multiplied by 2 (Lovibond & Lovibond, 1995). As such, total scores on the DASS-21 range from 0 to 126, with higher scores interpreted to be indicative of higher symptomatology. A cut-off score of 60 is indicative of high or "severe" clinical severity for the total score (Beaufort et al., 2017). Recommended cut-off scores for severity labels on the

Depression, Anxiety, and Stress subscales provide an indication of whether symptom endorsement may be considered normal (0-9, 0-7, and 0-14, respectively), mild (10-13, 8-9, and 15-18, respectively), moderate (14-20, 10-14, and 19-25, respectively), severe (21-27, 15-19, and 26-33, respectively), or extremely severe (28+, 20+, and 34+, respectively; Lovibond & Lovibond, 1995).

Evidence of excellent psychometric properties (i.e., reliability, construct validity, predictive validity) and clinical utility of the DASS-21 have been found across diverse general and clinical populations (Henry & Crawford, 2005; Norton, 2007; Parkinty & McAuley, 2010). Convergent validity of the DASS-21 has been further established, with significant positive correlations with Beck Anxiety Inventory (r = .71; Beck & Steer), Beck Depression Inventory – 2 (r = .75; Beck, Steer, & Brown, 1996), and Positive Affect Negative Affect Scale – Negative (r = .77; Gloster et al., 2008). In forensic populations, the DASS-21 has demonstrated good-to-excellent internal reliability in samples of justice-involved youth (α = .82-.91; Grennan & Woodhams, 2007) and male offenders (α = .88; Willemsen et al., 2011). Researchers have found similar internal consistency, convergent validity, and divergent validity for the DASS-21 across diverse racial groups (Norton, 2007). In the current study, internal consistency for the DASS-21 total score was excellent across MAP (α = .93) and other paraphilia groups (α = .95).

Personality

In the process of constructing the DSM-5, the APA developed several "emerging measures" for further clinical research and evaluation. One such measure is the Personality Inventory for the DSM-5 – Brief Form (PID-5-BF; Krueger et al., 2013; Appendix Q), a 25-item self-report measure designed to assess dimensional conceptualizations of adults' self-report personality traits. Specifically, the PID-5-BF

employs a 4-point Likert scale (*very false or often false* = 0 to *very true or often* = 3) to assess five personality trait domains: 1) Negative Affectivity (versus emotional stability) captures frequent and intense experiences of high levels of a wide range of negative emotions, as well as their behavioural and interpersonal manifestations; 2) Detachment (versus extraversion) assesses avoidance of socioemotional experiences, including both withdrawal from interpersonal interactions and restrictive affective experience and expression, including limited hedonic capacity; 3) Antagonism (versus agreeableness) denotes behaviours that put the individual at odds with other people, such as an exaggerated sense of self-importance and expectations of special treatment, as well as callous antipathy toward others. High scores on the antagonism further encompass an unawareness of others' needs and feelings as well as a readiness to use others in the service of self-enhancement; 4) Disinhibition (versus conscientiousness) indicates a trait-like tendency to orient oneself toward immediate gratification, often leading to impulsive behaviour driven by current thoughts, feelings, and external stimuli without notable regard for past learning or consideration of future consequences; and 5) Psychoticism (versus lucidity) captures a proneness to exhibiting a wide range of culturally incongruent odd, eccentric, or unusual behaviours or cognitions, including both process and content. Total scores range from 0 to 75, where higher scores indicate higher endorsement of problematic personality traits.

Psychometric evaluations of the PID-5-BF have found comparable associations between the brief form, the full-length PID-5, and the categorical assessment of personality disorders as defined in the DSM-5 (Anderson et al., 2018). Subscales of the PID-5-BF itself have further demonstrated adequate internal consistency across each domain (Negative Affectivity $\alpha = .70$; Disinhibition $\alpha = .76$; Antagonism $\alpha = .68$;

Psychoticism α = .78; Detachment α = .69) in community and student samples (Anderson et al., 2018). Research also has suggested that the PID-5-BF domain scores show, at minimum, moderate correlations with other established measures of personality traits, and comparable associations with alternative forms of the PID (Anderson et al., 2018). In the current study, the internal reliability for the PID-5-BF total score was good to excellent across MAP (α = .87) and other paraphilia groups (α = .91).

Loneliness

Derived from the original, 27-item Social and Emotional Loneliness Scale for Adults (SELSA; DiTommaso & Spinner, 1993), the 15-item Social and Emotional Loneliness Scale for Adults – Short Version (SELSA-S; DiTommaso et al., 2004; Appendix R) is distinct from other brief loneliness measures as it utilizes a multidimensional approach to measuring loneliness. Specifically, the SELSA-S comprises scales of: 1) social loneliness; 2) romantic loneliness; and 3) family loneliness. In this way, the SELSA-S uses a 7-point Likert scale (*strongly disagree* = 1 to *strongly agree* = 7) to provide insight regarding the specific nature and/or duration of individuals' perceived loneliness across different domains of social functioning. Subscale scores range from 5 to 35, with high scores showing higher level of loneliness.

Since its development, the SELSA-S has been used widely and psychometric properties have been validated across diverse samples and populations (e.g., internet users, university students, young adults, intimate partners, psychiatric outpatients, French-Canadians; Adamczyk, 2016; DiTommaso et al., 2004; DiTommaso et al., 2007; Ryan & Xenos, 2011). Evidence of high internal consistencies have been found across all SELSA-S subscales (Romantic α = .83 – .89; Family α = .83 – .89; Social α = .84 – .90). Furthermore, scores on the SELSA-S demonstrates evidence of convergent validity

with related constructs, including associations between loneliness and measures of attachment insecurity, relationship status, self-esteem, social skills, coping styles, interpersonal trust, social intimacy, mental health symptomatology, internet usage, and satisfaction with life (Adamczyk, 2016; DiTommaso et al., 2004; DiTommaso et al., 2007; Ryan & Xenos, 2011). In the current study, the internal reliability for the SELSA-S subscales were good to excellent across MAP and other paraphilia groups, including the romantic subscale (α = .85 and α = .86, respectively), family subscale (α = .88 and α = .91, respectively), and social subscale (α = .85 and α = .89, respectively).

Self-Reported Risk of Engaging in Sexual Behaviours with Minors

Existing actuarial risk assessment measures are designed to be administered to individuals with a history of sexual offending, whereby an estimate of likelihood of future sexual offending is generated based on various factors derived from interviews, file review, and offence history data (ATSA, 2017). However, the current study examines men from the community who may not have history of sexual offending, and for whom interview and existing file data is not accessible through online recruitment. As such, participants who self-report sexual arousal toward young persons on the PIS-E measures were presented with the Risk of Sexual Behaviours with Minors – Self-Report (RSBM-SR; Appendix S), an author-constructed measure designed to assess self-reported risk of engaging in pedophilic sexual behaviours. Using a 10-point Likert scale (*not at all* = 1 to *very much so* = 10), participants were asked to rate their self-perceived potential for acting on their sexual interests toward young persons in their lifetime, assuming that no one would ever know they did it and they would not be punished for engaging in the sexual behaviour. Specifically, participants were asked to rate the following questions: 1) How confident are you that you can *avoid* acting on your

attractions by *not* engaging in sexual activity involving youth? (reverse coded); 2) How worried are you that you may one day act on your sexual interests by engaging in sexual activity involving youth?; 3) How motivated are you to make sure that you *never* engage in sexual activity involving youth? (reverse coded); and 4) How likely are you to engage in sexual activity involving youth? Participants' total score, ranging from 4 to 40, were calculated to provide an estimate of risk for acting on pedohebephilic sexual interests.

Content validity of the RSBM-SR was established in several ways (Rubio et al., 2003; Sireci, 1998). Prior to data collection, construction of the RSBM-SR was informed by research and expert input provided by the author's supervisor and dissertation committee. As such, RSBM-SR items aimed to tap into participants' subjective sense of risk of acting on their pedophilic interests by inquiring about their self-perceived risk potential, motivation and intent to refrain from engaging in sexual activities with minors, and self-concern (i.e., worry) that they may one day act on pedohebephilic interests. Instructions for the RSBM-SR were modeled after language used in existing research that described construction and validation of a self-report scale assessing likelihood that the respondent would engage in a specific paraphilic and deviant behaviours and activities (Malamuth, 1989a, 1989b). Once data was collected, the RSBM-SR displayed acceptable internal consistency for MAP participants ($\alpha = .771$) and showed convergent validity through significant positive correlations with criminogenic factors related with risk of sexual recidivism (e.g., abuse-supportive cognitions, emotional congruence with children, sexual preoccupation, pedohebephilic interests, problematic personality traits; Hanson & Morton-Bourgon, 2005; Mann et al., 2010; see Tables 7, 11, & 12). Divergent validity was observed in negative correlations between self-perceived risk and teleiophilic sexual interests, an expected protective factor (de Vries Robbé et al., 2014;

Table 12). Additionally, trends in relationships between scores on the RSBM-SR and MAP groups were theoretically congruent, such that MAP groups with profiles comprised of more vulnerability factors reported higher ratings of self-perceived risk. Taken together, the RSBM-SR was judged to provide an acceptable estimation of MAPs' self-perceived risk of one day acting on their pedohebephilic sexual interests.

Procedure

Online recruitment proceeded through posting recruitment advertisements across a variety of media including sharing posts on social media, support groups and online forums, educative non-profit and prevention organizations, listservs for sex researchers and clinicians, and crowdsourcing research recruitment websites. Overall, the fully participant sample was recruited from MAP-related forums (37.6%), other social media forums (17.9%), MTurk (22.7%), or else accessed the survey from an undisclosed platform (21.8%). The recruitment advertisements provided a short recruitment message (Appendix B). After reading the recruitment statement, interested participants could choose to click the research link that took them directly to the informed consent page, which provided greater depth of information about participation in the study.

Prior to posting recruitment notices in any online communities, the sites' moderators/owners/administrators were contacted to obtain permission to post on their pages. Efforts to gain access to members of online communities provided a brief explanation of the nature of this dissertation and its potential implications (i.e., information which will be similar to that detailed in the informed consent form) to promote trust between web communities and researchers and enhance online recruitment (Appendix A; Ray et al., 2010). The online questionnaires did not request or associate

any identifiable information (e.g., profile/username, email, etc.) with collected participant data. Upon completing the survey, participants were invited to share the link to the study with other individuals from their social network as a further means to promote participant recruitment (Jahnke et al., 2015a).

Depending on the medium of recruitment, different incentives for participation were provided. MTurk requires researchers to compensate participants a consistent rate for engagement in studies. A compensation of $3.00 was provided to participants recruited through MTurk (N = 300). Participants recruited more broadly across the Internet were offered the chance to be entered into a draw to win one of ten gift cards, each worth $50. To accommodate these differences in compensation, separate survey website links (with identical survey content) were provided to participants recruited via MTurk versus other via other mediums. The two data files compiled from MTurk versus other mediums were combined once data collection was complete.

The informed consent form invited participants to complete a questionnaire package that would take approximately 30 minutes to complete, at which time participants freely indicated their voluntary willingness to participate (Appendix C). To ensure eligibility before accessing the survey, all participants were screened based on the following inclusion criteria: 1) their sex/gender; 2) age category; 3) whether they are sexually interested in or sexually aroused by something that might be considered "non-traditional," "unusual," "atypical," or "different" from most people in society; 4) whether they could read and understand information written in English; 5) whether they had completed this same survey before; and 6) whether they provide their informed consent to participate in the study.

The survey was administered through SoSci Survey, an online survey platform

which administers and compiles data in a way which ensures participant anonymity and confidentiality. SoSci Survey guarantees participant anonymity and does not require cookies or record IP addresses in log-files by default, which further maximizes anonymity of data (Leiner, 2019). Of note, SoSci Survey server and operator is hosted in Germany and adheres to Germany data privacy laws (Leiner, 2019). As such, collected data were not stored in the United States and thus are not subject to the United States' Patriot Act that allows data access for national security reasons. Upon completion of the questionnaires, participants were directed to a debriefing form (Appendix D). Within the debriefing form, participants were provided with more details that the purpose of the study was to examine and compare similarities and differences among people with sexual interest in young persons with persons with other paraphilias and given a second opportunity to provide passive or active consent for their responses to be used in this research. After viewing the debriefing form, participants were asked to choose whether they wished to enter a draw for a chance to win one of ten $50 gift cards for their participation in the study. For those who chose to participate in the raffle draw, email addresses were collected and stored separately from survey data. Emails collected for the raffle draw were not connected to data provided during the survey in any way and are not used for any purpose other than to contact the winner of the raffle (Appendix E).

Once the survey was completed in SoSci Survey, encrypted raw data were downloaded into SPSS and stored on an encrypted, password-protected USB and stored securely by the lead author and the Director of the Centre for Criminal Justice Studies (i.e., candidate's supervisor). Although it was not anticipated that participants in the present study would experience significant levels of distress as a result of participating in the study, a list of mental health resources (e.g., national mental health crisis hotlines)

were provided to participants as part of the debriefing form (Appendix D).

Considerations for Research on Paraphilias and Sexual Offending

Due to potential sensitivity and social stigma related to pedophilia and sexual paraphilias, accessing and recruiting MAPs as participants presents unique ethical and practical considerations. Extant research seeking to study similar populations (e.g., registered sex offenders, community-based child pornography offenders has identified challenges with: researchers establishing credibility and rapport amidst elevated levels of distrust; protecting participants from emotional risks; managing researchers' emotional well-being; and balancing confidentiality and mandatory reporting laws (Klein et al., 2018). However, regardless of methodological approaches, research would also suggest that sex offending participants have a desire to have their voices heard and actively participate in research when they believe the study environment is safe for them to do so (Klein et al., 2018). Furthermore, Ray and colleagues (2010) noted the utility and cost-effectiveness of internet-based research for gathering valid data from culturally diverse, hidden, or marginalized populations who may engage in covert, illegal, or deviant behaviours. Establishing contact and working relationships with advocacy groups, communicating with site moderators, making repeated and non-harassing attempts to communicate with offenders, utilizing mixed methods to allow participants to include further qualitative information, clearly presenting research credentials, limiting collection of personal information, and including mental health resources in the debriefing form have been suggested as strategies to overcome methodological challenges (Klein et al., 2018; Ray et al., 2010). Several strategies may be used to balance concerns related to mandatory reporting of child abuse: questions may purposefully be phrased to not inquire specific details about criminal behaviours, and

researchers may utilize survey platforms which maximize anonymity through options to manage IP address collection in different ways (e.g., scrubbing server logs to remove IP addresses, not collecting this information; Ray et al., 2010). Finally, to further promote participation among this population, research advertisements should concisely emphasize measures taken to ensure participant anonymity, the importance of the proposed research itself, and the intention of the study to benefit the target MAP population through learning about their characteristics and behaviours. Recognizing the applicability of these considerations to the current study, the approaches recommended above were implemented as safeguards to foster a research environment that promoted participant safety, engagement, and honest disclosure.

Considerations for Online Data Collection

This dissertation used internet-based methodology to gather data from community participants with self-reported pedophilic and paraphilic sexual interests. Although the perceived anonymity of the internet also functions to improve participant self-disclosure and honesty, internet-based research exhibits difficulties with verifying competency and participation eligibility or falsification of responses (Miller et al., 2007; Ray et al., 2010). Brevity of online survey length is an important concern to ensure complete responding, although may be balanced when appropriate non-incentivizing compensation is provided to participants (Ray et al., 2010). The current study attempted to overcome some of these obstacles by making efforts to reduce potential sampling bias to enhance generalizability, as well as integrating attention-check and verification questions to ensure purposeful responding and participant eligibility (Ray et al., 2010).

Crowdsourcing platforms, such as MTurk, are advantageous for data collection as they are simple to use and can recruit large, diverse samples of participants relatively

quickly and at low cost (Hauser et al., 2019). Such tools also offer viable capacity to recruit low base-rate samples of individuals who self-report stigmatizing sexual interests and behaviours, including those related to children (Ciardha et al., 2021). However, crowdsourcing recruitment is not without its pitfalls, and researchers must be wary of factors that can negatively impact the quality of data collected from respondents (Hauser et al., 2019). Researchers also must be aware of data that may come from "bot" programs used to complete surveys rapidly, as well as data from "farmers" who may complete the survey with little attention to detail for a sole purpose of getting paid (Vogels, 2019). To gather high-quality data on MTurk, research suggests setting specific eligibility qualifications (e.g., high HIT approval rating greater than 95%, specifying particular countries of residence, ensuring survey was not previously completed) and embedding attention checks throughout the survey to ensure participants are human and paying attention (Hauser et al., 2019). High quality data collection also can be facilitated by other strategies, such as considering the time required to complete the survey, examining responses to open-ended questions, and considering fluency in English (Hauser et al., 2019). These approaches were applied in recruitment and data conditioning phases of the current study to enhance collection of high-quality survey data. In cases where low-quality data is identified, participants' responses were removed from the data file.

CHAPTER FOUR: DATA ANALYSIS AND RESULTS

Data Cleaning and Conditioning

Prior to conducting statistical analyses for the research questions, raw data were screened and conditioned to ensure high-quality data and to meet relevant assumptions for analyses. An overview summarizing each step of data conditioning, including number of cases removed for each step, are described in Tables 5, 6, and 7. A full, detailed description of the data cleaning and conditioning process is available in Appendix T. For example, the data conditioning process included steps to address indications of suspicious responding (n = 1193 cases removed), remove duplicate entries (n = 25 cases removed), confirm eligibility criteria (n = 100 cases removed), perform missing values analyses (n = 230 cases removed), handle missing data (e.g., case-specific mean substitution), identify other inappropriate responding (e.g., out of range, univariate and multivariate outliers, inappropriate entry; n = 5 cases removed), and examine normality. Thus, the final dataset contained N = 833 cases, from an initial N = 2386 cases of survey interaction. Descriptive statistics and frequencies characterizing the final samples of MAP and other paraphilia are summarized in Tables 8, 9, and 10.

Research Questions and Hypothesis Testing

Research Question 1

Research Question 1 sought to identify *a posteriori* groupings from underlying biopsychosocial-sexual factors to develop a typology of MAPs in the community who had no previous criminal justice system involvement due to sexual crimes against minors (n = 584). Latent cluster analysis (LCA) is a mixture model-based statistical clustering approach used to identify groups (i.e., classes) of individuals based on the shared intersections of common characteristics, behaviours, attitudes, and interests (e.g.,

developmental and biopsychosocial-sexual factors). Specifically, latent subgroups of MAPs based on scores on measures of developmental (i.e., adverse experiences [ACES-R total score], adult attachment [ECR-S subscale scores]), self-regulatory (i.e., sexual preoccupation [HBI total score], impulsivity and disinhibition [SUPPS-P subscale scores]), sexual (i.e., paraphilic interests [PIS-E total number of paraphilic interest categories]), cognitive (i.e., pro-offending attitudes [ABCS + CASA total score], emotional congruence with children [CS-ECWC total score]), and socio-affective (i.e., mental health [DASS-21 total score], personality [PID-5-BF total score], loneliness [SELSA-S subscale scores]) variables were determined using LCA via MPlus 6.12.

Latent cluster analysis was performed using the 17 continuous measures of developmental, self-regulatory, sexual, cognitive, and socio-affective functioning to examine 2- to 10-class cluster solutions based on previous literature (e.g., Beech, 1998, Connolly, 2004; Gannon et al., 2012; Groth et al., 1982; Henry et al., 2010; Knight & Prentky, 1990; Lanning, 1992; Mandeville-Norden & Beech, 2009; Middleton, Elliott, Mandeville-Norden, & Beech, 2006; Ward & Siegert, 2002). The results of 2- to 6-class cluster solutions are summarized in Table 13. Maximum likelihood parameter estimates and observed scores were used to examine class membership probability for each *k*-class solution to minimize within-cluster variation, while also maximizing between cluster variation (Bakk & Vermunt, 2016; Vermunt & Magidson, 2002).

The optimal number of classes in the final solution considered congruence among multiple fit indices, interpretability, and parsimony of selected model (Contractor et al., 2018). Existing literature recommends considering the Lo-Mendell-Rubin (LMR; $p < .05$) adjustment likelihood ratio statistic, the bootstrap likelihood ratio test (BLRT; $p < .05$), lowest Bayesian Information Criterion (BIC), and higher entropy values (> .80)

to determine the optimal number of classes and goodness-of-fit for each model (Nylund et al., 2007). Whereas BIC demonstrates greater sensitivity to small sample sizes, BLRT provides more consistent power across sample sizes. Previous research has suggested that a minimum sample size of 100 participants is required for BLRT to determine the most accurate *k*-class solution (i.e., number of subgroup clusters), while concurrently accounting for the probability that classes likely will have unequal distribution of participants (Dziak et al., 2014). Furthermore, the performance of the BIC statistic increases as sample size increases (Nylund et al., 2007). Entropy values closer to 1 illustrate better model prediction of class membership (DiStefano & Kamphaus, 2006).

Based on BIC, LMR, BLRT, and entropy fit indices and in combination with interpretability and parsimony, a 3-class solution was selected as the optimal model for "non-offending" community MAPs. Although fit criteria also were suggestive of a 2-class model, the 3-class solution had a markedly lower BIC to reflect notably less loss of information (Contractor et al., 2018; DiStefano & Kamphaus, 2006; Nylund et al., 2007). Although BIC values decreased between the 2- and 6-class solutions, this decline was relatively minimal between the 3-class and 4-class solutions and among subsequent *k*-class solutions, further supporting a 3-class model when other fit indices are suitable. Moreover, compared to a 2-class solution, each group in the 3-class solution comprised class sizes that reflected a nuanced understanding of heterogeneity between clusters to enhance interpretive value and theoretical parsimony. The estimated membership probability for the 3-class solution was as follows: Cluster 1 was 92.5%, Cluster 2 was 95.0%, and Cluster 3 was 90.4%. In contrast, the probability of misclassification by cluster was 7.5% for Cluster 1, 5.0% for Cluster 2, and 9.6% for Cluster 3.

A graphical representation of z-score means for the 3-class solution is depicted in

Figure 2. Latent class membership differences for all measured characteristics included in the LCA are described in Table 14. The emergent latent clusters were conceptually labelled according to significant patterns of biopsychosocial-sexual characteristics endorsed by members of those classes. Cluster labels were assigned based on major trends observed across endorsed characteristics and may not fully capture the nuances, heterogeneity, and complexity within each cluster. Overall, the three clusters appear to represent different severity levels of vulnerability factors for community MAPs.

Participants classified in Cluster 1 (n = 165, 28.3%) were characterized by relatively lower endorsement of developmental and biopsychosocial-sexual vulnerability factors. As such, Cluster 1 was labelled *Low Vulnerability*. Members of Cluster 1 reported significantly lower endorsement of adverse childhood experiences, attachment anxiety, attachment avoidance, sexual preoccupation, negative urgency, lack of premeditation, positive urgency, pro-offending attitudes, emotional congruence with children, mental health disturbance, mildly problematic personality traits, romantic loneliness, familial loneliness, and social loneliness compared to participants in Cluster 2 and Cluster 3. Participants in Cluster 1 also had significantly lower scores on number of paraphilic interests compared to individuals in Cluster 3.

From observed standardized scores, MAPs classified in Cluster 2 (n = 270, 46.2%) demonstrated modest endorsement of all measured vulnerability factors and thus was labelled *Moderate Vulnerability*. Specifically, Cluster 2 participants demonstrated higher endorsement than Cluster 1 and lower endorsement than Cluster 3 on measures of adverse childhood experiences, attachment anxiety, sexual preoccupation, negative urgency, lack of premeditation, positive urgency, pro-offending attitudes, emotional congruence with children, mental health disturbance, problematic personality traits,

family loneliness. Participants in Cluster 2 also had significantly lower scores on number of paraphilic interests compared to individuals in Cluster 3 and significantly higher scores of romantic loneliness and social loneliness compared to members of Cluster 1.

Finally, Cluster 3 (n = 149, 25.5%) MAPs typically were distinguished by relatively higher endorsement of most biopsychosocial-sexual vulnerability factors and hence was named *High Vulnerability*. Compared to participants in Cluster 1 and Cluster 2, MAPs classified in Cluster 3 reported significantly higher endorsement of adverse childhood experiences (clinically significant), attachment anxiety, sexual preoccupation (clinically significant), negative urgency, lack of premeditation, positive urgency, pro-offending attitudes, emotional congruence with children, mental health disturbance (clinically significant), moderately high problematic personality traits, and family loneliness. Higher levels of attachment avoidance, sensation seeking, total number of paraphilic interests, romantic loneliness, and social loneliness also were observed for participants in Cluster 3 compared to those in Cluster 1. Of note, average endorsement of adverse childhood experiences, sexual preoccupation, and mental health disturbance were above recommended cut-offs of clinical severity for participants in Cluster 3. No significant differences were observed in lack of perseverance across all three clusters.

Research Question 2

Using the latent groups identified in Research Question 1, Research Question 2 aimed to determine which key developmental and biopsychosocial-sexual factors significantly differ between non-offending MAP clusters and men who endorse other paraphilic interests. A small subsample of community MAPs who self-reported prior charges or convictions for sexual offences against a child under the age of 16 years (i.e., MAP-CSA; n = 25) also were compared on mean scores across measured vulnerability

factors. However, due to the small size of this subsample, these analyses should be considered a preliminary and exploratory attempt to compare profiles with non-offending community MAPs and results were interpreted with caution.

The first step of analysis involved descriptive analyses (e.g., Chi Square, frequencies, means, standard deviations) of individual characteristics to explore how variables differed between the MAP subtypes and other paraphilia groups. Next, multivariate analysis of variance (MANOVA) was used to establish which biopsychosocial-sexual variables best differentiate between the identified MAP groups, MAP-CSA men, and men with other paraphilias based on their level of significance (Cramer, 2003; Tabachnick & Fidell, 2013). MANOVA has an advantage in that several criterion variables (i.e., developmental and biopsychosocial-sexual variables) can be included in analysis, which improved the likelihood of determining whether differences exist as a result of MAP subgroup membership. MANOVA also is robust against violations of group non-normality when there are more than 20 cases in each group, even in cases where sample sizes are unequal across cells (Tabachnick & Fidell, 2013).

To determine the multivariate effects of group membership on developmental and biopsychosocial-sexual characteristics, Pillai's V was examined. Pillai's V is a test that is more robust to violations of assumptions than Wilk's Lambda, including when tested covariance matrices are found to be unequal as in all current analyses, and in cases of analyses with unequal sample sizes between groups (Mertler & Vannatta, 2002). *Post hoc* analyses utilized analysis of variance (ANOVA) to follow-up on significant main effects to clarify group differences on measured variables. Significant group differences were examined using Tukey's post-hoc analysis.

For all MANOVA, the three MAP clusters derived from Research Question 1, a

group of men with other paraphilias (i.e., other paraphilia), and a group of men with sexual interests in minors with criminal justice system contact for related charges (i.e., MAP-CSA) served as independent variables, with developmental and biopsychosocial-sexual variables serving as separate dependent variables. Five MANOVAs (i.e., one MANOVA for each conceptual domain of measures – developmental, self-regulation, sexual interests, cognitions, socio-affective) were conducted to control for Type I error. All MANOVAs utilized participants' self-reported scores on measures' subscales as dependent variables to identify groups differences. Follow-up univariate ANOVA and Tukey's post hoc analyses (wherein *p*-value threshold $\leq .05$) are summarized for all MANOVAs in Table 15. A graphical representation of z-score means for groups across biopsychosocial-sexual domains is depicted in Figure 3.

Demographic and Individual Characteristics. Omnibus chi square analyses were used to descriptively distinguish trends in categorical demographic and individual characteristics across low vulnerability, moderate vulnerability, high vulnerability, and other paraphilia groups. Participants categorized in the MAP-CSA group were excluded from chi square analyses due to small sample sizes per cell that would prohibit reliable interpretation of results. Comparisons of features across clusters, including frequency percentages and sample sizes, are depicted in Table 16.

On average, men in the low vulnerability MAP group were in their early 30s. Just over half of the men in the low vulnerability MAP group identified as heterosexual and single at the time of completing the study. Low vulnerability men were mostly Caucasian, with more than half of participants living in North America and nearly three-quarters of participants identifying English as their primary language. Nearly all low vulnerability MAPs had achieved higher education after high school and were mostly

currently employed or a student. Less than a tenth of low vulnerability participants reported engaging in activities that may provide access to children (e.g., volunteering, employment, or being a parent or guardian to minor(s)). Whereas the majority of low vulnerability participants reported no use of opioids, sedatives/tranquilizers, stimulants, or hallucinogens in the last 30 days, approximately two thirds reported use of alcohol and nearly one quarter reported the use of cannabis. Very few low vulnerability MAPs had any prior criminal history. In terms of sexual history, 82.4% of low vulnerability men began masturbating for the first time prior to the age of 13 and approximately three-quarters of men began using pornography for the first time prior to this same age. Nearly half had their first sexual contact occur during their adolescent years, though almost a quarter reported a first experience under the age of 13 and 18.4% reported no sexual contact. In contrast, almost half of low vulnerability MAPs reported their first *consensual* intercourse as occurring during adolescent years, 19.6% by age 20 or older, and just under a third reporting no consensual intercourse experience. Over a quarter of low vulnerability MAPs reported having no sexual partners, whereas nearly half reported having between one to five sexual partners in their lifetime.

Community men in the moderate vulnerability MAP group reported their average age to be in their late 20s. Three quarters of participants in the moderate vulnerability group were single and approximately half heterosexual, though 43.3% identified their sexual orientation to be a category other than hetero- or homosexual. Like the low vulnerability group, most moderate vulnerability participants were Caucasian, 57.3% lived in North America, and just under three quarters reported English as their primary language. Over three quarters reported achieving higher education after high school and a similar proportion identified as being employed or a student at time of the current

study. Most moderate vulnerability MAPs were not engaged in any activities that allow access to children through volunteer, employment, or parental/guardianship status. Over the last month, rates of illicit drug use were low, whereas approximately one third of these participants reported any alcohol use and 19.5% reported any use of cannabis. Few participants reported previous contact with the criminal justice system. Most moderate vulnerability MAPs reported early ages for masturbation and use of pornography, with 79.6% and 76.5% indicating first experiences of each of these behaviours, respectively, under the age of 13 years. Approximately one third reported first sexual contact as occurring during adolescence, though just over one quarter of moderate vulnerability men reported their first sexual contact occurring under the age of 13 or never at all. Just under half of moderate vulnerability participants reported no history of *consensual* intercourse experiences, with about one third reporting first *consensual* intercourse during adolescence. About 41.1% reported no sexual partners, and another 41.8% reported having between one and five sexual partners in their lifetime.

The average age of MAPs in the high vulnerability group indicated that participants were typically in their late 20s. Approximately two thirds of this sub-group was single and about half identified their sexual orientation as a classification other than hetero- or homosexual. About three-quarters of the high vulnerability group were Caucasian, with two-thirds living in North America and over three-quarters identifying English as their primary language. Up to 71.8% of high vulnerability MAPs reported educational achievement beyond high school and approximately two-thirds were currently employed or a student at time of survey completion. A minority (12.1%) of this sub-group reported involvement in volunteer, employment, or parental status activities that would enhance their access to children. Most high vulnerability MAPs

denied illicit substance use, with just under two-thirds consuming alcohol and under one-third using cannabis in the last month. Very few of these participants reported a prior history of charges or convictions in the criminal justice system. As many as 80.7% of high vulnerability participants reported first masturbation or first pornography use occurring prior to the age of 13 years. First sexual contact occurred prior to 13 years old for one third of high vulnerability MAPs, with 43.5% reporting first sexual contact experiences during adolescence. Nearly half of high vulnerability participants had their first *consensual* intercourse experience during their adolescent years, though a quarter of participants reported no consensual intercourse experiences and 44.9% reported first consensual intercourse to occur in post-adolescent years. One quarter of high vulnerability participants reported zero sexual partners, whereas half of these participants reported having one to five sexual partners in their lifetime.

Individual characteristics of men in the other paraphilia group also were examined for purposes of identifying any contrasting or similar features compared to men with pedohebephilic interests. Men in the other paraphilias group were statistically older than participants allocated to latent MAP clusters, typically reporting their age to be in their mid-30s. Just over half of other paraphilia participants were married or in a relationship, with two-thirds identifying as heterosexual and approximately one-quarter identifying their orientation as something other than hetero- or homosexual. Three-quarters of other paraphilia men were Caucasian, the large majority of whom resided in North America and identified English as their primary language. Similarly, 87.1% of men with other paraphilias obtained education beyond high school and 87.5% employed or students at time of the current study. Just under one quarter (20.5%) of other paraphilia participants engaged in activities that increase access to children through

volunteering, employment, or parental responsibilities. Whereas 66.5% and 39.7% reported alcohol and cannabis use in the last 30 days, respectively, most of these participants denied use of other illicit substances. Less than 10% of other paraphilia participants had historical encounters with the criminal justice system. In terms of sexual history, about half of other paraphilias participants reported first masturbating or first pornography use under the age of 13, whereas the other half reported first experiences during adolescent years. Nearly three-quarters of other paraphilia participants had their first sexual contact and their first *consensual* intercourse during adolescence, with very few reporting no history of sexual contact or consensual intercourse. Regarding lifetime sexual partners, 39.8% of men in the other paraphilia group report having one to five sexual partners, under a quarter reported having between six and 10, and about one-third of men in this group report having more than 10 sexual partners in their lifetime.

Developmental Factors. MANOVA was used to examine differences between the low vulnerability, moderate vulnerability, high vulnerability, MAP-CSA, and other paraphilia groups across developmental factors relating to adverse childhood experiences and adult attachment styles (see Table 15). Specifically, dependent variables were subscales on the ACES-R to compare experiences of abuse, neglect, household dysfunction, and contextual adversity, and subscales of ECR-S to compare attachment anxiety and attachment avoidance. The multivariate effect was significant for developmental factors, Pillai's Trace = .409, $F(24, 3304) = 15.7$, $p < .001$, $\eta^2_p = .102$, indicating a moderately large effect size of difference in endorsement of developmental factors between these groups.

In terms of adverse experiences during childhood, follow-up ANOVAs found significant differences between groups for experiences of child abuse, childhood neglect,

household dysfunction, and contextual adversity (see Table 15 for *F*-statistics). The low, moderate vulnerability, and other paraphilia groups endorsed significantly fewer types of childhood abuse than MAP-CSA and high vulnerability groups. High vulnerability group reported significantly higher endorsement of childhood neglect than all other groups. Endorsement of childhood neglect for low vulnerability group was comparable to endorsement in other paraphilia and moderate vulnerability groups, though significantly lower than MAP-CSA and high vulnerability groups. There were no differences for endorsed childhood neglect between men in the other paraphilia, moderate vulnerability, and MAP-CSA groups. Experiences of household dysfunction were significantly lower among the low vulnerability and other paraphilia groups compared to the high vulnerability group, but were not significantly different than the MAP-CSA and moderate vulnerability groups. Endorsement of household dysfunction between MAP-CSA, moderate vulnerability, and high vulnerability groups were not significantly different. Contextual adversity was significantly higher among high vulnerability MAPs and significantly lower for the low vulnerability group, though low vulnerability men were not significantly different than other paraphilia participants. Contextual adversity experiences among other paraphilias, MAP-CSA, and moderate vulnerability groups were not significantly different from one another, but were significantly lower than high vulnerability MAPs and significantly higher than low vulnerability MAPs, with exception of the other paraphilia group. Overall, the high vulnerability group endorsed highest occurrence of different types of adverse experiences during childhood, whereas the low vulnerability group reported fewest occasions of adverse childhood experiences.

Follow-up ANOVAs also observed significant differences between groups on

facets of adult attachment, including attachment anxiety and attachment avoidance (see Table 15 for *F*-statistics). Low vulnerability MAPs endorsed significantly lower attachment anxiety compared to MAP-CSA, moderate vulnerability, and high vulnerability groups, but were not significantly different than men with other paraphilic interests, who also reported comparable attachment anxiety as MAP-CSA group. Attachment anxiety among the MAP-CSA group was not significantly different than the moderate vulnerability group, both of whom reported significantly lower insecure attachment anxiety than the high vulnerability group, but was significantly more insecure than the other paraphilia and low vulnerability groups. Participants in the MAP-CSA, moderate vulnerability, and high vulnerability groups demonstrated significantly higher insecure attachment avoidance than low vulnerability and other paraphilia groups. In sum, the high vulnerability group had more of an insecure attachment style relative to other groups, whereas the low vulnerability and other paraphilia groups endorsed relatively more secure attachment styles.

Self-Regulation Factors. MANOVA was used to examine differences between the low vulnerability, moderate vulnerability, high vulnerability, MAP-CSA, and other paraphilia groups across self regulation factors related to sexual preoccupation and inhibition and impulsivity (see Table 15). Specifically, dependent variables were subscales on the HBI to compare sexual control, sexual coping, and sexual consequences, and the SUPPS-P to compare negative urgency, lack of perseverance, lack of premeditation, sensation seeking, and positive urgency. The multivariate effect was significant for self-regulatory factors, Pillai's Trace = .548, $F(32, 3296) = 16.4$, $p < .001$, $\eta^2_p = .137$, indicating a moderately large effect size of difference in endorsement of self-regulatory factors between groups.

Regarding components of sexual preoccupation, follow-up ANOVAs showed significant differences between groups for sexual control, sexual coping, and sexual consequences (see Table 15 for *F*-statistics). The high vulnerability and MAP-CSA groups reported significantly higher inability to control or reduce sexual fantasies, urges, and behaviours compared to the moderate vulnerability groups, who endorsed significantly higher uncontrollability of sexual desires than the low vulnerability and other paraphilia groups. The low vulnerability group report significantly less use of sex to cope with dysphoric moods than the moderate vulnerability, MAP-CSA, and other paraphilia groups, between whom there was no significant differences. The high vulnerability group endorsed sexual coping significantly more than any other group. The high vulnerability group reported greater experiences of continuing to engage in sexual fantasies, urges, or behaviours despite interfering consequences compared to all other groups, with exception of the MAP-CSA group. The low vulnerability group reported the fewest negative consequences from fixation on sexual experiences but was not significantly different than men with other paraphilias. The other paraphilia group reported no significant difference than the moderate vulnerability group, who were not significantly different than the MAP-CSA group in terms of negative consequences. All in all, the high vulnerability group reported sometimes engaging in hypersexual behaviours, whereas the low vulnerability group rarely endorsed sexually preoccupation.

Follow-up ANOVAs observed significant differences across groups for facets of impulsivity including negative urgency, lack of perseverance, lack of premeditation, and positive urgency, but not in sensation seeking (see Table 15 for *F*-statistics). High vulnerability MAPs demonstrated significantly higher tendencies to act rashly under extreme negative emotions than other participant groups. There was no significant

difference in negative urgency between moderate vulnerability MAPs, MAP-CSA, and men with other paraphilias, but MAP-CSA men reported more than men with other paraphilias. In contrast, low vulnerability MAPs had significantly lower tendency to behave heedlessly in response to unpleasant emotional experiences. An inability to remain focused on a task was significantly higher among high vulnerability MAPs compared to men with other paraphilias. No significant differences were observed in lack of perseverance between men with other paraphilias and low vulnerability, moderate vulnerability, and MAP-CSA groups, nor between low vulnerability, moderate vulnerability, and MAP-CSA groups and high vulnerability MAPs. High vulnerability MAPs self-reported significantly higher tendencies to act without thinking than all other groups, but were not different than MAP-CSA men. Similar lack of premeditation was observed between MAP-CSA, moderate vulnerability, and other paraphilia participants, and low vulnerability MAPs displayed significantly more premeditation before acting than MAP-CSA men. High vulnerability MAPs also demonstrated significantly higher tendencies to act rashly when experiencing positive emotions than all other groups. In contrast, low vulnerability MAPs reported lowest tendencies to behave impulsivity in response to positive affect. Positive urgency was similar among MAP-CSA, men with other paraphilias, and moderate vulnerability participants. Collectively, all groups somewhat agreed with features of sensation seeking and lack of perseverance. More features of impulsivity were endorsed by the high vulnerability group, whereas the low vulnerability group reported the fewest.

Sexual Factors. MANOVA was used to examine differences between the low vulnerability, moderate vulnerability, high vulnerability, MAP-CSA, and other paraphilia groups across sexual factors related to sexual arousal to a variety of "typical"

and “atypical” behaviours (see Table 15). Specifically, dependent variables were subscales on the PIS-E to compare arousal to behavioural indicators of teleiophilia (i.e., the non-paraphilic, species-typical attraction to sexually mature adults), pedophilia, hebephilia, exhibitionism, voyeurism, sexual sadism, sexual masochism, fetishism, transvestism, and frotteurism. Total number of paraphilias endorsed also were compared across groups. The multivariate effect was significant for sexual interest factors, Pillai’s Trace = .361, $F(36, 3292) = 9.06$, $p < .001$, $\eta^2_p = .09$, indicating a moderate effect size of difference in endorsement of sexual factors between groups. Given that arousal to pedophilic and/or hebephilic behaviours was used to differentiate between men with any degree of sexual interest in minors from men with other paraphilic interests, a separate MANOVA was performed to examine differences in arousal to minors exclusively among MAP groups. The multivariate effect was not significant for factors related to sexual attraction to minors, Pillai’s Trace = .026, $F(9, 1812) = 16.4$, $p < .067$, $\eta^2_p = .009$.

Follow-up ANOVAs showed significant differences across groups in their endorsed sexual arousal to behaviours indicative of teleiophilia, exhibitionism, voyeurism, sexual sadism, sexual masochism, fetishism, transvestism, frotteurism, and total number of endorsed paraphilic categories (see Table 15 for *F*-statistics). The other paraphilia group endorsed higher arousal for adult stimuli, being “somewhat” aroused, compared to the MAP-CSA and moderate vulnerability groups who reported teleiophilic stimuli as “a little” and “somewhat” arousing, respectively. The MAP-CSA group endorsed lower teleiophilic arousal than the high vulnerability, low vulnerability, and other paraphilia groups, but demonstrated similar teleiophilic arousal as the moderate vulnerability group. Groups of high vulnerability MAPs and men with other sexual paraphilias similarly reported “a little” arousal from exposing one’s genitals to a

stranger, although the higher vulnerability group's interest in exhibitionism was statistically higher than the low vulnerability, moderate vulnerability, and MAP-CSA groups who also reported "a little" arousal. Significantly higher sexual interest in observing an unsuspecting person who is naked or engaging in sexual activity was observed for the high vulnerability group ("somewhat arousing") compared to the MAP-CSA group ("a little arousing"), with no significant differences between arousal endorsed by other groups who reported "a little" arousal to same. The high vulnerability group also reported statistically higher arousal to inflicting physical or psychological suffering toward another person, describing sexual sadism behaviours as "a little" arousing, compared to all other groups who typically reported no-to-little arousal. Undergoing humiliation or suffering by a sexual partner was less arousing to the MAP-CSA group ("not arousing at all") than for the high vulnerability and other paraphilia groups, which both reported sexual masochism to be "a little" arousing. Interests in sexual masochism were comparable among the low vulnerability, moderate vulnerability, and other paraphilia groups, who typically reported no arousal. There were no significant differences between groups in arousal to non-human objects indicative of fetishism, with all groups reporting fetishism to be "a little" arousing. Sexual interest in transvestism was lower among low vulnerability and other paraphilia groups than among high vulnerability MAPs. Experiencing "a little" arousal to transvestic activities among the MAP-CSA and moderate vulnerability groups was comparable to the arousal endorsed by low vulnerability, other paraphilia, and high vulnerability groups. The high and moderate vulnerability groups similarly reported being "a little" aroused by touching or rubbing against a non-consenting person, though frotteurism was statistically higher for the high vulnerability group than was endorsed by the other paraphilia, low

vulnerability, and MAP-CSA groups who also reported “a little” arousal. In summary, all four MAP groups reported similar levels of arousal to pedophilic and hebephilic stimuli. The high vulnerability group endorsed higher levels of sexual arousal to a variety of paraphilic stimuli compared to other groups.

When considering the total number of paraphilic categories endorsed to some degree by participants, follow-up ANOVA showed that the high vulnerability group was found to exhibit arousal to the largest number of paraphilic categories compared to all other groups. The other paraphilia group reported sexual interest in fewest paraphilic categories compared to the low vulnerability, moderate vulnerability, and high vulnerability groups, but number of paraphilias endorsed was not significantly different from the MAP-CSA group.

There was no significant between MAP groups differences with regard to degree of sexual arousal to minors in general, female minors, male minors, hebephilic interest toward minors between ages 12-14 years old, or pedophilic interest toward minors under the age of 12 (see Table 15 for *F*-statistics). On average, MAPs across all groups reported pedophilic and hebephilic stimuli as being “somewhat” arousing.

Cognitive Factors. MANOVA was used to examine differences between the low vulnerability, moderate vulnerability, high vulnerability, MAP-CSA, and other paraphilia groups across cognitive factors relating to distorted beliefs relating to children and sex and emotional congruence with children (see Table 15). Specifically, dependent variables were subscales on the ABCS+CASA to compare attitudes about the sexual objectification of children, justification, children as sexual agents, denial of sexual offender status, emphasis on cognitive elements, and power and entitlement. Additional dependent variables were subscales of the CS-ECWC to compare beliefs pertaining to

positive affect from children, special relationships with children, and preference for relationships with children. The multivariate effect was significant for cognitive factors, Pillai's Trace = .586, $F(36, 3292) = 15.7$, $p < .001$, $\eta^2_p = .147$, indicating a large effect size of difference in endorsement of cognitive factors between groups.

Of note, the ABCS+CASA is interpreted such that lower scores indicate higher endorsement of cognitive distortions. In terms of distorted beliefs about children and sex, follow-up ANOVAs found significant differences between groups for attitudes about the sexual objectification of children, justification, children as sexual agents, denial of sexual offender status, emphasis on cognitive elements, and power and entitlement (see Table 15 for *F*-statistics). Across all subscales, the other paraphilia group strongly disagreed with cognitions supportive of regarding children as sexual objects, justifying by blame attribution, describing children as active sexual agents, seeing children as active sexual agents, minimizing the harm and controllability of sexual offending against a child, feeling entitled to sex due to dominant status, and downplaying the negativity of distorted beliefs. In contrast, the high vulnerability group endorsed more attitudes about the sexual objectification of children, justification, children as sexual agents, denial of sexual offender status, emphasis on cognitive elements, and power and entitlement compared to all other groups except for the moderate vulnerability group, whose endorsement was not significantly different across any subscale. There were no significant differences in cognitions about children as sexual objects between the low vulnerability and moderate vulnerability groups, and between the low vulnerability and MAP-CSA groups. The moderate vulnerability, MAP-CSA, and low vulnerability groups similarly endorsed attitudes that justify sexual behaviours with children or view them as sexual agents. The high vulnerability, MAP-

CSA, and moderate vulnerability groups similarly endorsed attitudes that deny culpability or harm compared to the low vulnerability and other paraphilia group, with no significant difference between the moderate and low vulnerability groups. The moderate and low vulnerability groups endorsed similar emphasis on cognitive elements; significantly more-so than the MAP-CSA group. Beliefs about power and entitlement were not significantly different between the low vulnerability and MAP-CSA groups, which were significantly less strongly endorsed than the high and moderate vulnerability groups. In sum, the high vulnerability group trended toward neutrality regarding offence-supportive cognitions, whereas the other paraphilia group strongly disagreed with attitudes supportive of child sexual abuse.

Follow-up ANOVAs observed significant differences between groups for emotional congruence with children, including beliefs about deriving positive affect from children, perceptions about having special relationships with children, and attitudes showing preference for relationships with children (see Table 15 for *F*-statistics). The other paraphilia group consistently endorsed the lowest cognitive-affective affiliation with children, denying positive affect from interactions with children, beliefs about having better relationships with children, and preference for relationships with children versus relationships with adults. The low vulnerability group reported similar emotional congruence with children as the moderate vulnerability and MAP-CSA groups regarding positive affect from children, special relationships with children, and preference for relationships with children. There were no significant differences between the MAP-CSA, high vulnerability, and moderate vulnerability groups in beliefs about positive affect from children, special relationships with children, and preference for relationships with children. Overall, the high vulnerability group was ambivalent in endorsing

emotional congruence with children, whereas the low vulnerability group considered beliefs to be somewhat untrue. The group of men with other paraphilias reported these attitudes to be very untrue.

Socio-Affective Factors. MANOVA was used to examine differences between the low vulnerability, moderate vulnerability, high vulnerability, MAP-CSA, and other paraphilia groups across socio-affective factors related to mental health and distress, personality, and loneliness (see Table 15). Specifically, dependent variables were subscales on the DASS-21 to compare recent experiences of stress, anxiety, and depression. Problematic personality traits were measured using the PID-5-BF, including negative affect, detachment, antagonism, disinhibition, and psychoticism. The SELSA-S measured components of romantic, family, and social loneliness. The multivariate effect was significant for socio-affective factors, Pillai's Trace = .772, $F(44, 3284) = 17.9$, $p < .001$, $\eta^2_p = .193$, indicating a large effect size of difference in endorsement of socio-affective factors between groups.

Follow-up ANOVAs observed significant differences between groups in their self-reported experiences of mental health-related distress over the past week, including symptoms of stress, anxiety, and depression (see Table 15 for *F*-statistics). The low vulnerability group reported significantly lower stress than all other groups, falling in the normal range. The other paraphilia group reported significantly lower levels of stress than the MAP-CSA group, though both groups showed stress levels in the normal range. There was no significant difference in normal levels of stress experienced by the moderate vulnerability, MAP-CSA, and other paraphilia groups. In contrast, the high vulnerability group experienced the highest levels of stress compared to all other groups, presenting with moderately elevated stress. The high vulnerability group also reported

highest anxiety compared to all other groups, also in the moderately elevated clinical range. All other groups reported normal levels of anxiety symptoms, with the low vulnerability group reporting significantly less anxiety symptoms than all other groups except for being comparable to other paraphilia participants. There was no significant difference in normal levels of anxiety between the other paraphilia, moderate vulnerability, and MAP-CSA groups. The low vulnerability and other paraphilia groups reported significantly lower symptoms of depression, falling in the normal range, compared to all other participants. The moderate vulnerability and MAP-CSA groups demonstrated comparable levels of clinically significant depression in the moderate range. Finally, the high vulnerability group had the highest experiences of recent symptoms of depression in the extreme severe clinical range compared to other groups. Collectively, these findings indicate that the high vulnerability group endorsed the highest (and clinically significant) levels of mental health-related distress, whereas the low vulnerability group reported relatively low levels (i.e., normal range) of psychological distress in these areas.

In follow-up ANOVAs, personality profiles across groups were significantly different regarding personality facets of negative affectivity, detachment, antagonism, disinhibition, and psychoticism (see Table 15 for *F*-statistics). The high vulnerability group experienced more frequent, intense levels of a range of negative emotions compared to other groups. In contrast, the moderate vulnerability and MAP-CSA groups both reported similar negative affectivity that fell in the more moderate range. The low vulnerability and other paraphilia groups reported personality styles more congruent with traits of emotional stability. Traits of extraversion, with incidental traits of detachment, were more characteristic of the low vulnerability and other paraphilia

groups compared to other groups. The MAP-CSA and moderate vulnerability groups reported similar, but more moderate levels of extraversion and detachment. Tendencies to avoid socioemotional experiences were more common among the high vulnerability group, though were not significantly different than the moderate vulnerability group. Although significant differences were observed between groups in terms of antagonism, all groups tended to demonstrate profiles reflective of a greater propensity for agreeableness. The high vulnerability group tended to report more incidental levels of behaviours that put them at odds with other people. Personality traits of all other groups most leaned toward agreeableness, though the low vulnerability MAPs group reported significantly lower antagonism than all other groups except for the other paraphilia group. Similar levels of agreeableness were observed between the other paraphilia, MAP-CSA, and moderate vulnerability groups. Moderate levels of disinhibition were reported among the high vulnerability group, with the moderate vulnerability and MAP-CSA groups demonstrating incidental tendencies toward immediate gratification. Traits of disinhibition were not significantly different between the moderate vulnerability and other paraphilia groups. The low vulnerability group most typically reported personality traits consistent with conscientiousness. A moderately-high proneness to exhibit a range of culturally incongruent, odd, eccentric, or unusual behaviours or cognitions was most evident among the high vulnerability group. The moderate vulnerability group reported moderate levels of traits consistent with psychoticism. In contrast, higher tendencies toward lucidity were evident among the low vulnerability, MAP-CSA, and other paraphilia groups. Taken together, the high vulnerability group endorsed mid-range levels of problematic personality traits, whereas the low vulnerability group reported more functional personality profiles.

For experiences of loneliness, follow-up ANOVAs found significant differences between groups in terms of romantic loneliness, family loneliness, and social loneliness (see Table 15 for *F* statistics). The moderate vulnerability, high vulnerability, and MAP-CSA groups reported significantly higher levels of romantic loneliness than the low vulnerability and other paraphilia groups. The high vulnerability group also reported highest levels of family loneliness compared to all other groups. In contrast, the low vulnerability and other paraphilia groups reported similarly lowest levels of family loneliness compared to other groups. There was no significant difference in family loneliness between the MAP-CSA and moderate vulnerability groups. Higher levels of social loneliness also were reported at similar levels for the high vulnerability, moderate vulnerability, and MAP-CSA groups compared to the low vulnerability and other paraphilia groups. Overall, the low vulnerability group typically reported little loneliness in relationships, though were more neutral about feelings of romantic loneliness (but still comparable to normative samples of community men; DiTommaso et al., 2004). In contrast, the high vulnerability and moderate vulnerability groups erred toward acknowledging "some" moderately high concerns about loneliness, especially romantic loneliness, suggesting challenges with interpersonal relationships despite lacking criminal justice involvement.

Research Question 3

Beyond the utility of forming latent clusters to understand heterogeneity underlying MAPs who have not been involved in the criminal justice system, it is important to examine how interactions between group characteristics can relate to theoretically relevant and/or clinically useful outcomes (Hayes, 2013). In this case, it was hypothesized that MAP vulnerability groups (established in Research Question 1) would

vary on level of self-perceived risk of engaging in sexual behaviours with minors. If risk ratings were significantly different between groups, follow-up analyses would examine correlations for each MAP cluster between: 1) self-reported risk and total scores for biopsychosocial-sexual factors (i.e., adverse childhood experiences, attachment style, impulsivity, sexual preoccupation, paraphilic interests, pro-offending cognitions, emotional congruence with children, mental health, personality, loneliness); and 2) self-reported risk and subscale scores for each biopsychosocial-sexual factor. It was further hypothesized that the general coping style used to manage sexual interests in minors (i.e., Brief COPE Adaptive and Maladaptive subscales) would moderate the relationship between MAP vulnerability group membership and perceived level of risk for acting on pedophilic sexual interests (RSBM-SR).

Research Question 3.1. One-way ANOVA was used to examine differences in level of self-reported risk of engaging in sexual behaviours with minors, with MAP group used as the independent variable and self-reported risk of engaging in sexual activity with minors (RSBM-SR) as the dependent variable. To satisfy the dual goals of hypothesis testing for research questions 3.1 and establishing content validity of the author-constructed RSBM-SR questionnaire, all four MAP subgroups were included in analyses. As Levene's test of homogeneity of variance was significant, corrected model statistics and degrees of freedom were used to correct for heteroscedasticity. Significant group differences were examined using Tukey's post-hoc analysis.

A statistically significant difference was observed between low vulnerability, moderate vulnerability, high vulnerability, and MAP-CSA groups in terms of self-perceived risk of acting on their pedohebephilic interests, $F(3, 605) = 8.41$, $p < .001$, $\eta^2_p = .040$, indicating a small-to-medium effect size of difference in endorsement of risk

between groups. The low vulnerability group (M = 11.7, SD = 8.42; M_{item} = 2.93, SD_{item} = 2.11) perceived themselves to pose significantly lower risk of engaging in sexual activities with minors than the moderate vulnerability (M = 14.7, SD = 9.23; M_{item} = 3.67, SD_{item} = 2.31) and high vulnerability (M = 16.8, SD = 9.56; M_{item} = 4.20, SD_{item} = 2.39) groups, whereas the latter two groups self-reported similar perceptions of risk. There was no significant difference in ratings of self-perceived risk between MAP-CSA (M = 13.2, SD = 1.83; M_{item} = 3.31, SD_{item} = 2.54) and all other MAP clusters. Of note, mean scores fall in the low-to-middle range of risk probability as defined by this scale, revealing the none of the MAP group perceive themselves to present high risk of acting on their sexual interests.

Pearson's correlation analyses were used to examine associations between self-perceived risk (RSBM-SR) and total scale scores on measured biopsychosocial-sexual characteristics (ACES-R, ECR-S, HBI-19, SUPPS-P, PIS-E, ABCS+CASA, CS-ECWC, DASS-21, PID-5-BF, SELSA-S) for each MAP group (see Table 11). Effect sizes were interpreted based on benchmarks provided by Cohen (1988; small effect = ± .1 –.3; medium effect = ± .3 – .5; large effect = ± .5 – 1.0). These interpretive categories are reported in brackets below. Among the low vulnerability group, self-perceived risk of acting on sexual interests to minors was positively correlated with pro-offending cognitions (strong) and emotional congruence with children (moderate), and negatively correlated with mental health (weak). For the moderate vulnerability group, self-reported risk was positively associated with pro-offending cognitions (strong), emotional congruence with children (weak), problematic personality traits (weak), and paraphilic sexual interests (weak). Regarding the high vulnerability group, positive correlations were observed between self-perceived risk and pro-offending cognitions (strong),

emotional congruence with children (medium), and sexual preoccupation (weak), as well as a negative association between self-reported risk and mental health (weak).

An additional Pearson's correlation analyses were performed to examine correlations between self-perceived risk (RSBM-SR) and subscale scores representing facets of biopsychosocial-sexual vulnerability characteristics for each MAP group (see Table 12). As above, effect sizes were interpreted based on benchmarks provided by Cohen (1988) and reported to capture the magnitude of the reported association. Among the low vulnerability group, self-reported risk had moderate-to-strong positive correlations with all attitudes indicative of offence-supportive cognitions, weak-to-moderate associations with all elements of emotional congruence with children and paraphilias involving sexual interests toward minors, and weak negative correlations with stress and contextual adversity. In terms of the moderate vulnerability group, risk was moderately-to-strongly associated with all offence-supportive attitudes, weakly-to-moderately related to all components of emotional congruence with children and sexual interests toward minors, weakly correlated to personality traits of disinhibition and antagonism, and weakly, negatively correlated with sexual interest in adults. For the high vulnerability group, perceptions of risk were positively associated with all offence supportive attitudes (moderate-to-strong), all dimensions of emotional congruence with children (weak-to-moderate), pedophilic and hebephilic interests (moderate), sensation seeking (weak), and control (weak) and consequences (weak) facets of sexual preoccupations. Self-reported risk also was weakly, negatively associated with teleiophilic interests, depression, negative affect, and childhood experiences of neglect and abuse among the high vulnerability group.

Research Question 3.2. Moderation analysis (MA) may be used to establish the

boundary conditions (i.e., when, under what circumstances, or for what people) that interact with independent variables to influence the strength and/or directionality of an observed effect on criterion variables (Hayes, 2013). MA involves applying multiple regression analysis to assess the effects of a moderating variable to determine whether the interaction effect between independent variables (i.e., MAP vulnerability groups) and moderator variables (i.e., Brief COPE Adaptive and Maladaptive subscales) is significant in predicting the dependent variable (i.e., RSBM-SR). The current study performed MA by utilizing the PROCESS macro (Hayes, 2013; www.afhayes.com), a computational tool for path analysis-based modelling designed to automatically compute centering and interaction terms for moderation analysis. The PROCESS macro automatically performs dummy coding of multicategorical independent or moderator variables (i.e., MAP group), centers variables, and computes interaction terms to avoid potential problems of high multicollinearity (Aiken & West, 1991; Hayes, 2013).

Prior to performing the MA, two ANOVAs were used to examine the main effects of coping styles (i.e., adaptive coping, maladaptive coping; dependent variables) across MAP vulnerability groups established via latent cluster analysis in research question 1 (independent variable; Table 15). A statistically significant difference was observed between MAP group and level of adaptive coping strategies used to manage sexual interests in minors, $F(3, 581) = 14.9$, $p < .001$, $\eta^2_p = .049$, indicating a small-to-moderate effect size of difference in level of adaptive coping between MAP groups. The high vulnerability group ($M = 32.8$, $SD = 8.27$) reported significantly higher levels of adaptive coping than the moderate vulnerability ($M = 31.3$, $SD = 8.56$) and low vulnerability ($M = 29.6$, $SD = 8.90$) groups. Mean adaptive scores indicate that all MAP groups endorsed having used adaptive coping strategies “a little bit.” Level of

maladaptive coping strategies used to manage sexual interests in minors also was significantly different between MAP groups, $F(3, 581) = 93.5$, $p < .001$, $\eta^2_p = .243$, indicating a large effect size of difference in level of maladaptive coping between groups. The high vulnerability ($M = 25.7$, $SD = 6.79$) group reported highest levels of maladaptive coping (i.e., "a little bit") compared to the other MAP groups. The moderate vulnerability group ($M = 20.9$, $SD = 5.72$) also using "a little bit" of maladaptive coping, in contrast to the low vulnerability group ($M = 16.29$, $SD = 8.90$). On average, all MAP groups reported that they use adaptive strategies "a little bit" to manage their sexual interest in children. Whereas the high and moderate vulnerability groups endorsed using maladaptive coping strategies "a little bit," the low vulnerability group reported that they typically "do not do this at all."

Next, two hierarchical multiple regressions were conducted to test the hypothesis that the relationship between MAP vulnerability group (i.e., low vulnerability, moderate vulnerability, high vulnerability) and perceived level of risk vary depending on use of adaptive versus maladaptive coping styles. Results of the first analysis show that use of adaptive coping strategies did not moderate the effect of MAP group membership on self-perceived risk of acting on sexual interests in minors, $B = .138$, $p = .177$, 95% CI = [-.063, .338], $B = .168$, $p = .160$, 95% CI = [-.067, .403]. Interaction terms for MAP group and adaptive coping did not significantly differ in magnitude, $F(2, 578) = 1.26$, $p = .285$. In the second analysis, the use of maladaptive coping strategies did not moderate the effect of MAP group membership on self-reported risk of acting on sexual interests in minors, $B = .193$, $p = .320$, 95% CI = [-.187, .573], $B = .167$, $p = .406$, 95% CI = [-.227, .561]. Interaction terms for MAP group and maladaptive coping did not significantly differ in magnitude, $F(2, 578) = .510.$, $p = .601$.

CHAPTER FIVE: DISCUSSION AND IMPLICATIONS

The current dissertation aimed to: 1) identify unique clusters of characteristics among community men with self-reported sexual interests in minors (i.e., MAPs) that constitute typological groups; 2) foster understanding of important similarities and differences in biopsychosocial-sexual features by comparing heterogeneous profiles of community MAP subgroups (i.e., low vulnerability, moderate vulnerability, high vulnerability, and MAP-CSA groups) and community men with other, non pedohebephilic paraphilic sexual interests; and 3) elucidate how profiles of emerging MAP subgroups are related to self-perceived risk of sexually offending against children, including whether differences were moderated by coping strategies to manage sexual interests in minors. Online data collection was used to recruit community men with "atypical" sexual interests from platforms including sexuality research listservs, social media, forum/discussion communities, and interest-specific organizations. Websites catering to members who may endorse sexual interests toward children were particularly targeted in these recruitment efforts.

Although the survey was disseminated internationally, most participants were white North American men who were educated, employed, and on average ranged in age from their late-twenties to early/mid-thirties. Overall, the sample demonstrated minimal propensity for antisocial behaviour as per self-reported criminal history. Based on five domains of biopsychosocial-sexual characteristics, statistical analyses identified three MAP clusters with no detected history of criminal justice involvement related to their sexual interests (henceforth referred to as the Vulnerability Typology). Additional participants were allocated to subgroups of men with paraphilic interests excluding minor attraction (i.e., other paraphilia group, who reported no arousal to pedophilic or

hebephilic stimuli) and a small group of minor-attracted men in the community who reported previous contact with the criminal justice system for offences related to sexual interests in minors (i.e., MAP-CSA group). Of note, the current study relied on participants' self-report for data about *detected* criminal history (i.e., any history of being formally charged for an offence). To balance ethical responsibilities of confidentiality and disclosure to third parties, this research did not ask about *undetected* illegal activities. Thus, it is possible that some MAPs in the Vulnerability Typology have committed sexual offences against children that have not come to the attention of law enforcement (see Limitations section).

Before providing an interpretative analysis of the MAP subgroups identified in the latent cluster analysis, trends were descriptively contrasted between the full MAP sample and the other paraphilia group. Such comparisons are important, as they inform a foundational conceptualization of whether, and how, community MAPs constitute a distinctive population separate from community men with other, non-pedohebephilic paraphilic interests. MAP and other paraphilia participants evidenced disparities across a range of demographic and individual characteristics in several key regards. In terms of sexual history, MAP participants had earlier ages of onset but concurrently were less sexually experienced. In contrast to other paraphilia participants, MAP participants endorsed a younger age of first masturbation and typically were younger at their first sexual contact. These results align with forensic literature, which suggests that people with pedophilic interests or sexual offences against children begin engaging in early sexual behaviours at younger ages than non-offending individuals and non-sexual offenders (Gerwinn et al., 2018; Houtepen et al., 2016; Levenson et al., 2017; Neutze et al., 2011; Santtila et al., 2010; Simons et al., 2008; Smallbone & McCabe, 2003).

Furthermore, MAP participants were more likely to have fewer or no sexual partners, including higher proportions of MAPs reporting no consensual intercourse experiences and an absence of any lifetime sexual partners. Discrepancies were observed between reported young age of first sexual contact and relatively higher frequencies of no lifetime sexual partners or consensual intercourse among MAPs. For some MAPs, lifetime sexual experiences may have occurred in contexts of non-consensual abuse (e.g., sexual victimization during childhood) or exclusively involved non-intercourse experiences. This could extend findings from the child sexual offender literature by showing that non-forensic men with sexual interests in minors also may experience elevated rates of sexual victimization during childhood. Compared to other paraphilia participants, a relatively lower proportion of MAPs identified as being heterosexual, in a stable relationship, and fewer were involved in a parental, occupational, or leisure role providing access to children. Taken together, these findings may offer support to theories that implicate perturbations in social and sexual development in the etiology of pedophilia – that is, increased sexual response to children may emerge from early social learning and conditioning among men with other predisposing traits (Seto, 2008). Typically, other paraphilia and MAP participants were similar in terms of ethnicity, substance use, and historical justice-involvement. In terms of biopsychosocial-sexual characteristics, the most distinct difference between MAP and other paraphilia participants was observed on measures within the domain of cognitions; specifically, MAP participants reported higher endorsement of pro-offending attitudes and emotional congruence with children than men in the other paraphilia group. Thus, at a broad level, results of this research indicate that men who reported any sexual interests in minors do appear to constitute a unique population with distinct characteristic differences relative

to community men with other paraphilic interests.

Development and Examination of the Vulnerability Typology

Within a distinct yet heterogenous population, such as male MAPs in the community identified in the current study, the development of typological classification systems can provide guidance to advance empirically informed application of assessment, management, and preventative interventions (Martínez et al., 2017). Typologies can provide insight to better understand differences in clinical presentations, inform risk- and protective-related targets to prevent sexual offending behaviours, appraise relative risk of child sexual abuse, and identify relevant areas of need for client-centred mental health intervention. Latent cluster analyses undertaken in the current dissertation identified three clusters of community male MAPs with no criminal history related to their pedohebephilic interests, constituting the Vulnerability Typology.

Overall, the hypothesis that non-forensic community MAPs constitute a heterogeneous group was supported, with clusters emerging to identify distinct homogeneous patterns in profiles of biopsychosocial-sexual characteristics for each group. Specifically, these clusters were best defined by their level of vulnerability across these biopsychosocial-sexual characteristics, with 28.3% of MAPs falling in the low, 46.2% in the moderate, and 25.5% in the high vulnerability clusters. This proportional breakdown of class membership in the Vulnerability Typology was reflective of a normal distribution within the non-forensic MAP population. In sum, the Vulnerability Typology offers a method to classify male community MAPs along a continuum of multifaceted, clinically relevant variables and may be used to guide empirical applications of preventative assessment, intervention, and risk management.

As a general trend, subsequent analyses suggested that MAPs in the low

vulnerability groups most often exhibited similarities with the other paraphilia comparison group, whereas the small justice-involved MAP-CSA group shared more characteristics with the moderate vulnerability and high vulnerability MAPs. There were variables for which no group differences were found between MAP clusters. Specifically, no group differences were observed across MAP groups for traits of sensation seeking or level of sexual interest in minors. This finding suggests that sensation seeking does not have a prominent role in differentiating MAP profiles from each other, or from men with other paraphilias. Specifically, impulsive thrill-seeking is similarly evident for all community participants in the current study and comparable to the scale's normative sample (Lynam, 2013). Extant literature comparing offending and non-offending individuals with sexual interests in children similarly found negligible differences on measures of impulsivity between groups, suggesting that impulsivity may be unrelated to committing detected sexual offences in this population (Gerwinn et al., 2018; Stephens & McPhail, 2019). However, clear divisions between groups were identified on primary variables of interest with relevant links to theoretical frameworks.

Linking the Vulnerability Typology to Theoretical Frameworks

Results found that clusters could be classified and labeled based on the degree to which vulnerability characteristics are endorsed. That is, perceived risk for perpetrating child sexual abuse was not singularly determined by one factor (e.g., minor attraction), but rather was related to the combined effect of many elevated factors. This view is consistent with existing literature examining risk factors for sexual recidivism among sexual offenders (e.g., Hanson & Morton-Bourgon, 2005; Mann et al., 2010). In fact, there was no significant difference in self-reported pedophilic or hebephilic arousal across MAP groups. Moreover, the emergence of graded clusters suggested that some

characteristics may interact additively to mitigate or exacerbate susceptibility to general, specific, or criminogenic stressors. Aligning with the RNR model view of offending behaviour and crime prevention, the Vulnerability Typology suggests that there is merit in having service intensity graded to match MAP profiles, with lower intensity service for low vulnerability MAPs and successively higher intensity interventions for moderate and high vulnerability MAPs targeting more areas of criminogenic need (i.e., pro-offending thinking; Bonta & Andrews, 2017), as well as clinical vulnerability factors (e.g., attachment concerns, loneliness, and mental health distress).

In totality, vulnerability is operationalized as a multifaceted phenomenon, involving proximal and distal factors that may increase risk for problematic functional outcomes, legal or otherwise. The dynamic nature of factors constituting vulnerability present targets for intervention to reduce risk for criminal behaviour, increase wellness, and build good lives (Hanson & Morton-Bourgon, 2005; Mann et al., 2010). Whereas external or internal stressors may destabilize and increase one's relative vulnerability to problematic consequences, it is possible that well-matched, proactive intervention may shift MAPs to lower risk status and vulnerability. The Vulnerability Typology provides a framework to guide applications and prioritization of therapeutic and risk management targets based on community MAPs profiles (see effect sizes in Table 11 & 12).

The notion that vulnerability factors may cluster in ways that can influence risk for commission of illegal sexual behaviours is a prominent feature in existing forensic typologies and theoretical models (see the Etiological Theories and Typologies and Offence Pathways sections above). Theoretical frameworks for the etiology of child sexual abuse among forensic samples posit that a range of interrelated distal and proximal causal contributors can interact and generate multiple developmental pathways

dealing to commission of sexual offences (e.g., Ward & Beech, 2008; Ward & Siegert, 2002). Characteristics such as deviant sexual interests, offence-supportive cognitions, self-regulation difficulties, and socio-affective and intimacy deficits are common across typologies found in existing literature and were used to inform selection of factors for analysis in constructing the Vulnerability Typology. On the other hand, existing forensic typologies are often constructed to include offence-related variables (e.g., denial, justification, accountability, victim empathy; Beech, 1998; Henry et al., 2010; Mandeville-Norden & Beech, 2009), which were not necessarily applicable to this study's target population nor empirically established as psychologically meaningful risk factors for child sexual abuse (Hanson & Morton-Bourgon, 2005; Mann et al., 2010). Whereas the Pathways Model suggests that problematic characteristics may clump together based on functional domains that act as primary dysfunctional mechanisms (Ward & Siegert, 2002), the Vulnerability Typology with non-forensic MAPs found in the current study revealed that profiles vary more regarding the overall severity and pervasiveness of characteristics. That is, higher level of need across multiple features constitutes higher vulnerability profiles, perhaps because this presents more internal and external barriers for individuals attempting to fulfill their needs. It is possible that community MAPs presenting with dysfunctional mechanisms across several domains are susceptible to multiple pathways that could potentially lead to child sexual abuse. Despite these differences, MAP clusters identified in the Vulnerability Typology do bear striking similarities to some groups described in existing forensic typology models.

Low Vulnerability Cluster. The low vulnerability cluster was characterized by low endorsement of all biopsychosocial-sexual factors measured in the current study, typically reporting normal, unimpaired levels of measured vulnerability characteristics.

Compared to other MAP clusters, the low vulnerability group typically reported fewer instances of adverse childhood experiences, relatively higher attachment security, less sexual preoccupation, less disinhibition, fewer symptoms of mental health and distress, fewer problematic personality traits, and less loneliness. The low vulnerability cluster also reported lower endorsement of attitudes supportive of child sexual abuse and lower emotional congruence with children compared to the high vulnerability cluster. In terms of demographic characteristics, the low vulnerability cluster demonstrated higher rates of relationship involvement, post-secondary educational pursuit, and employment compared to other MAP clusters. Uniquely, the low vulnerability group profile demonstrated lowest levels of sexual coping, negative urgency, positive urgency, stress, and disinhibition across all groups. In summary, the low vulnerability cluster show the fewest deficits regarding developmental factors, dysregulation, and socio-affective functioning. Thus, MAPs in the low vulnerability cluster generally appear to be healthy, adjusted men who demonstrate more social stability and aptitude, better capacity for self-regulation, capacity for emotional intimacy and relationship stability with other adults, and less developmental predisposition to risk factors despite their interest in minors. Factors such as secure attachment in childhood, capacity for emotionally intimate relationships and friendships with adults, increased self-control, constructive social and professional support network, employment, higher education, and effective emotional management are proposed as protective factors for desistance in sexual offender and violence literature (de Vogel et al., 2012; de Vries Robbé et al., 2014).

The low vulnerability cluster most often endorsed characteristics at similar levels as participants in the other paraphilia group. Specifically, commonalities were observed between the low vulnerability group and other paraphilia participants regarding having

experienced any type of adverse childhood experience (i.e., similar rates of abuse, neglect, household dysfunction, and contextual adversity), and endorsed levels of attachment anxiety and avoidance, sexual control, sexual consequences, lack of perseverance, lack of premeditation, anxiety, depression, negative affect, detachment, antagonism, psychoticism, romantic loneliness, family loneliness, and social loneliness. The low vulnerability cluster also endorsed similar arousal to all paraphilic stimuli as other paraphilia participants, with exception of pedohebephilic interests (as this was an exclusionary criterion for the other paraphilia group). In summary, MAPs in the low vulnerability group manifest similar biopsychosocial-sexual profiles and strengths as men with other paraphilias, but the low vulnerability cluster may have less propensity for disinhibition (particularly when experiencing positive or negative affect).

Considering the generally unimpaired profiles self-reported by the low vulnerability cluster, few existing forensic typologies mirror characteristics of this community MAP profile (Beech, 1998). Beech's (1998) low deviance cluster bears some commonalities to the low vulnerability cluster, demonstrating low levels of social inadequacy, lower levels of distorted attitudes, and means scores closer to those reported by that study's "nonoffender" group. However, the low deviancy cluster reported low levels of emotional congruence with children, suggesting these forensic child sexual offenders may find it easier to treat children as sexual objects and were more likely to be intrafamilial offenders (Beech, 1998; McPhail et al., 2013). In contrast, the low vulnerability cluster identified in the current study displayed similar emotional congruence to children as those in Beech's (1998) "treated child abuser" comparison group. Thus, similar inferences regarding offence pathways proposed for Beech's (1998) low deviancy cluster may be limited for the low vulnerability cluster. In fact, it is

possible that in the combined context of social adequacy, emotional stability, self-regulatory capacities, and an absence of distress, an elevated emotional congruence with children may serve a protective function against child sexual abuse for the low vulnerability profile. In light of capacities to foster emotional intimacy with other adults and an absence of functional impairment, a relatively higher ability to understand, attach, and relate to the nature of childhood, along with recognition of the likely harm that would result from early sexual activity with emotionally and physically immature children, may *discourage* low vulnerability MAPs from acting upon their sexual interests in children. This potential protective mechanism may align with research showing that moderate levels of emotional congruence with children among non-offending populations can characterize healthy parent-child relationships and attentiveness to a child's needs (Finkelhor, 1984; McPhail et al., 2013). Nevertheless, given the empirically established association between emotional congruence with children and risk of sexual recidivism, particularly among extrafamilial child sexual offenders and hebephilic individuals, emotional congruence with children remains a viable target for preventative intervention (Hanson & Morton-Bourgon, 2005; Konrad et al., 2018; Mann et al., 2010; McPhail et al., 2013). Overall, the profile characterizing the low vulnerability cluster appear most like community men with other, non-pedohebephilic sexual interests in terms of capabilities to form intimate relationships, sexual preoccupation, self-regulatory capacities, and socio-affective stability, which may offer protective effects against risk of perpetrating child sexual abuse.

Clinical Implications. Congruent with the RNR model, intensity of intervention to effectively reduce risk of criminal offending should match level of criminogenic needs (Bonta & Andrews, 2017). Thus, preventative intervention for low vulnerability

MAPs should utilize a low-intensity model targeting criminogenic needs associated with risk of child sexual abuse, as well as potential destabilizing responsivity factors. Given that profiles of the low vulnerability group appear largely healthy and unimpaired, it also is possible that these men may demonstrate little or no need for intervention services. Examination of effect sizes identify the strength of the relationships between several biopsychosocial-sexual factors and self-perceived risk of acting on sexual interest in minors (see Tables 11 & 12). These findings offer guidance for low-intensity prevention approaches aiming to promote wellness and lower risk for child sexual abuse.

For MAPs with low vulnerability profiles, criminogenic factors associated with self-reported risk tend to align with three dominant target areas: 1) problematic cognitions; 2) deviant sexuality; and 3) psychological functioning. Specifically, problematic cognitions related to offence supportive beliefs (i.e., power and entitlement, sexual objectification of children, justification, children as sexual agents, denial of sexual offender status, cognitive emphasis) and emotional congruence with children (prefer relationships with children, positive affect from children, special relationships with children) present medium-to-large effect sizes for increased self-reported risk. In terms of emotional congruence with children, intervention may aim to decrease offence-relevant elements reflecting psychological immaturity, rather than "normative, healthy" elements (e.g., attentiveness to children's needs and immature developmental status; Konrad et al., 2018; McPhail et al., 2013). Features related to deviant sexual interest, particularly pedophilic and hebephilic sexual arousal, demonstrate small-to-moderate effect sizes for increased self-perceived risk. Finally, factors related to reduced psychological functioning (i.e., stress, depression, antagonism, contextual adversity, anxiety) have small effect sizes for decreased self-reported risk for MAPs with low

vulnerability profiles. It may be that some low vulnerability MAPs do experience psychological distress independently from sexual issues, such that their mental health has little impact on subjecting risk ratings. Nevertheless, mental health factors continue to be relevant to preventative intervention as they may act as destabilizers to increase potential exposure to criminogenic processes. In summary, results of the current study suggest that effective prevention intervention for low vulnerability MAPs should focus on: 1) addressing distorted beliefs on the nature of sexuality for adults and children; 2) promote strategies for the effective management of sexual arousal to minors, including maintenance of healthy sexual and relationship outlets; and 3) explicitly address mental health needs that may render MAPs vulnerable to distress and dysregulation.

Given their low-need profile, it is speculated that many low vulnerability MAPs may not feel unusually distressed by their sexual interests and may not perceive a need to access mental health services as a result. This perspective is evident in research and commentary on online forums, wherein some MAPs perceive little need for professional assistance to continue living healthy, offence-free lives (Levenson & Grady, 2018; Stephens & McPhail, 2019). For some low vulnerability MAPs, accessing prosocial, supportive peer resources may be sufficient to address areas of need, as opposed to more formal primary care intervention. Indeed, research examining treatment of low-risk sexual offenders cautions against providing higher intensity intervention to low-risk offenders and advises against combining low-risk offenders with higher-risk offenders in treatment programs, as this can have the unintended effect of increasing recidivism risk (Wakeling et al., 2012). Otherwise, low vulnerability MAPs may seek services during periods of elevated, acute stress. In these cases, intervention for low vulnerability MAPs may wish to adopt a brief, problem-focused evidence-based orientation (e.g., cognitive

behavioural therapy) to target stressors of concern and reinforce strength-based capacities for effective stress management. That is, well-being issues that are unrelated to criminogenic needs may best be addressed through non-offender specific treatment programs (Wakeling et al., 2012). This suggestion contextualizes the research-informed recommendation from the forensic literature stating that care must be taken not to over-treat/over-intervene with clients, as this may have negative effects on lower-risk sexual offenders (Wakeling et al., 2012). It may be that, for low-risk cases, there is little need for forensic intervention but some need for non-forensic clinical services may be justified. It also is possible that low vulnerability MAPs may present explicitly for concerns regarding their sexual interests in minors, in absence of other life stressors. That is, help-seeking behaviours may be initiated by low vulnerability MAPs if pedohebephilic sexual interest is perceived to be the dominant concern for the individual, to the point that pursuits of therapeutic services for these issues are deemed subjectively necessary. This speculation extends from research showing that low-risk sexual offenders may express concerns about their behaviours and actively seek treatment. For these MAPs, interventions may focus on management of sexual arousal toward minors, along with redirection to other methods to meet sexual needs that are legal and less likely to result in potential harm to children. Overall, in keeping with the RNR model (Bonta & Andrews, 2017), results of the current study suggest that the needs of the low vulnerability group may best be addressed with low intensity intervention, supportive prosocial peer resources, or else may not require any intervention as their own protective devices may be sufficient to support ongoing management and prosocial function (Wakeling et al., 2012).

Moderate Vulnerability Cluster. The largest proportion of MAP participants

were classified in the moderate vulnerability cluster, generating biopsychosocial-sexual profiles characterized by moderate endorsement of measured factors compared to MAPs categorized in the low vulnerability or high vulnerability groups. The moderate vulnerability group endorsed some characteristics at similar levels as those in the low vulnerability group, whereas some other features manifested at degrees more like MAPs in the high vulnerability cluster. Commonalities shared between moderate vulnerability and low vulnerability groups included similar total incidence of adverse childhood experiences, in a typically non-clinical range, and total number of paraphilic categories. In contrast, similar levels of loneliness were observed when comparing moderate vulnerability and high vulnerability groups, indicating impairment more like clinical psychiatric populations (DiTommaso et al., 2004). Endorsement of cognitive factors (i.e., offence supportive cognitions and emotional congruence with children) among the moderate vulnerability cluster was not significantly different from low vulnerability nor high vulnerability groups. Regarding individual characteristics, the moderate vulnerability group displayed highest rates of single relationship status and more limited partnered sexual history compared to other MAP groups, with nearly a third of this group reporting no experience of first sexual contact, and just under half reporting no experience of consensual intercourse or having any sexual partners. These findings imply greater difficulties in establishing and maintaining emotionally intimate relationships with adults among the moderate vulnerability group (Mann et al., 2010).

The moderate vulnerability cluster was distinct from the other MAP groups in terms of displaying mid-range rates of contextual adversity and moderate levels of attachment anxiety, negative urgency, positive urgency, mental health distress (i.e., mild stress, mild anxiety, moderate depression), negative affect, antagonism, disinhibition,

psychoticism, and family loneliness. Overall, modest impairment in domains of developmental factors, self-regulation, antisocial cognitions, deviant sexuality, and psychosocial functioning characterized biopsychosocial-sexual profiles of moderate vulnerability MAPs. This suggests that although the moderate vulnerability group may not display as prominent psychosocial impairments as the high vulnerability cluster, this group may not derive benefit from protective characteristics to the same degree as the low vulnerability group.

Profiles of MAPs in the moderate vulnerability group occasionally overlap with MAP-CSA participants who have encountered legal consequences related to their sexual interests in minors. Similarities between the moderate vulnerability and MAP-CSA groups are observed regarding having experienced adverse childhood experiences of neglect, household dysfunction, and contextual adversity, as well as reported levels of attachment anxiety, sexual coping, sexual consequences, all facets of disinhibition (i.e., negative urgency, lack of perseverance, lack of premeditation, positive urgency), several offence-supportive attitudes (i.e., justification, children as sexual agents, emphasis on cognitive elements), all components of emotional congruence with children (i.e., positive affect from children, special relationships with children, preference for relationships with children), stress, anxiety, depression, negative affect, detachment, antagonism, disinhibition, romantic loneliness, and family loneliness. Whereas the moderate vulnerability group may not be as "globally" distressed as the high vulnerability cluster, it is possible that sexual interests in minors, specifically, contributes to functional deficits in other domains for this group. Difficulties in managing pedohebephilic interests may interact with or exacerbate other areas of need (e.g., sexual preoccupation, abuse-supportive attitudes, lack of emotionally intimate

relationships with adults; Mann et al., 2010), such that their profile share commonalities with justice-involved MAPs. The interplay of these factors could render moderate vulnerability participants more susceptible to crossing legal sexual boundaries.

In reference to the broader sexual offending research, the moderate vulnerability cluster bears similarities to several existing forensic typologies of sexual offenders against children (Henry et al., 2010; Mandeville-Norden & Beech, 2009; Ward & Siegert, 2002). Combinations of relatively elevated loneliness, mental health symptomatology, problematic personality traits, and more limited sexual and relationship history suggest that the moderate vulnerability group experiences challenges with psychosocial function and general social aptitude. Similar difficulties with socio-affective functioning were characteristic of Mandeville-Norden and Beech's (2009) social adequacy problems cluster and Henry and colleagues' (2010) inadequate cluster in typologies of contact and internet-based sexual offenders. The intimacy deficit pathway and distorted sexual scripts pathway proposed in Ward and Siegert's (2002) Pathways Model also articulate how difficulties with establishing satisfactory relationships with adult peers and sexualized representations of relationship schemas can serve as casual dysfunctional mechanisms for child sexual abuse, which may apply to the moderate vulnerability cluster. Together, similarities between the moderate vulnerability profiles and forensic sex offender typologies extends existing research by suggesting that these non-forensic MAPs may be more susceptible to socio-affective deficits characterizing social inadequacy pathways for child sexual abuse, despite not having been adjudicated for any illegal sexual behaviours. As demonstrated by moderate scores relative to both the low vulnerability and high vulnerability clusters, the moderate vulnerability cluster supports the notion that endorsement of biopsychosocial-sexual characteristics exists on

a continuum. Combinations of deficits may manifest to generate impairment in functional capacities for community MAPs, including indication of increased psychosocial and interpersonal challenges among moderate vulnerability MAPs.

***Clinical Implications*.** Per the RNR model, the needs of MAPs in the moderate vulnerability cluster would best be served through moderate intensity intervention. Effect sizes showing the strength of associations between biopsychosocial-sexual characteristics and perceived risk offer guidance for criminogenic factors to target in preventative services (see Tables 11 & 12).

Among the moderate vulnerability cluster, criminogenic factors associated with self-reported risk are subsumed in three dominant target areas: 1) antisocial features; 2) deviant sexuality; and 3) psychosocial functioning. In terms of antisocial features, pro-offending attitudes endorsing sexual objectification of children, justification, power and entitlement, cognitive emphasis on sexual offending, children as sexual agents, and denial of sexual offender status, presented medium-to-large effect sizes for increased self-perceived risk of acting on sexual interest in minors among the moderate vulnerability group. Cognitions related to emotional congruence with children, including deriving positive affect from children, perceiving special relationships with children, and preference for relationships with children also demonstrated small effect sizes for increased self-reported risk. Targeting antisocial features also includes addressing characteristics associated with problematic personality traits which display small effects for higher self-perceived risk, including disinhibition, antagonism, and detachment. Regarding deviant sexuality, strengthening strategies supportive of healthy management of pedophilic and hebephilic arousal, while enhancing focus on teleiophilic interests, may offer small effect sizes on reducing risk for acting on sexual interest in minors.

Developing skills to reduce negative consequences of sexual behaviours also may yield at least a small benefit effect for risk management. Lastly, intervention for moderate vulnerability MAPs should target difficulties with psychological functioning, specifically symptoms of depression, which were associated with heightened self-reported risk. Although depression is often viewed as a responsivity factor, feelings of low mood and poor affect regulation may render MAPs susceptible to other criminogenic risk factors, such as use of sexualized or emotion-focused coping strategies, externalizing behaviours (e.g., substance abuse, impulsivity, disinhibited behaviours), engagement in deviant sexual fantasies, intimacy deficits, and other self-regulatory and lifestyle difficulties (Gunst er al., 2017). Thus, helping individuals learn to effectively tolerate, regulate, and manage negative emotions often is integrated into existing sex offenders risk management and treatment models (e.g., Good Lives Model, cognitive behavioural therapy; Marshall et al., 2005; Yates et al., 2009) and appears to be an important objective in preventative intervention to both reduce risk for child sexual abuse and enhance subjective psychological well-being. Collectively, results of the current study suggest that MAPs demonstrating moderate vulnerability profiles may benefit from preventative intervention with greater focus on risk mitigation in areas of antisocial cognitions, problematic personality styles, and management of deviant sexual arousal, with a secondary focus on addressing mental health and relational needs.

Typically presenting with moderate elevations across a variety of measured biopsychosocial-sexual factors, it is possible that MAPs with moderate vulnerability profiles may traverse several pathways in terms of help-seeking behaviours. Like MAPs in the low vulnerability group, it is possible that some community MAPs with moderate vulnerability profiles may perceive little concern about their ability to control their

behaviour to avoid acting in illegal or abusive ways (Levenson & Grady, 2018). Other moderate vulnerability MAPs may seek services to address seemingly unrelated needs around mental health symptomatology or interpersonal difficulties in forming close relationships, considering the relatively higher proportion of participants in this group who have limited experiences in partnered sexual relationships in the current study. In exploring these concerns in therapy contexts, issues around pedohebephilic arousal may emerge as expressions of sexual frustration or displaced efforts toward developing close relationships with minors, rather than with peer-aged adults. Demonstrating relatively moderate deficits across a variety of biopsychosocial-sexual vulnerability features, moderate vulnerability MAPs may be susceptible to deficit-based pathways to child sexual abuse. If behaviour is under-regulated and disinhibited, moderate vulnerability MAPs may "allow" boundary transgressions to passively occur in context of negative emotional states when feeling "out of control" (Yates et al., 2009). Alternatively, moderate vulnerability MAPs may be more prone to mis-regulating behaviours or affect in ways that inadvertently increase risk of abusive behaviours (Yates et al., 2009). That is, in absence of skills to effectively manage and meet their emotional, sexual, and relational needs, some moderate vulnerability MAPs may utilize ineffective strategies that increase the likelihood for negative outcomes or exacerbate criminogenic needs. In these instances, preventative intervention should adopt a skill-building approach to increase the capacity of moderate vulnerability MAPs to employ a range of effective prosocial strategies for managing deviant sexual interests and navigating life stressors.

High Vulnerability Cluster. The biopsychosocial-sexual profile of the high vulnerability cluster was characterized by high endorsement of all measured factors, across all domains. Compared to other MAP groups, high vulnerability MAPs reported

greatest incidence of adverse childhood experiences (noting that 11.8% of the normative sample reported an adversity score higher than five; Finkelhor et al., 2013), higher attachment insecurity, more sexual preoccupation (surpassing recommended clinical threshold; Reid et al., 2011), higher disinhibition, greater symptoms of mental health and distress (surpassing clinical thresholds; Lovibond & Lovibond, 1995), more problematic personality traits, and reported arousal to a higher number of paraphilic categories. Greater endorsement of attitudes supportive of child sexual abuse and emotional congruence children also were demonstrated in the high vulnerability cluster compared to MAPs in the low vulnerability group. In terms of individual characteristics, the high vulnerability cluster demonstrated lowest identification with heterosexual orientation, lower rates of post-secondary educational pursuits, higher rates of unemployment, more involvement with activities or guardian roles that provide access to children, and relatively higher use of sedatives/tranquilizers and hallucinogenic substances compared to other MAP clusters. The high vulnerability cluster was distinct from all other MAP groups in terms of displaying highest rates of childhood neglect and contextual adversity, along with highest levels of attachment anxiety, negative consequences related to sexual behaviours, sexual coping, negative urgency, positive urgency, exhibitionism, sexual sadism, sexual masochism, stress, anxiety, depression, negative affect, antagonism, disinhibition, psychoticism, and family loneliness. In sum, high vulnerability MAPs evidenced global deficits in domains of developmental factors, self-regulation, antisocial cognitions, deviant sexuality, and psychosocial functioning.

Characteristics of the high vulnerability MAP group are indicative of many areas of need relevant to risk factors associated with child sexual abuse and general functional impairment. In general, problems with self-regulation are one of the strongest predictors

of any recidivism among sexual offenders (Hanson & Morton-Bourgon, 2005). Among high vulnerability MAPs, lower educational achievement and rates of employment may signify lower socioeconomic status, as well as potentially lower intelligence, which may reflect greater difficulties with planning, problem solving, and lifestyle instability (De Vries Robbé et al., 2014; Hanson & Morton-Bourgon, 2005; Mann et al., 2010). High vulnerability MAPs may be significantly more likely to act rashly to any strong emotion which elevates their propensity for impulsive behaviours when feeling intense affect, whether that affect is perceived as "good" or "bad." Relatively higher recreational drug use among high vulnerability MAPs also can increase occurrences of disinhibited behaviour, with substance use recognized as a major criminogenic need (Bonta & Andrews, 2017). Increased sexual preoccupation is another dynamic risk factor that represents difficulties with self-regulation, particularly in areas of sexual arousal and behaviour (Hanson & Morton-Bourgon, 2005). Problems with "sexual addiction" are recognized to be significantly more common among men who sexually offend (particularly among users of online child sexual exploitation materials versus contact offenders; Babchishin et al., 2015) compared to men from the general population (Lussier et al., 2001; Marshall & Marshall, 2001; Winder et al., 2014). Notably, high vulnerability MAPs in the current sample surpassed clinical thresholds for hypersexuality. Recognizing that high vulnerability participants also report higher level of psychological distress (i.e., clinically significant endorsement of anxiety, depression, and stress), sexual coping behaviours may function as a form of stress relief or a method to otherwise feeling better (Fong, 2006; Paquette & Cortini, 2021). These patterns tend to become strongly reinforced because of physiological decrease in levels of anxiety associated with the behaviour and may contribute to obsessive-compulsive

symptomatology regarding sexual functioning (Fong, 2006).

Some personality traits can serve as dispositional factors that may predispose an individual to commit antisocial or criminal behaviours. Elevations in problematic personality traits among high vulnerability MAPs bear some similarities to profiles expected among individuals meeting symptom criteria for antisocial personality disorder and/or psychopathy (Strickland et al., 2013). Specifically, traits of antagonism, disinhibition, and components of negative affect can conceptually correspond with diagnostic criteria of psychopathy including elements of irritability or aggressiveness, boldness, lack of remorse, deceitfulness, impulsivity, irresponsibility, and reckless disregard (Strickland et al., 2013). Research with forensic populations has found that sexual offenders with psychopathic traits tend to be more opportunistic, instrumental, aggressive, and thrill-seeking in their styles and motivations for offending, commit more diverse arrays of crimes against a more diverse range of victims, have more victims, and respond more poorly to treatment (Hanson & Brussière, 1998; Looman et al., 2005; Porter et al., 2010; Saleh et al., 2010; Seto, 2008). Sexual offenders who exhibit a combination of deviant sexual interests (e.g., pedophilia and/or other paraphilias) and psychopathic traits are among the most likely individuals to reoffend, both sexually and non-sexually (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; Seto, 2008). Furthermore, psychopathy has been implicated as moderating the relationship between deviant sexual fantasies and deviant sexual behaviours in general, whereby deviant fantasies may be translated to deviant behaviours among individuals with higher levels of psychopathy (Williams et al., 2009). In summary, it is possible that MAPs with high vulnerability profiles may be more susceptible to offence pathways related to antisocial personality features relative to low or moderate vulnerability MAPs. These antisocial

traits in combination with poor behaviour regulation may lead the high vulnerability MAPs to be more susceptible to engage in behaviours that violate social rules and norms (i.e., sexual behaviour with minors) than the other clusters and aligns with their own higher self-perceived risk of offending in a sexual manner against minors.

In addition to endorsing relatively higher degrees of problematic personality traits that may affect interpersonal functioning, the combination of greater attachment insecurity, fewer sexual partners, and higher incidence of single relationships status further suggests significant challenges with establishing and maintaining healthy relationships with adult peers among high vulnerability MAPs. Furthermore, lower identification of heterosexual orientation among high vulnerability MAPs implies increased potential of attraction to male children, given that the men in this cluster are more likely to endorse hetero-divergent preferences for sexual partners. Notably, male children represent a victim pool linked with higher risk for recidivism and recognized as a reliable indicator of pedophilia in extant research of sexual offenders against children (Seto, 2009; Seto & Lalumière, 2001; Seto et al., 2015). Endorsement of arousal to a multitude of paraphilic categories also suggests concurrent paraphilic interests, or the potential for manifestation of a particular paraphilic interest in multiple forms (Fedoroff, 2020). For example, high vulnerability MAPs may experience pedohebephilic arousal across multiple contexts, such as watching children in playgrounds (voyeuristic), exposure or masturbation in areas where children are likely to frequent (exhibitionistic), or seeking physical contact with children (frotteuristic). Overall, high vulnerability MAPs appear to have more deviant sexual interests as well as encounter greater challenges in forming and maintaining healthy relationships with peer-aged adults.

High vulnerability MAPs endorsed a variety of characteristics at similar degrees

as participants classified in the MAP-CSA comparison group. Given the small sample size of the MAP-CSA, trends are interpreted to be largely exploratory in nature; further comparison of high vulnerability community MAPs and those with historical justice involvement for sexual offending against children is warranted. Similarities were observed between high vulnerability and MAP-CSA participants in terms of having experienced childhood abuse or household dysfunction and reported levels of attachment avoidance, perceived lack of sexual control, lack of perseverance, lack of premeditation, transvestitism, denial of sexual offender status, all components of emotional congruence with children (i.e., positive affect from children, special relationships with children, preference for relationships with children), romantic loneliness, and social loneliness. In sum, biopsychosocial profiles of high vulnerability MAPs share many elevated features with community MAPs who have been involved with the criminal justice systems for offences related to their sexual interests in minors. A notable discrepancy, however, was identified between clinically significant levels of mental health distress among high vulnerability MAPs compared to more mild-to-moderate endorsement among MAP-CSA participants. Though few distinct protective factors are observed among high vulnerability MAPs as a group in terms of measured constructs, it is possible that psychological distress serves a protective function *against* engaging in offending behaviours among this group of men. That is, high vulnerability MAPs may perceive more distress from the need to contain their urges and interests, relative to the somewhat less distressed forensic MAP-CSA group who have, at some point, given in to their pedohebephilic arousal. Like participants in other vulnerability clusters, MAPs classified in the high vulnerability sample had no formal detection by the justice system related to their sexual interests in minors; further exploration of protective factors against justice

involvement among this group is warranted. Although exploratory, these trends further support the finding that high vulnerability MAPs may be at higher risk than other vulnerability typology clusters for engaging in child sexual abuse behaviours, and thus require higher intensity intervention services to reduce risk for same.

Despite lacking a history of formal justice involvement, profiles of community men in the high vulnerability cluster identified in the current study bear similarities to several groups identified in existing forensic typologies (Beech, 1998; Henry et al., 2010; Mandeville-Norden & Beech, 2009; Ward & Siegert, 2002). Like the high vulnerability cluster, the "deviant" clusters identified in the Beech's (1998) deviance typology and Henry and colleagues' (2010) internet-based sexual offender typology, and the "global problems" cluster from Mandeville-Norden and Beech's (2009) typology for contact sexual offenders, also display higher dysfunction in multiple areas of need. Common problematic features include higher endorsement of antisocial attitudes related to child sexual abuse and greater indication of social inadequacy, as signified by elevated emotional loneliness, personal distress, and difficulties in relationships. Presence of higher emotional congruence with children suggests that high vulnerability MAPs may be more highly fixated on children, who may be seen both as an emotional outlet and a source of sexual arousal (Beech, 1998). The "multiple dysfunctions" cluster theoretically described in Ward and Siegert's (2002) Pathways Model also describes a group of men whose profiles show pronounced global deficits in several areas of criminogenic need, including attachment styles, intimacy skills, self-regulatory deficits, and cognitive distortions. Taken together, the emergence of the high vulnerability cluster is congruent with extant literature recognizing groups of men who demonstrate global functional deficits. Implications of this integration suggest that the presence of numerous

dysfunctional mechanisms among high vulnerability MAPs could make them more susceptible to multiple etiological pathways that could result in offending behaviours and may lead them to perceive themselves at higher risk for acting on sexual interests.

***Clinical Implications*.** Presenting high-needs profiles, the RNR model suggests that high vulnerability MAPs would require high-intensity intervention. Considering effect sizes for the strength of associations between biopsychosocial-sexual risk factors and self-perceived risk in the current study, an array of criminogenic factors should be targeted in preventative intervention with high vulnerability MAPs (see Tables 11 & 12).

For high vulnerability MAPs, factors associated with self-reported risk represent three prominent target areas of need: 1) antisocial features; 2) deviant sexuality; and 3) psychosocial functioning. Within the domain of antisocial features, offence supportive cognitions should be a priority target for treatment, evidencing medium-to-large effect sizes on increased perceptions of risk. Specific attitudes include sexual objectification of children, power and entitlement, justification, denial of sexual offender status, cognitive emphasis, children as sexual agents, and emotional congruence with children (i.e., positive affect from children, preference for relationship with children, and special relationship with children). Other antisocial factors that demonstrate small associations with higher self-reported risk among high vulnerability MAPs are self-regulatory deficits (i.e., sexual control, sexual consequences, sensation seeking) and, to a lesser extent, problematic personality traits of detachment and disinhibition. Factors related to deviant sexuality present small-to-moderate associations for increased self-reported risk, particularly concerning the management of sexual arousal to pedophilic, hebephilic, frotteuristic, and voyeuristic stimuli. Enhancing focus on teleiophilic targets also may offer small benefits toward the aims of risk reduction.

Lastly, targeting psychosocial factors also may be relevant for purposes of prevention, risk reduction, and increasing wellness. Interestingly, impairments in areas of anxiety, depression, adverse childhood experiences, and family loneliness had small effect sizes on reducing self-reported risk. It may be that considering their experiencing elevated distress, high vulnerability MAPs subjectively view themselves as posing lower risk for acting on pedohebephilic interests as a means to manage distress and reduce cognitive dissonance. However, high vulnerability offenders may overestimate their ability to resist deviant sexual urges and impulses, and difficulties with mental health and intimacy deficits may act as destabilizers and interact with other risk factors to increase potential for offending. As described above (see Clinical Implications for the moderate vulnerability cluster), strengthening emotion regulation skills to manage negative affect are common targets in sexual offender treatment models (Marshall et al., 2005; Yates, 2009), and some negative affective states (e.g., depression, anxiety, anger) have been identified as acute precursors to sexual offending (Hanson & Harris, 2000). Likewise, as dysfunctional family/marital social contexts and intimacy deficits are established criminogenic factors (Bonta & Andrews, 2017; Mann et al., 2010), programs to reduce sexual recidivism often target romantic and family loneliness by strengthening skills for establishing and maintaining emotionally intimate adult relationships (Marshall et al., 2005; Yates, 2009). Capacity for emotional intimacy and intimate relationships also are identified as protective factors against child sexual abuse (de Vries Robbé et al., 2014). Thus, this research speculates that high vulnerability MAPs would benefit from targeting psychosocial concerns related to depression, anxiety, trauma, and loneliness by enhancing interpersonal skills, strengthening prosocial support systems, and developing healthy adult relationships. Overall, the current dissertation suggests that preventative

intervention for high vulnerability MAPs should: 1) target antisocial features, including cognitive distortions around the sexuality of children and adults, issues with self-regulation, and problematic personality traits; 2) enhance management of paraphilic interests while promoting the development and maintenance of healthy sexual outlets and relationships with adults; and 3) treat psychological symptoms that can contribute to dysregulation and distress, while improving social adequacy to establish higher quality prosocial social networks and romantic relationships.

Evidentially, high vulnerability MAPs represent a group who have encountered elevated incidence of childhood adversity in numerous forms. The small associations between abuse, neglect, and household dysfunction and lower self-reported risk suggests that potential "protective" functions of childhood adversity may be worth exploring in future research. It is possible that experiencing adversity may provide some individuals with greater insight into the harm caused by child sexual abuse and maltreatment. In these cases, it is possible that adverse childhood experiences may support development of prosocial cognitions, which may help explain why most individuals who were sexually abused as children do not progress to abusing others later in life (Seto, 2008). Nevertheless, the experience of trauma can indirectly contribute to and maintain serious problems in developmental, psychological, cognitive, social, behavioural, and physical domains in both the short- and long-term and may be linked to the initiation of sexual offending (Felitti et al., 1998; Hanson & Morton-Bourgon, 2005; Levenson, 2016; Maniglio, 2011; Sanderson, 2006; Thomas et al., 2013; Wekerle et al., 2014). These findings emphasize the importance of implementing trauma-informed approaches in preventative intervention for high vulnerability men with sexual interests in minors.

Based on reported scores on scales with established clinical cut-offs (i.e., HBI,

DASS-21; Lovibond & Lovibond, 1995; Reid et al., 2011), participants in the high vulnerability may represent a clinical population of community MAPs who experience notable functional impairment. Given the possibility of interactions between sexual preoccupation and mental health symptoms, treatment of high vulnerability MAPs may integrate psychopharmacology consultation into primary care in conjunction with other psychosocial treatments. Antiandrogen medications tamper high sexual drive, allowing the client the opportunity to enhance adaptive skills in other areas of need, learn sexual management strategies, and redirect sexual energy to legal, accessible sexual outlets (Stewart & Fedoroff, 2014). The effects of these medications are reversible, and prescriptions may be stopped at any time (Stewart & Fedoroff, 2014). Alternatively, prescription of selective serotonin reuptake inhibitor (SSRI) medication can target several areas of need concurrently. Although designed to address symptoms associated with anxiety, depression, obsessive compulsive disorder, side effects of SSRIs also can decrease sexual drive and compulsivity (Fong, 2006; Stewart & Fedoroff, 2014). In this way, SSRIs may represent a preventative tool to both improve mental wellness and reduce sexual urges, cravings, and preoccupations associated with paraphilic and non-paraphilic hypersexuality. However, psychotropic treatment is not without challenges, as side effects may can interfere with healthy sexual activity, which may render some clients less receptive to initiating or maintaining consistent usage of same.

Elevated endorsements across all biopsychosocial-sexual domains suggests that many motives may prompt help-seeking behaviours among high vulnerability MAPs. High vulnerability MAP profiles are characterized by global dysfunction, suggesting these participants may be most susceptible to deficit-based avoidance pathways to sexual offending, in absence of skillful strategies and self-regulatory capacities to effectively

avoid temptations or opportunities to offend (Yates et al., 2009). On the other hand, some high vulnerability MAPs may be at risk of following approach-automatic pathways to child sexual abuse, involving willful acting out to satisfy deviant sexual urges in styles which are under-regulated and informed by entrenched offence-supportive cognitive and behavioural scripts (Yates et al., 2009). As per the Good Lives Model, risk for sexual offending behaviours increase when internal and external barriers interfere with achieving goals and primary human goods in prosocial, adaptive ways.

The elevated need across measured domains in the high vulnerability MAP cluster represents multiple areas that may be targeted in therapeutic intervention in general, which can warrant longer-term treatment efforts. Thus, sexual interest in minors may not be the primary presenting problem in referrals for community services. Clients may be reluctant to discuss their sexual interest in children with clinicians due to fears around stigmatization, unethical treatment, mandatory reporting, or embarrassment (Levenson et al., 2017; Stephen & McPhail, 2019). If pedohebephilic interests are not disclosed by clients, service providers may "miss" this dynamic factor as interventions focus on more obvious psychological concerns. Although mental health intervention may foster symptom reduction and improve functioning, high vulnerability MAPs may remain at higher risk for acting on their sexual interests if other criminogenic needs are not addressed appropriately – particularly regarding cognitions relevant to child sexual abuse. This concern highlights the need to enhance clinician knowledge to recognize flags that a client may be attracted to minors, increase comfort with discussing issues around healthy sexuality in general, and improve education to competently provide ethical, stigma-free services for clients who may later disclose sexual interest in minors.

General Implications for Clinical Practice, Prevention, and Risk Conceptualization

Shifting Attention Toward Preventative Intervention

In addition to the harmful outcomes experienced by child victims, their families, and society more broadly (Fang et al., 2012; Hankivsky & Draker, 2003; Morrison et al., 2007; Sanderson, 2006), perpetration of child sexual abuse has negative consequences for perpetrators themselves. Beyond effects of formal legal sanctions traditionally imposed by the criminal justice system, sexual offenders encounter a many unintended, informal "collateral consequences" (e.g., challenges with employment, housing and relationships; experiences of social loss, harassment, stigmatization, and discrimination in public settings; psychological harm such as shame, dysphoria, hopelessness, and hypervigilance) as a result of illegal sexual behaviours (Hamilton, 2020; Lasher & Stinson, 2017). These collateral consequences are theoretically linked to behavioural, criminogenic, and psychological outcomes that can significantly, negatively impact the functioning, rehabilitation, and social reintegration of justice-involved persons who perpetrate sexual crimes (Hamilton, 2020; Lasher & Stinson, 2017). For example, formal and collateral consequences may interfere with processes of forming prosocial identities, increase prosocial social contacts, and decreasing social alienation, all of which have been linked with criminal desistance (Farmer et al., 2012; Lasher & Stinson, 2017). In sum, the development of empirically informed preventative interventions for at-risk persons is critical not only to prevent sexual victimization of children more broadly, but also to reduce harm and promote wellness at an individual level. The Vulnerability Typology developed in the current study contributes to these efforts by identifying areas of need among at-risk MAPs who have not come in contact with the justice system.

Establishing secondary prevention programs can improve accessibility of

therapeutic resources for MAPs to support them in remaining offence-free while concurrently addressing a variety of general mental health issues and criminogenic needs affecting their daily functioning and risk potential. Results of the current dissertation support the notion that, regardless of their sexual interest in minors, most community MAPs *do* report challenges across an array of dynamic biopsychosocial-sexual domains, many of which may be amenable to treatment. These findings further imply that help-seeking MAPs may not necessarily present for concerns explicitly related to their sexual interests, but nevertheless may benefit from risk-informed intervention services.

Clinical Considerations for Prevention Approaches

Consistent with existing research (e.g., Hanson & Morton-Bourgon, 2005; Mann et al., 2010), pedohebephilic sexual interest was identified as a meaningful risk factor for MAPs in all vulnerability clusters. A preponderance of men in all groups did not endorse "exclusive" pedohebephilic arousal preferentially over teleiophilic arousal. Exclusive minor attraction was uncommon (typically less than 5% of MAPs per group), but still evident among the sample of community MAPs. For most non-offending male MAPs, sexual interest in minors may not be the "primary" or "dominant" paraphilia, but rather manifested as one of several paraphilic interests. These findings suggest that most MAPs do experience arousal to a variety of stimuli, some of which may have lower potential for harmful outcomes. Treatment aiming to improve sexual arousal management skills may benefit from reinforcing MAPs' reliance on alternative, consensual sexual interests, outlets, or interactions to satisfy sexual needs safely (Fedoroff, 2020).

Results of the current study suggest that despite having no historical justice involvement, many community MAPs present with complex needs profiles and demonstrate numerous concerns which may bring them to the attention of professionals.

Furthermore, many of these needs correlate with higher ratings of self-perceived risk of acting on sexual arousal toward minors. In addition to traditional criminogenic needs, clinical needs related to mental health and psychosocial well-being appear to be relevant targets for preventative risk-mitigation interventions among this population. Whereas mental health is not supported as a meaningful risk factor for sexual offending among forensic samples (e.g., Hanson & Morton-Bourgon, 2005; Mann et al., 2010), facets of psychosocial wellness appear to be relevant as destabilizing factors among community MAPs by increasing susceptibility to other criminogenic risk factors and potentially moving them closer to thresholds of crossing legal sexual lines. Extending the forensic framework provided by the ITSO (Ward & Beech, 2008), expressions of clinical symptomatology among community MAPs may function as symptom-level state factors that, depending on availability and access to potential victims, may present a pathway to committing child sexual abuse. Furthermore, deficits in psychological functioning and mental well-being can increase risk to initiate sexual offending by presenting distress or dysregulation for which community MAPs may lack capacity to manage adaptively. Dysfunctional mechanisms can operate as pathways to offending, wherein a MAP employs ineffective or problematic methods to achieve goals, or otherwise meet a need or "primary human good" (Ward & Beech, 2008; Ward & Gannon, 2006; Ward & Laws, 2010; Ward & Marshall, 2004; Ward & Siegert, 2002; Ward & Stewart, 2003; Yates et al., 2009). In turn, psychological needs may exacerbate deficits in other domains, such as difficulties with self-regulation, sexual preoccupation, offence-supportive cognitions, relationship instability, intimacy, and loneliness. In combination with research showing high rates of mental health disorders and related concerns (e.g., suicidality, substance misuse) among community MAPs, this research highlights the importance of addressing

specific mental health needs among this population (Stephens & McPhail, 2018). If so, efforts to prevent child sexual abuse would best serve at-risk MAPs by explicitly addressing both criminogenic and possibly destabilizing psychological needs.

Although not assessed in the current study, it is probable that shame and internalized stigma influence subjective experiences of stress, anxiety, and depression, and thus present additional psychological need targets to address in prevention and intervention efforts (Elchuk et al., 2021; Jahnke, Imhoff, et al., 2015; Jahnke, Schmidt, et al., 2015). Integration of principles prescribed by RNR and Good Lives Model, in addition to practices adopted in humanistic and trauma-informed orientations, may help match intervention intensity to equip MAPs with internal and external resources to develop capacity, skills, and resources to attain goals in non-offending ways to live a better life (Ward & Gannon, 2006; Ward & Laws, 2010; Ward & Marshall, 2004; Ward & Stewart, 2003; Yates et al., 2009). Effective community treatment for MAPs should embrace person-centred (versus punitive) approaches that focus on establishing positive, collaborative provider-client therapeutic relationships in addition to developing clients' abilities to make safe decisions and set positive life goals (Levenson & Grady, 2018; Walker, 2020). That is, ethical intervention should be delivered with care and focus on clients' subjective needs while seeking to reduce harm for clients, versus a solely risk-oriented or punitive approach that overbalances the needs of the criminal justice system above the needs of the client (Walker, 2020). Collaborative agreement in goals and tasks of intervention between service providers and MAPs will strengthen the likelihood for success of these pursuits. Indeed, research shows that when clients with histories of perpetrating child sexual abuse receive treatment specifically oriented toward management of their own individual risk-related situations, their ability to cope with

same increases (Serran et al., 2007). Intervention can help keep non-forensic community MAPs safe by promoting subjective stability (i.e., regarding management of impulses and emotions), accountability (i.e., supportive prosocial support network and relational connections), and plans (i.e., encouraging development of a life that is meaningful, constituting engagement in fulfilling activities and goals) toward a life that is socially acceptable, personally meaningful, and subjectively worth living (Ward & Gannon, 2006; Ward & Laws, 2010; Ward & Marshall, 2004; Ward & Stewart, 2003).

Considerations for Sexual Risk Assessment Among Community MAPs

The Vulnerability Typology identified in the current research also can inform development or adaptation of sexual risk assessment measures for use among MAP populations who have not experienced formal contact with the criminal justice system. Many existing tools for assessing risk of sexual recidivism assume that the individual being assessed has offended against at least one identifiable victim, and incorporate known victim, criminal history, and offence variables into risk formulations (e.g., Static-99R, Static-2002R, Stable-2007, SORAG, Sexual Violence Risk – 20; Boer et el., 1997; Fernandez et al., 2013; Harris et al., 2003; Phenix et al., 2008; Quinsey et al., 1998). The inclusion of victim characteristics also is evident in tools designed to screen for the presence of pedophilic interest (e.g., both versions one and two of the Screening Scale for Pedophilic Interests; Seto & Lalumière, 2001; Seto et al., 2015). Thus, existing sexual risk assessment measures offer little utility for use among community MAPs who have not perpetrated sexual offences related to their pedohebephilic interests, but who may pose elevated risk for same relative to other community members. The current study attempted to overcome these obstacles by constructing a brief self-report scale of risk of acting on sexual interest in minors. Notwithstanding limitations of self-report

measurements (see Strengths and Limitations section), this approach offered insight to begin understanding relationships between self-perceived risk ratings and specific vulnerability factors among a population of community MAPs who have not been adjudicated for sexual offences against children.

Although MAPs in the current study generally did not consider themselves as posing high risk of acting on their sexual interests, the Vulnerability Typology contributes findings to suggest that MAPs with typology profiles comprised of more vulnerability factors did perceive themselves to be at elevated risk compared to typology profiles with fewer deficits. For MAPs with elevated needs in multiple risk domains, risk ratings may be affected by issues of overconfidence, under-reporting, low insight, or reluctance to acknowledge their difficulties. Alternatively, given that MAPs in the current study have not been adjudicated for acting on pedohebephilic urges, it is possible that some MAPs genuinely do not perceive themselves as struggling to manage their attractions. This view aligns with research and commentary from online forums implying that a proportion of MAPs do not view their sexual interests in children as something that interferes with them leading healthy lives (Stephens & McPhail, 2018).

Results from the current dissertation suggest that future research undertaking the development of risk assessment measures for community MAPs may benefit from incorporating items that pertain to mental health and subjective psychological distress, which demonstrated small associations with increased self-perceived level of risk. These psychosocial factors may exert destabilizing effects that render MAPs vulnerable to other criminogenic factors. Other established dynamic risk factors applicable to forensic populations of sexual offenders against children (e.g., implicit beliefs supportive of child sexual abuse and emotional congruence with children, deviant sexual interests, sexual

preoccupation, problematic personality traits, interpersonal/relationship difficulties, intimacy deficits, self-regulatory deficits) also appear relevant for meaningfully assessing risk among community men with sexual interests in minors.

Coping Strategies and Self-Perceived Risk

The current study hypothesized that use of adaptive versus maladaptive coping strategies would moderate relationships between vulnerability clusters and perceived risk of acting on sexual interests in children. Specifically, it was hypothesized that less adaptive coping would be endorsed among clusters with higher self-reported risk (e.g., high vulnerability group), and more adaptive coping strategies evident among lower-risk clusters (e.g., low vulnerability group). However, this hypothesis was not supported. Examinations of the main effects of coping across MAP groups showed that the high vulnerability group tended to utilize both adaptive and maladaptive coping strategies more often than the low and moderate vulnerability groups, and that the moderate vulnerability group reported higher levels of maladaptive coping than the low vulnerability group. These findings suggest that pedohebephilic sexual interests elicits coping responses more often among MAPs whose profiles are comprised of more vulnerability factors. That is, higher vulnerability MAPs appear to exert more effort and energy toward managing sexual interests to remain offence-free, regardless of whether the strategies themselves are adaptive or maladaptive. However, it does not appear that the use of adaptive coping strategies was enough to balance out the effects of the higher levels of maladaptive coping used among MAPs with higher vulnerability profiles. Overall, it is noted that all MAP groups generally endorsed low levels of coping strategies to manage their pedohebephilic interests.

Results may be explained in several ways. One possibility is that MAPs employ

alternative coping strategies specifically aimed at managing pedohebephilic interests, versus more general coping strategies assessed by the BRIEF-Cope survey items. Little is empirically known about sexuality-specific coping tactics, such as use of fantasy and fictional sexual materials (e.g., child sex dolls, artistic images or cartoons that sexually depict fictional minors, text stories portraying child sexual abuse, adult pornography with youth-suggestive elements), that some MAPs may be utilizing to manage their sexual attraction to minors safely (Tenbergen et al., 2021). On the other hand, it is possible that community MAPs simply do not perceive their sexual interest in minors as stressful (Levenson & Grady, 2018; Stephens & McPhail, 2019). That is, MAPs may not view their pedohebephilic arousal to be subjectively concerning or "problematic," per-se. Some MAPs may not perceive a need to explicitly cope with their sexual interests in minors, typically reporting little-to-no use of measured adaptive and maladaptive coping strategies across clusters (see Table 15); otherwise, different vulnerability clusters may utilize coping strategies to varying degrees of success. It is likely that MAPs rely on a mixture of adaptive and maladaptive coping strategies, wherein the benefits of one approach regarding risk mitigation may be washed out by the weaknesses of another. Participants may have interpreted the idea of "coping" in a way that was incongruent with their own conceptualization about how they live with sexual interests in minors.

Despite finding no support for the coping moderation hypotheses, other research suggests that interventions that increase utilization of task-focused coping strategies, versus emotion-focused or avoidance-focused approaches, can be beneficial for both reducing risk of recidivism and increasing psychological well-being among sexual offenders with child victims (Serran et al., 2007). Continued examination of strategies used by community MAPs to manage their sexual arousal, and their impact in terms of

risk mitigation or exacerbation, presents an important avenue for future research.

Strengths & Limitations

The current study possessed several strengths in its methodology and implementation. Substantial efforts were made to maximize recruitment, including safeguards (e.g., selection of survey platform, no identifiable or specific criminal information collected, no IP addresses collected, emphasis on anonymity in recruitment advertisements) to protect the safety and confidentiality of participants. Collectively, these safeguards contributed a research environment designed to promote engagement and honest self-disclosure among men who chose to participate in the study. The author strove to maintain transparency in conducting this research among a hidden and marginalized population, communicating directly with group representatives and forum moderators to gain permission to share the study with community members, as well as recruiting participants more broadly from other online mediums. These diverse approaches to recruitment allowed this dissertation to access participants from many heterogenous pools, contributing to a sufficiently large sample of respondents to statistically investigate research hypotheses as planned with inclusion of comparison groups. Finally, the current study comprehensively selected many empirically and theoretically supported constructs relevant to understanding biopsychosocial-sexual profiles of men with sexual interests in minors, while utilizing psychometrically established self-report measures to evaluate these constructs of interest.

Notwithstanding the strengths of the current dissertation, results have been interpreted considering several limitations. First, self-report questionnaires utilized in the current study operated with the assumptions that participants: a) understood survey items and responded purposefully; b) responded honestly; and c) had introspective capacities

required to accurately report their own biopsychosocial-sexual traits and behavioural functioning. Thus, self-report presents the potential for bias in participants' subjective self-evaluations. To mitigate these limitations, psychometrically sound questionnaires were selected to operationalize measurement of constructs of interest among the target population of community men more broadly and in the current study, specifically. Furthermore, safeguards in the research design were implemented to assure participant anonymity, confidentiality, and safety amongst a typically stigmatized and hard-to-reach population to promote honest responding (Klein et al., 2018; Ray et al., 2010).

Second, online data collection from a hidden population presents various benefits and pitfalls (see Procedures section). Online research methodologies can encourage self-disclosure and increase reach to diverse participant pools but presents challenges in verifying participant eligibility. To counter this limitation, participants completed pre-screening items as part of the informed consent to access the survey. Low-quality data were removed during conditioning processes. Questionnaires were disseminated across a variety of websites to reduce sampling bias, but community moderators and participants themselves ultimately choose whether to contribute their perspectives in this research. For example, philosophical attitudes of online platforms, and perceived acceptability of this research's rationale, could have impacted which sites permitted recruitment ads. Country of origin also may have affected cultural norms regarding stigmatization of various paraphilic interests (Ciardha et al., 2021; Jahnke, Imhoff, et al., 2015), including mandatory reporting legislation and ease of access to websites where the study was shared. Willingness to fully participate in research examining sensitive subjects related to sexuality and biopsychosocial functioning involved self-selection bias, though efforts were made to establish the study's credibility, legitimacy, and transparency.

Third, data assessing subjective sexual arousal to paraphilic stimuli relied on participants' direct self-report, which may be more susceptible to social desirability and impression management compared to more objective, indirect physiological (e.g., penile plethysmography) or cognitively based (e.g., viewing or reaction time) measures of sexual interest (Pedneault et al., 2021). Given the sensitive nature of this research, some participants may have under-reported symptoms and sexual arousal due to expectations of stigmatization or concerns regarding detection status despite assurances of anonymity (Lasher & Stinson, 2017; Ray et al., 2010). Although there may be participants in the other paraphilia control group who do in fact experience sexual arousal to minors (i.e., "false negative" MAP participants), it would be expected that these individuals would exhibit profiles more fitting to participants in the low vulnerability MAP cluster had that been the case for most of this group. The inaccurate categorization (i.e., "false positive") of participants into MAP clusters is less likely due to the increased likelihood of social taboo and stigmatization of persons who endorse attraction to minors (Jahnke, Imhoff, et al., 2015, Jahnke, Schmidt, et al., 2015; Seto, 2009). However, it is possible that some participants may have reported based on fleeting, incidental experiences of pedohebephilic arousal, as opposed to a recurrent interest (Ciardha et al., 2021). If using a conservative approach, self-reported data on paraphilic sexual arousal in the current study may be interpreted as a minimum or "floor level" of sexual attraction. That is, it is more likely that MAP participants under-reported the intensity of their subjective arousal to minors, as opposed to deceptively over-endorsing endorsing any attraction to minors.

Fourth, risk of child sexual abuse was measured by using an author-constructed, self-report measure of perceived risk to act on sexual interest in minors. Results demonstrated some restricted variability in self-reported risk, with no MAP group

perceiving themselves as being especially high risk of acting on their pedohebephilic interests despite ratings being significantly different between MAP groups. Especially among MAPs who display more vulnerability factors, it is possible that some subjective risk ratings may be underestimated due to a lack of insight, overconfidence, reluctance to acknowledge risk, or beliefs that sexual interests are well-managed. Although more in-depth evaluation was not feasible in the current study, risk assessment processes are most advantageous when integrating a multitude of information derived from various sources (e.g., interview, collateral, file review, phallometry, etc.). However, research among justice-involved populations suggests potential benefits from including content-relevant self-report measures in risk assessment batteries, as offenders' appraisals of their own risk may be positively correlated with recidivism predictions gleaned from actuarial measures (Campbell et al., 2009; Walters, 2006). The development of measures to evaluate risk more effectively among community MAPs, prior to and without necessitating justice involvement, remains an endeavor for future research.

Fifth, the current research explored differences between MAPs *without* detected criminal justice system involvement (i.e., participants included in LCA and typology development) versus MAPs who *had* been detected by the criminal justice system (i.e., MAP-CSA participant group), based on self-reported criminal history. Given that most sexual offending is unreported (Cotter & Baupré, 2014; Perreault, 2015; Shields et al., 2016), it is possible that some Vulnerability Typology MAPs have perpetrated child sexual abuse behaviours that had not yet come to the attention of law enforcement (Stephens & McPhail, 2019). Thus, although many Vulnerability Typology participants may not have engaged in illegal sexual behaviours in their lifetime, the current research refrains from explicitly labelling this sample as "non-offending," though such might

reasonably be inferred. Accurate measurement of *undetected* child sexual abuse behaviours is challenging due to ethical responsibilities to ensure participant safety and elicit engaged, honest responding while adhering to mandatory reporting protocols. Nevertheless, distinguishing community MAPs by detection status offers a unique opportunity to examine characteristic differences between those whose behaviour to-date has not resulted in formal justice involvement, versus those have been "caught" for engaging in child sexual abuse behaviours and have since returned to community living.

Finally, it is acknowledged that data collection occurred in the early weeks of the COVID-19 pandemic in North America, at a time in which a global health crisis resulted in novel lockdown, stay-at-home, and social distancing restrictions around the world. Emerging research on the psychological impact of COVID-19 in North America suggests that the pandemic correlated with increased levels of distress, including elevated depression, anxiety, and general lifestyle disturbance, destabilization, and isolation (Best et al., 2021; Panchal et al., 2021). This reality was particularly evident in persons living with certain demographic features (e.g., young adults, lower education and socioeconomic status, communities of colour, essential workers, parents, women; Best et al., 2021; Panchal et al., 2021). Thus, participants may have reported their responses at a time of increased mental health disturbance, with the implication that existing demographic and biopsychosocial vulnerabilities may have been negatively exacerbated by the pandemic at the time of data collection. It is possible that these elevations resulted in increased emphasis on the role of mental health factors with regard to understanding relationships between vulnerability profiles and self-perceived risk.

Directions for Future Research

The current dissertation offers several directions for future research. These

results, including the typological profiles of community men with minor attraction, should be replicated to promote credibility, generalizability, and reproducibility. This research also may be extended to test the robustness of the typology when using alternative design methodologies (e.g., in-person data collection, indirect measures of sexual interest) or applying new analytical approaches. Accessing a larger comparison sample of MAP-CSA participants may elucidate similarities and differences between men who have already crossed sexual boundaries, versus minor attracted persons who have not acted (and may never act) on their sexual interests toward children. Such an examination would serve to further differentiate between interests and behaviour, or so-called offending versus "non-offending pedophiles".

Future research also should extrapolate from the typological model to inform development of evidence-based (e.g., cognitive behavioural, risk-need-responsivity, Good Lives Model) preventative interventions that meet the dual needs of subjective wellness and objective risk mitigation. The emergence of distinct low, moderate, and high vulnerability groups in community MAPs suggests that clients may present with different profiles of need and protective factors, such that therapeutic targets may be prioritized differently in effective secondary intervention approaches. Alternatively, MAPs with low vulnerability profiles may never feel a need to access mental health services to support them in leading healthy prosocial lives. Examining interactions between factors within and across characteristics domains, including whether additive or specific combinations of factors affect vulnerability and risk profiles, also presents an area for future study. This focus includes investigation of how minority stress factors, including shame and internalized stigma, may apply to MAP groups to differentially precipitate, exacerbate, maintain, or mitigate problematic stressors.

Recognition of typological groups found in the current research may facilitate investigations into help-seeking behaviours among community MAPs. The Vulnerability Typology may provide a framework to understand which groups are most likely to seek or utilize services most frequently, what concerns are most compelling for help-seeking (e.g., mental health or lifestyle concerns, versus sexual interest in minors), and what barriers to services are most relevant for each group. In turn, future research can explore ways to enhance service accessibility and availability for community MAPs.

Finally, future research would benefit from continuing to examine what behaviours and strategies are used by different MAP groups to manage sexual interests and self-perceived risk of acting on sexual interest in minors. Although common coping strategies measured by BRIEF-Cope did not moderate correlations between typological group and self-reported risk, it is possible that community MAPs utilize alternative strategies to manage their sexual interests safely. Thus, investigations into sexuality-specific coping strategies (e.g., fantasy-based, substitutional, alternative legal outlets) may offer leads to better understand protective natures of specific coping behaviours toward aims of risk-mitigation and wellness enhancement. Alternatively, future research examining relationships between coping strategies and risk may benefit from utilizing more objective versus subjective (i.e., self-report) measurements of risk for child sexual abuse. Once identified, integration of protective coping strategies may be particularly relevant to secondary prevention and intervention approaches.

CHAPTER SIX: CONCLUSIONS

The current dissertation examined trends of homogeneity among a heterogeneous sample of men with sexual interests toward children in the community. In doing so, this research sought to support paradigm shifts away from theories based on apprehended sexual offending perpetrators toward understanding how deviant sexual interests may progress to, or be diverted from, illegal sexual behaviours. The emerging Vulnerability Typology indicated that MAPs can be differentiated based on self-reported intensity of biopsychosocial-sexual risk factors associated with perpetration of child sexual abuse. Whereas low vulnerability MAPs demonstrate profiles suggestive of generally healthy and adjusted functioning, those in the moderate vulnerability group display modest characteristic deficits and high vulnerability MAPs show significant impairment across most measured vulnerability constructs. Accordingly, low vulnerability MAPs perceive themselves as posing lowest risk of acting on their sexual interests in minors, followed by moderate vulnerability MAPs, with high vulnerability MAPs self-reporting highest risk. Recognizing profile differences across low vulnerability, moderate vulnerability, and high vulnerability clusters provides guidance to inform secondary prevention and risk assessment approaches among community MAPs who have not experienced formal justice system contact related to their sexual interests in minors. Specifically, addressing criminogenic needs and destabilizing factors in areas of antisocial cognitions, deviant sexual interests, and psychosocial functioning appear most relevant as targets for preventative intervention. Relationships between vulnerability clusters and self-perceived risk of acting on sexual interests in children were not moderated by use of adaptive or maladaptive coping strategies.

Overall, results of the current research demonstrate that an individual's

vulnerability for perpetrating child sexual abuse is not contingent on a single problematic risk factor (e.g., sexual interest in minors), but rather likely emerges from the combined effects of several co-occurring elevated risk and destabilizing factors. These findings support conceptualization of child sexual abuse as a multifaceted process, supporting arguments against relying exclusively on the presence of pedohebephilic sexual interests as the sole determinant of risk. Efforts to increase accessibility of preventative intervention resources and promote de-stigmatization of pedophilia as a mental illness would strengthen public safety aims to reduce sexual victimization of children, while concurrently improving psychosocial wellness for community members who experience sexual arousal toward minors.

Table 1

Glossary of commonly used terms.

Terminology	Definition
Adult sexual offender	An individual who has been convicted of any sexual offence(s) against adult victim(s) (i.e., victims are over the age of consent).
Child sexual abuse	"… the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship of responsibility, trust or power, the activity being intended to gratify or satisfy the needs of the other person" (WHO, 1999, pg. 15). Examples of illegal and sexually abusive behaviours described in Table 2. May also be subsumed by terms **sexual offence against children or sexual offence against minors**.
Child sexual offender	A broad term used to describe an individual who has been convicted of any sexual offence(s) against child or youth victim(s). The sexual offence against a child may involve contact, non-contact, or internet sexual behaviours. Child sexual offender is an umbrella term and may encompass more specific types of child sexual offenders (see specific definitions for **contact sexual offender**, **non-contact sexual offender**, **mixed sexual offender**, **internet sexual offender**, **intrafamilial sexual offender**, and **extrafamilial sexual offender**).
Contact sexual offender	An individual who has perpetrated sexual offence(s) against child or youth victim(s), where the illegal sexual activities with a child involved physical contact with the child, whether penetrative or non-penetrative (Sanderson, 2006; see Table 2).
Criminogenic risk factors	Dynamic risk factors that are causally related to criminal behaviour (Bonta & Andrews, 2017).
Deviant sexual interests	Refers to sexual interests, sexual attraction, or sexual attitudes that deviate from what may be considered typical or normative among society. Deviant sexual interests commonly concern the unusual nature of the source of sexual arousal, whether in terms of anomalous activity preferences or in terms of anomalous target preferences. May also be referred to by the term **paraphilia**.
Exclusive pedophilia	A manifestation of pedophilia whereby an individual experiences sexual preference "exclusively" toward children relative to a sexual preference for adults.
Extrafamilial sexual offence	Child sexual abuse is considered extrafamilial if perpetrated by someone unrelated to the child or youth victim(s), such as an acquaintance, intimate partner, or stranger (Cotter & Beaupré, 2014; Sanderson, 2006). Acquaintances include friends, casual acquaintances (e.g., known by sight), authority figures, and other types of acquaintances (e.g., acquaintance or friend of the family or parent; Cotter & Beaupré, 2014). Intimate partners apply only to child victims 12 years of age or older and may include current or former legally married and common-law spouses, or current and former boyfriends or girlfriends (Cotter & Beaupré, 2014). A perpetrator of extrafamilial sexual offence(s) may be referred as an **extrafamilial sexual offender**.

Table 1 continued.

Extrafamilial sexual offender	An individual who has perpetrated sexual offence(s) against child or youth victim(s).
Good Lives Model (GLM)	An empirically supported model of offender rehabilitation developed by Ward and colleagues (Ward & Gannon, 2006; Ward & Laws, 2010; Ward & Marshall, 2004; Ward & Stewart, 2003). GLM takes an agency-centred approach to rehabilitation by recognizing the ability of humans to select goals, formulate plans, and act freely in the implementation of those plans. Guides correctional rehabilitation strategies by seeking to improving offenders' quality of life and personal life goals. Specifically, correctional rehabilitation should focus on enhancing offenders' abilities to acquire "primary human goods" (i.e., life, knowledge, excellence in work, excellence in play, excellence in agency, inner peace, relatedness, community, spirituality, happiness, and creativity).
Hebephilia	A type of paraphilia, whereby the preferred target of sexual interest refers to pubescent children who are beginning to show early signs of sexual development or secondary sexual characteristics but are sexually immature, approximately in the age range of 11 to 14 years old (Stephens, Seto, Goodwill, & Cantor, 2018; Seto, 2017).
Internet offender	An individual who has perpetrated sexual offence(s) against child or youth victim(s), where the illegal sexual activities used the internet or online mediums to enact sexually abusive behaviours. Internet offenders sometimes may be subsumed within the broader category of "**non-contact sexual offender**" within research. Specifically, the internet may be malevolently used in four primary ways by individuals who sexually offend against children: 1) to traffic child pornography (including distributing, sharing, downloading, and viewing child pornography); 2) to locate children for the purpose of sexual abuse; 3) to engage in inappropriate sexual communication with children; and 4) to communicate with others with sexual interests toward children (Durkin, 1997; see Table 2).
Intrafamilial sexual offence	The perpetration of child sexual abuse may be intrafamilial or incest/familial abuse if a sexual offence against a child or youth victim(s) is perpetrated by a family member, such as a parent or other relative (Cotter & Beaupré, 2014; Sanderson, 2006). A perpetrator of intrafamilial sexual offence(s) may be referred as an **intrafamilial sexual offender**.
Intrafamilial sexual offender	An individual who has perpetrated intrafamilial sexual offence(s) against child or youth victim(s).
Minor	A term typically used to refer to a young individual who is under the age of majority. There are several ways that one may define the term "minor" (e.g., driving laws, voting laws, age of consent, drinking age, smoking age, marriageable age). The current dissertation defines a minor as being an individual who is aged 14 years or younger. This specification is used as it more closely aligns with clinical and developmental constructs of pedophilia and hebephilia, while still capturing the illegality of engaging in sexual activity with young persons. That is, a criteria of 14 years old or younger captures individuals who are at pre-pubescent or pubescent stages of maturation and sexual development, while still falling below common age of consent (i.e., less than 16 years old). Also referred to by term **young person**.

Table 1 continued.

Minor attracted person (MAP)	As defined on the B4U-ACT website (B4U-ACT, 2014), the term minor attracted person, or MAP, is an umbrella term used to describe adults who experience feelings of sexual attraction to children or adolescents (i.e., prepubescent, pubescent, or post-pubescent) under the age of consent. A minor attracted person may or may not meet formal diagnostic criteria for pedophilia/pedophilic disorder. Minor attracted person is one of the preferred term among people who self-identify as experiencing sexual interests toward children and is recently being used more commonly in research. The term minor attracted person is argued to be less associated with stigma or clinical pathology than traditionally used terms, such as "pedophile," and allows for explicit separation between sexual interests and sexual behaviours. See "Minor Attracted Persons" section of dissertation.
Mixed sexual offender	An individual who has been convicted of a combination contact, non-contact, or internet sexual offence, whether against adult, child, or youth victim(s).
Non-contact sexual offender	An individual who has perpetrated sexual offence(s) against child or youth victim(s), where the illegal sexual activities did not involve physical contact with the victim(s) (see Table 2). The term **internet offender** is sometimes subsumed under this classification in research.
Non-exclusive pedophilia	A manifestation of pedophilia whereby an individual experiences sexual preference "non-exclusively" toward children relative to a sexual preference for adults. That is, non-exclusive pedophilia is characterized by sexual interest toward both children and adults.
Non-offender	An individual who has not been convicted of any criminal offences and has not otherwise been involved with the criminal justice system.
Non-sexual offender	An individual who has been convicted of any non-sexual criminal offence(s) or is otherwise involved with the criminal justice system for any non-sexual purpose.
Offender	An individual who has been convicted of any criminal offence(s) or is otherwise involved with the criminal justice system.
Paraphilia	Sexual preferences, urges, or attractions toward "atypical" or "unusual" objects, situations, fantasies, behaviours, or individuals (APA, 2013). A paraphilia by itself does not necessarily justify or require clinical intervention.
Paraphilic disorder	"A *paraphilic disorder* is a paraphilia that is currently causing distress or impairment to the individual or a paraphilia whose satisfaction has entailed personal harm, or risk of harm, to others. A paraphilia is a necessary but not a sufficient condition for having a paraphilic disorder, and a paraphilia by itself does not necessarily justify or require clinical intervention" (APA, 2013, 685-686).
Pedohebephilia	A term used to describe an adult individual's sexual attraction, interest, or arousal to prepubescent and pubescent minors.
Pedophilia	A type of paraphilia, whereby an individual experiences persistent, recurrent, and intense sexual interest or sexual arousal directed toward a prepubescent child or children, generally age 13 years or younger (APA, 2013). Along with sexual interest in children, researchers have suggested a co-occurring tendency for desiring experiences of sexual intimacy with minors (Beier et al., 2009).

Table 1 continued.

Primary prevention	Programs and interventions aimed at the wider population aimed to prevent child sexual abuse. Primary prevention efforts tend to be directed at potential victims and focus on educating parents and the public on recognizing and responding to signs of concerning sexual interests or behaviours involving children. For example, primary prevention may focus on enhancing public safety by changing victim behaviour (e.g., teaching children to avoid strangers).
Recidivism	The tendency to relapse or repeat an undesirable behaviour (e.g., reoffending criminal behaviour) after being previously detected or apprehended for perpetrating criminal offence(s).
Risk-Need-Responsivity Model (RNR)	An empirically supported risk management approach that guides correctional supervision and correctional approaches that reduce criminal behaviour (Bonta & Andrews, 2017). The RNR model recognizes that criminal behaviour is multifactorial. The "risk principle" dictates that the dosage of intervention should align with the individual's risk of reoffending. The "need principle" encourages prioritization of criminogenic need factors as targets in correctional interventions. The "responsivity principle" recommends that intervention rely on evidence-based approaches for criminal behaviour reduction (i.e., general responsivity). The responsivity principle further recommends that intervention plans be sensitive to the unique strengths/barriers experienced by that individual that may influence their response to services (i.e., specific responsivity).
Secondary prevention	Programs and interventions involving proactive service delivery to individuals who are at-risk of sexual offending, with an aim to prevent sexual offences before they occur. Examples of secondary prevention may involve providing psychotherapy for clients with pedophilic sexual interests who have not perpetrated sexual offences to remain offence-free.
Sexual attraction	An enduring pattern of experiencing sexual arousal or sexual desire toward particular target objects, situations, fantasies, behaviours, or individuals, denoting what a person wants to do sexually. Also, may be referred to as **sexual interest** or **sexual preference**.
Sexual interest	An enduring pattern of experiencing sexual arousal or sexual desire toward a particular target objects, situations, fantasies, behaviours, or individuals, denoting what a person wants to do sexually (Fedoroff, 2018). Also, may be referred to as **sexual attraction** or **sexual preference**.
Sexual offence against children, or **Sexual offence against minors**	Illegal sexual activity involving a child, youth, or minor person. See definition of **child sexual abuse**. Examples of illegal and sexually abusive behaviours against children described in Table 2.
Sexual offender	An individual who has perpetrated any illegal sexual behaviours (i.e., at least one sexual offence) within the criminal justice system. This term is often used in existing research studies and does not necessarily distinguish between victim type (i.e., adult or child victim) or offence type (i.e., contact, non-contact, internet, or mixed offences).

Table 1 continued.

Sexual orientation	The genders to which limerence (i.e., love) is attached (Fedoroff, 2018). Sexual orientation is not pathological and does not require therapeutic intervention.
Sexual preference	An enduring pattern of experiencing sexual arousal or sexual desire toward particular target objects, situations, fantasies, behaviours, or individuals denoting what a person prefers to do sexually. Also, may be referred to as **sexual attraction** or **sexual interest**.
Teleiophilia:	Sexual preference, attraction, or interest toward sexually mature adults. Teleiophilia is not pathological (i.e., not a paraphilia) and is the most typically occurring sexual preference.
Tertiary prevention	Programs and interventions provided to individuals who have perpetrated sexual offences to prevent reoffending. Tertiary prevention strategies are reactionary and may involve developing legislation and sanctions to punish and deter perpetrators (e.g., mandatory minimum sentences, incarceration, sex offender registries), mandating sexual offender treatment programs, and restricting known offenders' access to potential victims. Tertiary prevention also may involve providing rehabilitation and remediation models of intervention to those who have already perpetrated sexual offences.
Young person	For the purpose of this dissertation, the term "young person" refers to child or adolescent individuals with whom sexual activity with an adult would be considered illegal. May also be referred to by the term **minor**.

Table 2

Forms of illegal sexual abuse behaviours involving children. Adapted from Durkin (1997), McCarthy (2010), and Sanderson (2006).

Non-Contact Sexual Behaviours	Contact Sexual Behaviours
• Grooming the child, off- and on-line • Sexually inappropriate invasion of the child's personal space • Insisting on sexually seductive behaviour and dress • Nudity or disrobing in front of the child • Verbal comments of a sexual nature • Forcing the child to sleep in and share the same bed as an adult beyond age-appropriate development • Deliberate genital exposure to the child • Inappropriate watching of the child undressing or using the bathroom • Encouraging the child to watch or listen to sexual acts • Photographing the child for sexual gratification or later pornographic use • Drugging the child in order to photograph him or her in sexually provocative poses or as a prelude to sexual assault • Engaging in overtly sexual behaviour in the presence of the child • Exposing the child to pornography in order to desensitize the child • Filming the child in sexually explicit poses • Coercing the child into a paedophile ring • Getting the child to recruit other children for the abuser • Forcing the child to engage in sexual activities with other children, adults or animals not involving the abuser	• Inappropriate or open-mouthed sexual kissing • Sexual fondling • Touching the child's genitals or private parts for sexual pleasure • Making the child touch someone else's genitals • Forcing the child to play sexual games • Masturbation – of the child, of the abuser by the child, or mutual • Oral sex – to the child, to the abuser by the child, or mutual • Ejaculating over the child • Placing objects, sweets or small toys into the child's vagina or anus and then retrieving them • Penetrating the child's vagina or anus with large objects, including adult sex aids • Digital or penile penetration of the vagina or anus • Dry intercourse – placing the penis between the upper thighs of the child and simulating intercourse • Forced sexual activity with other adults or children • Filming sexual activity with adults or children • Bestiality – forced sexual activity with animals
	Internet Sexual Behaviours
	• Accessing, downloading, possessing, or collecting child pornography or indecent materials • Collecting non-pornographic material depicting minors or pseudo-images depicting sexual abuse of children (e.g., pictures, videos, erotic stories, magazines, television, etc.) • Online seduction and grooming of minors (e.g., chatting online in a sexual manner with a minor, sending adult or child pornography to a minor, attempting to meet with a minor after chatting online, etc.) • Trading or posting pornographic images depicting children or child sexual abuse • Using the internet to locate children for sexual purposes • Inappropriate sexual communication with minors online (e.g., through chatrooms, social media, message boards and forums, etc.)

Table 3

Diagnostic criteria for pedophilic disorder according to the DSM-5 (APA, 2013).

DSM-5 Pedophilic Disorder	
Over a period of at least 6 months, recurrent, intense sexually arousing fantasies, sexual urges, or behaviours involving sexual activity with a prepubescent child or children (general age 13 years or younger).	**Specify if:** Sexually attracted to males Sexually attracted to females Sexually attracted to both
The individual has acted on these sexual urges, or the sexual urges or fantasies cause marked distress or interpersonal difficulty.	**Specify if:** Limited to incest
The individual is at least 16 years and at least 5 years older than the child or children in Criterion A. (Note: Does not include an individual in late adolescence involved in an ongoing sexual relationship with a 12- or 13-year-old).	**Specify type:** Exclusive type (i.e., attracted only to children) Nonexclusive type

Table 4

Summary of comprehensive theoretical models of the etiology of sexual offending and child sexual abuse by men.

Theory	Theoretical Model	Strengths	Weaknesses
Precondition Theory (Finkelhor, 1984)	• Four problematic tendencies: 1) emotional congruence (i.e., struggle to relate to adults, seek company of children); 2) sexual arousal toward children; 3) blockage (i.e., obstacles that preclude having needs met appropriately with adults); 4) disinhibition (overcome conventional inhibitions regarding sex with children) • Tendencies support four preconditions for sexual offending, which must be met prior to sexual abuse: 1) motivation to sexually abuse a child; 2) overcoming internal inhibitions against acting on motivation; 3) overcoming external inhibitors; 4) overcoming resistance of the child.	• Attempts to link psychological vulnerabilities to sexual offence process	• Focuses narrowly on proximal factors, insufficient attention to distal factors • Fails to account for heterogeneity
Integrated Theory (Marshall & Barbaree, 1990)	• Adverse developmental events result in impairments in self-regulation and interpersonal social skills, which act as vulnerabilities • Lack of adaptive socialization, self-efficacy, and social competence during adolescence result in sexual feelings merging with antisocial tendencies • Environmental factors (e.g., childhood experiences, sociocultural context, transitory situational factors) reinforce use of violence and male dominance • Rely on deviant sexual behaviours to cope with of stress, powerlessness, inadequacy • Sexual gratification and reduction of negative affect from offending behaviours reinforces the development of deviant cognitions, which support and maintain sexual offending behaviours	• Considers interactions of multiple contextual and maintaining factors implicated in sexual offending	• Role of disinhibition and aggression limits scope of etiological pathways leading to sexual offending
Integrated Theory of Sexual Offending (Ward & Beech, 2008)	• Networks of causal biological, ecological niche factors, and neuropsychological factors interact as distal and proximal factors to manifest as sexual offending • Interactions between genes, social learning, and neuropsychological systems and lead to clinical problems and sexual offending • Outcomes, environment, and individual characteristics generate feedback loops which discourage, maintain, and/or escalate further deviant sexual behaviours; existing vulnerabilities become entrenched	• Breadth and inclusiveness • Initiation and recurrence of offending • Integrates strengths of other theories	• More evidence needed to support validity and applicability of framework for understanding specific types of sexual offending behaviours

Table 5

Step-by-step procedure of data conditioning and cleaning dataset.

Step	Variables	Condition Criteria & Decision	# Cases Removed	# Cases Remain
0. Download data from server	-	-	N/A	2386
1. Time to completion	STARTED LASTDATA TimeSumMin	• Sort cases ascending by STARTED • Remove if completed unrealistically fast (TimeSumMin < 15min)	1185	1201
2. Textbox entry flagged for questionable responding	Any variable with textbox entry (e.g., demographics, specify other sexual interests, optional questions); EXCEPT answers in SHS	• Check that responses in free-form answer textboxes are coherent, sensible, minimal spelling/grammar errors, demonstrate English proficiency; exclude those that do not satisfy these criteria • If textbox discloses use of online translator to complete survey, case was removed	8 *FLAG:* 1859 – translator 2657 – s.r. 13yo 2979 – not sensible, many spelling errors 3013 – not sensible 3026 – not sensible 3094 – not sensible 3164 – not sensible 3312 – not sensible	1193
3. Check for potential duplicate entries	Demographics Textboxes	• Check if demographics and textbox entries flag duplicate cases • Remove cases that did not proceed past IC page (no survey data) • Remove cases where all survey questions not answered • Check cases identified as Duplicate (D) & Primary (P) to verify duplication (e.g., high consistency in textbox entries, SHS, questionnaires); retain Primary cases (Duplicates have missing data) • If duplication flag cannot be verified, deemed to be "False Flag" (F), cases retained	25 *FLAG – no data:* 733 1192 1369 1440 1783 2586 3215 3238 3471 4315 *FLAG – not answered:* 1249 2220 4207 4388 4394	1168

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Table 5 continued.

3. Check for potential duplicate entries (continued)			*FLAG – survey:* 695-F, 3281-F, 3745-F 2205-F, 4112-F 2965-F, 2972-F 4035-D, 4041-P 3502-D, 3521-P 3956-F, 4259-F 2883-D, 2884-P 4113-D, 4244-P 1097-D, 1099-P 2254-D, 2258-P 3655-D, 3662-P 2677-D, 2683-P 2985-F, 3321-F 2240-F, 2492-D, 2497-P 3005-F, 3439-F 3800-D, 3802-P	
4. Other Eligibility Criteria	DB- Consent Age Paraphilia Gender	• Check that other eligibility criteria are satisfied • Remove cases that do not consent after debriefing form • Sort DQ01_01 (Age) by ascending. Remove cases where age specified within a range of <19. • Calculate total number of paraphilia (both including and excluding optional other entries). Sort by ascending. Exclude cases with PIS-E incomplete or missing. Check cases with Total Paraphilia = 0 or 1; exclude if no paraphilic interests and exclude if only paraphilic interest is teleiophilia	100 *Debrief Consent:* 44 cases *Age:* 3 cases *Paraphilia:* *- Missing:* 40 cases *- No paraphilia* 13 cases	1068
5. Missing Value Analysis & Identifying cases with insufficient data	All quantitative variables from questionnaires; exclude items that required textbox entry	• Remove cases that withdrew from survey before completion (i.e., did not access all questionnaires, did not reach Debriefing Form). • Perform MVA for full sample to identify participants with systematic missing data using all questionnaire variables (except for variables that include a textbox); data are not missing completely at random.	230 *Withdrew from Survey:* 153 cases *>10% Missing:* 21 cases *ECR-S Missing >75%:* 48 cases	838

Table 5 continued.

5. Missing Value Analysis & Identifying cases with insufficient data (continued)	• Looking at Missing Value Patterns, a significant minority of individuals may account for systematic missingness via fully incomplete questionnaires (i.e., ECR-S, ABCS+CASA). • Decision was made to remove cases with >10% missing data (i.e., cases where item non-response is indicated). • Re-run MVA with all sample after cases with >10% missing removed; data are not missing completely at random. • Looking at Missing Value Patterns, a significant minority of individuals may account for systematic missingness via completely incomplete questionnaires (i.e., ECR-S). • Decision to remove cases with more than 75% missing data on ECR-S (missing ≥ 9/12 values). • MVA indicates that there are no variables with ≥5% missing data, but data are not missing completely at random when examining the full sample. Patterns of missing data shows no variable missing > 1.8% data • Suspect that Little's MCAR may be significant due to covariate-dependent missingness (CDM). To test CDM assumption, perform two MVA based on participant groups (consistent with planned hypothesis testing): one for MAP sample and one for Other Paraphilia sample. For MAP sample, data are inferred to be missing completely at random for MAP participants. For Other Paraphilia sample, data are inferred to be missing completely at random for Other Paraphilia participants. MAP and OTHER samples will be kept separate for subsequent analyses. • Case-specific mean substitution for missing data. Any remaining case with excessive missing data on the full scale removed by listwise deletion.	*Scales Missing Data:* 8 cases 1661 – ECR-S: 8/12 3737 – HBI-19: 13/19 3558 – HBI-19: 16/19 4335 – HBI-19: 19/19 2332 – ABCS+CASA: 16/39 2614 – DASS-21: 13/21 3118 – PID-5-BF: 10/25 3020 – PID-5-BF: 10/25

Table 5 continued.

6. Inappropriate responding (e.g., out of range, outliers, inappropriate entry)	Demographics SHS All Scales (Check SHS & demo answers here)	• Procedures to follow were applied sequentially to each independent dataset (i.e., MAP sample and OTHER sample). • Check demographic and SHS data for signs of inappropriate responding. Recode new variables of interest from available data as needed (e.g., using "other" entry data, variable coded as "not applicable"). Inappropriate responses are reformatted or removed as appropriate (if removed or missing, considered "unknown"). • Check for univariate outliers for MAP sample and OTHER sample. Transform standardized z-scores for continuous variables. Potential statistical outliers flagged for scores outside range of $z = \|3.29\|$. Histograms analyzed. Continuous outliers are retained without modification, whereas winsorization techniques are applied to discontinuous outlying values. • Check for multivariate outliers in MAP sample and OTHER sample. Mahalanobis Distance probability values examined against statistical criterion of $p < .001$. Multivariate outliers were identified for MAP sample ($n = 4$) and for OTHER sample ($n = 1$). Multivariate outliers are removed, one at a time, by listwise deletion until no multivariate outliers remain.	5 *MAP Multivariate Outliers:* 4 cases *OTHER Multivariate Outliers:* 1 case	833
7. Examining Correlations among Variables		• Histograms examined for total and subscale scores. Observe non-normality in distributions of several variables; not unexpected in subclinical samples. Due to robust nature of planned analyses, no transformations are applied to adjust normality. • Correlations between continuous total scores are examined (see Table 7). There are no apparent concerns regarding multi-collinearity or singularity for the MAP group, nor OTHER group.		

Table 6

Details for how missing data was handled for all dependent variable questionnaires, including break-down of missing data.

Scale	Imputation Strategy	Number Cases Missing Data	Frequency of Subscales with Missing Data
ACES-R	Conservative approach – assume missing = "no exposure" rather than assume false positive. Similar to approach taken by Felitti et al (1998) with original ACES questionnaire, who found no significant difference between considering missing as "no exposure" and excluding these participants from analysis.	TOTAL: 23 cases 1 missing value: 22 cases 2 missing values: 1 case	Abuse: 4 cases Neglect: 5 cases Household Dysfunction: 12 cases Contextual Adversity: 2 cases
ECR-S	Case-specific mean substitution for missing items based on participants' mean scores on Anxiety and Avoidance subscales.	TOTAL: 32 cases 1 missing value: 26 cases 2 missing values: 4 cases 5 missing values: 1 case 8 missing values: 1 case (exclude)	Attachment Anxiety: 13 cases Attachment Avoidance: 22 cases
HBI-19	Case-specific mean substitution for missing items based on participants' mean scores on Control, Coping, and Consequences subscales.	TOTAL: 38 cases 1 missing value: 35 cases 13 missing values: 1 case (exclude) 16 missing values: 1 case (exclude) 19 missing values: 1 case (exclude)	Control: 22 cases Coping: 13 cases Consequences: 9 cases
SUPPS-P	Case-specific mean substitution for missing items based on participants' mean scores on Negative Urgency, Lack of Perseverance, Lack of Premeditation, Sensation Seeking, and Positive Urgency subscales.	TOTAL: 35 cases 1 missing value: 34 cases 4 missing values: 1 case	Negative Urgency: 8 cases Lack of Perseverance: 5 cases Lack of Premeditation: 12 cases Sensation Seeking: 6 cases Positive Urgency: 6 cases
ABCS+CASA	Case-specific mean substitution for missing items based on participants' mean scores on Sexual Objectification, Justification, Sexual Agents, Denial, Cognitive Emphasis, and Power & Entitlement subscales. Item #19 (not fit in subscales)	TOTAL: 64 cases 1 missing value: 46 cases 2 missing values: 14 cases 3 missing values: 2 cases	Sexual Objectification of Children: 29 cases Justification: 11 cases Children as Sexual Agents: 2 cases

Table 6 continued.

ABCS+CASA (continued)	replaced using case specific mean substitution derived from participants' ABCS+CASA total mean.	4 missing values: 1 case 16 missing values: 1 case (exclude)	Denial of Sexual Offender Status: 13 cases Emphasis Cognitive Elements: 10 cases Power & Entitlement: 5 cases Item #19: 5 cases
CS-ECWC	Case-specific mean substitution for missing items based on participants' mean scores on Positive Affect, Special Relationships, and Preference for Relationships subscales.	TOTAL: 21 cases 1 missing value: 19 cases 2 missing values: 2 cases	Positive Affect from Children: 16 cases Special Relationship with Children: 3 cases Preference for Relationship with Children: 2 cases
DASS-21	Case-specific mean substitution for missing items based on participants' mean scores on Stress, Anxiety, and Depression subscales.	TOTAL: 29 cases 1 missing value: 25 cases 2 missing values: 2 cases 3 missing values: 1 case 13 missing values: 1 case (exclude)	Stress: 7 cases Anxiety: 10 cases Depression: 17 cases
PID-5-BF	Case-specific mean substitution for missing items based on participants' mean scores on Negative Affect, Detachment, Antagonism, Disinhibition, and Psychoticism subscales.	TOTAL: 28 cases 1 missing value: 26 cases 10 missing values; 2 cases (exclude)	Negative Affect: 6 cases Detachment: 5 cases Antagonism: 6 cases Disinhibition: 9 cases Psychoticism: 8 cases
SELSA-S	Case-specific mean substitution for missing items based on participants' mean scores on Romantic, Family, and Social subscales.	TOTAL: 18 cases 1 missing: 13 cases 2 missing: 3 cases 3 missing: 1 case 4 missing: 1 case	Romantic: 7 cases Family: 6 cases Social: 7 cases
RSBM-SR	Case-specific mean substitution for missing items based on participants' RSBM-SR total mean.	TOTAL: 2 cases 1 missing: 1 case 2 missing: 1 case	N/A
PIS-E	No missing data (listwise deletion; see Step 4).	N/A	N/A
Brief COPE – MAP	Case-specific mean substitution for missing items based on participants' mean scores on Adaptive and Maladaptive subscales.	TOTAL: 44 cases 1 missing: 35 cases 2 missing: 7 missing 3 missing: 1 case 9 missing: 1 case	Adaptive: 28 cases Maladaptive: 7 cases
Brief COPE – Other Paraphilia	Case-specific mean substitution for missing items based on participants' mean scores on Adaptive and Maladaptive subscales.	TOTAL: 14 cases 1 missing: 14 cases	Adaptive: 7 cases Maladaptive: 7 cases

Table 7

Correlation between total scores of all scales for both MAP and Other Paraphilia Groups.

MAP / OTHER	ACES	ECR	HBI	SUPPS	PIS	ABCS + CASA	ECWC	DASS	PID	SELSA	COPE – Adapt	COPE – Maladapt	RSBM
ACES-R	1	.28**	.28**	.18**	.10	.01	.11**	.42**	.35**	.31**	.18**	.32**	-.03
ECR-S	.25**	1	.29**	.27**	-.01	-.11**	.14**	.42**	.53**	.58**	.04	.29**	.11**
HBI-19	.32**	.49**	1	.42**	.27**	-.12**	.09*	.45**	.44**	.21**	.26**	.54**	.17**
SUPPS-P	.14*	.41**	.33**	1	.28**	-.13**	.10**	.40**	.58**	.14**	.12**	.35**	.18**
PIS-E	.11	.27**	.41**	.24**	1	-.21**	.10*	.08*	.18**	-.10*	.16**	.10*	.17**
ABCS + CASA	-.05	-.16*	.03	-.07	.00	1	-.44**	-.08	-.23**	-.12**	-.16**	-.07	-.57**
CS-ECWC	-.02	.05	.04	.12*	.10	-.15*	1	.08*	.14**	.14**	.40**	.13**	.34**
DASS-21	.48**	.46**	.49**	.44**	.34**	-.04	.00	1	.69**	.43**	.24**	.52**	.11**
PID-5-BF	.34**	.56**	.50**	.60**	.34**	-.16*	.11	.73**	1	.44**	.19**	.45**	.22**
SELSA-S	.39**	.52**	.28**	.31**	.10	-.22**	-.04	.43**	.50**	1	-.05**	.21**	.14**
Brief COPE – Adapt	.12	.09	.33**	.16**	.14*	-.12	.10	.22**	.15*	-.06	1	.46**	.16**
Brief COPE – Maladapt	.35**	.37**	.55**	.30**	.20**	-.15*	.14*	.55**	.45**	.29**	.51**	1	.12**

Note: Correlations above diagonal are for MAP group participants (n = 613) and correlations below diagonal are for Other Paraphilia group participants (n = 225).

** Correlation is significant at .01 level (2-tailed)

* Correlation is significant at .05 level (2-tailed)

Table 8

*Descriptive statistics and frequencies of participants in the Minor Attracted Persons (MAP) sample (*N = *609).*

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Age (years)		29.7 (9.81)	19	68	-
Unknown	18.7 (114)				
Relationship Status		-		-	-
Single, Never Married	66.8 (407)				
In a Relationship	16.6 (101)				
Married or Common-Law	11.8 (72)				
Widowed	.2 (1)				
Separated/Divorced	3.6 (22)				
Other	1.0 (6)				
Sexual Orientation		-		-	-
Gay	10.8 (66)				
Bisexual	25.1 (153)				
Heterosexual	46.5 (283)				
Asexual	.3 (2)				
Questioning	5.1 (31)				
Other	7.2 (44)				
Don't Know	1.5 (9)				
Pref. No Labels	3.4 (21)				
Race/Ethnicity		-		-	-
Aboriginal	0.2 (1)				
Black	3.0 (18)				
Caucasian	79.8 (486)				
Latin American/Hispanic	6.1 (37)				
East Asian	1.8 (11)				
South Asian	.7 (4)				
Southeast Asian	1.5 (9)				
West Asian	.3 (2)				
Multi-Racial	5.9 (36)				
Other	.3 (2)				
Unknown	.5 (3)				
Country of Residence		-		-	-
Canada	8.0 (49)				
United States	50.4 (307)				
Other	39.5 (241)				
Europe	25.0 (153)				
Africa	1.0 (6)				
Asia	1.8 (11)				
South America	3.4 (21)				
Oceania	3.6 (22)				
Mexico	1.5 (9)				
Other	3.3 (20)				
Unknown	2.0 (12)				
Primary Language		-		-	-
English	72.2 (440)				
French	3.9 (24)				
Spanish	4.8 (29)				
Other	18.2 (111)				
Unknown	.8 (5)				

Table 8 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Education Status		-	-		-
Less than High School	2.5 (15)				
High School/GED Complete	17.9 (109)				
Some College	11.0 (67)				
College Complete	13.0 (79)				
Some University	23.3 (142)				
University Complete	20.4 (124)				
Some Post-Graduate	3.3 (20)				
Post-Graduate Complete	7.7 (47)				
Other	0.8 (5)				
Unknown	.2 (1)				
Employment Status		-	-		-
Full-Time Student	19.4 (118)				
Employed Full-Time	39.7 (242)				
Employed Part-Time/Casual/Temporary	14.5 (88)				
Unemployed	16.4 (100)				
Retired	1.3 (8)				
Unable to Work	4.8 (29)				
Other	3.8 (23)				
Unknown	.2 (1)				
Employment Change (COVID-19)		-	-		-
Yes	14.4 (88)				
No	79.6 (485)				
Unknown	5.9 (36)				
Activities with Access to Children		-	-		-
Yes	15.1 (92)				
No	84.4 (514)				
Unknown	.5 (3)				
Parental Status		-	-		-
Yes	7.6 (46)				
No	92.1 (561)				
Unknown	.3 (2)				
Living Arrangements		-	-		-
Live Alone	23.0 (140)				
Roommates (Non-Relatives)	11.3 (69)				
Extended Family	38.3 (234)				
Immediate Family	24.6 (150)				
Other	2.6 (16)				
Criminal History		.12 (.44)	0	4	-
Yes	8.5 (52)				
No	91.3 (556)				
Assault	1.5 (9)				
Breach	.5 (3)				
Drug Possession	2.0 (12)				
Drug Trafficking/Cultivating	.3 (2)				
Fraud or Forgery	.8 (5)				
Mischief, Vandalism, Destruction	1.0 (6)				
Robbery	.5 (3)				
Prostitution/Soliciting	.2 (1)				
Sex Offence – Adult (>16 years)	.2 (1)				
Sex Offence – Child (< 16 years)	4.1 (25)				
Other	1.1 (7)				
Unknown	.2 (1)				

Table 8 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Current Community Sentence		-	-		-
Yes	2.1 (13)				
No	97.2 (592)				
Unknown	.7 (4)				
Head Injury ≤ 13 years old		-	-		-
Yes	14.6 (89)				
No	84.9 (517)				
Unknown	.5 (3)				
Sexual History					
Age First Masturbation (years)		10.6 (2.93)	2	30	
Not Applicable	.2 (1)				
Unknown	2.3 (14)				
Age First Pornography (years)		11.1 (3.11)	3	30	
Not Applicable	0 (0)				
Unknown	2.0 (12)				
Age First Sexual Contact (years)		13.9 (5.50)	2	44	
Not Applicable – No experience	21.0 (128)				
Unknown	1.5 (9)				
Age First Consensual Intercourse (years)		17.6 (4.75)	4	45	
Not Applicable – No experience	33.3 (203)				
Unknown	1.8 (11)				
Lifetime Sexual Partners*		2.82 (3.55)	0	19	
*Self-Report ≥20 Partners	6.73 (41)				
Not Applicable – No partners	31.5 (192)				
Unknown	2.3 (14)				
ACES-R		3.29 (2.85)	0	13	.768
Abuse	39.9 (243)	.65 (.91)	0	3	
Neglect	27.9 (170)	.33 (.56)	0	2	
Household Dysfunction	58.8 (358)	1.06 (1.16)	0	5	
Contextual Adversity	71.6 (436)	1.35 (1.14)	0	4	
ECR-S		44.0 (10.4)	15	68	.739
Attachment Anxiety		23.8 (7.34)	6	42	.783
Attachment Avoidance		20.3 (6.94)	6	42	.793
HBI-19		46.8 (16.3)	19	95	.931
Control		20.1 (8.60)	8	40	
Coping		18.8 (7.52)	7	35	
Consequences		7.99 (3.56)	4	20	
SUPPS-P		41.2 (7.82)	24	64	.783
Negative Urgency		9.27 (2.96)	4	16	.737
Lack of Perseverance		7.91 (2.17)	4	15	.667
Lack of Premeditation		6.84 (2.27)	4	14	.801
Sensation Seeking		9.68 (2.86)	4	16	.647
Positive Urgency		7.51 (2.82)	4	16	.801
PIS-E					.740
Total – Exclude "Other" Group		43.6 (10.4)	23	74	
Total # Paraphilia Categories		7.26 (2.37)	2	13	
MAP Attraction (≤ 14 years)	100 (609)	11.87 (3.69)	5	20	
Female	90.0 (548)	3.51 (1.35)	1	5	
Male	58.8 (358)	2.42 (1.50)	1	5	
Teleiophilia	95.7 (583)	2.80 (.876)	1	5	
Female	87.2 (531)	3.41 (1.32)	1	5	
Male	48.6 (296)	2.19 (1.44)	1	5	

Table 8 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Pedophilia	91.1 (555)	2.91 (1.12)	1	5	
Hebephilia	99.3 (605)	3.02 (.882)	1	5	
Exhibitionism	63.2 (385)	1.95 (1.09)	1	5	
Voyeurism	76.7 (467)	2.26 (1.13)	1	5	
Sexual Sadism	29.7 (242)	1.63 (1.01)	1	5	
Sexual Masochism	38.3 (233)	1.56 (.941)	1	5	
Fetishism	54.8 (334)	2.02 (1.15)	1	5	
Transvestitism	44.0 (268)	1.90 (1.24)	1	5	
Frotteurism	47.3 (288)	1.86 (1.12)	1	5	
Other Interests (Optional)					
Older Adolescent	2.1 (13)				
Simulated Representations of Human	5.4 (33)				
Animal/Non-Human Representation	11.3 (69)				
Bodily Functions	4.6 (28)				
Non-Binary Themes	2.6 (16)				
Other Pedohebephilic Activity	8.4 (51)				
Roleplay	2.1 (13)				
Incest	2.0 (12)				
Coercive/Violent Activity	3.6 (22)				
Other	18.2 (111)				
No Other Reported	64.4 (392)				
ABCS + CASA		144.6 (28.9)	57	195	.961
Sexual Objectification of Children		45.9 (11.7)	13	65	
Justification		20.9 (4.12)	5	25	
Children as Sexual Agents		20.5 (3.88)	7	25	
Denial of Sexual Offender Status		22.3 (4.77)	8	30	
Emphasis on Cognitive Elements		13.2 (3.00)	4	20	
Power and Entitlement		19.3 (4.03)	7	25	
CS-ECWC		24.7 (15.6)	0	60	.924
Positive Affect from Children		13.5 (8.78)	0	32	
Special Relationship with Children		8.23 (5.69)	0	20	
Preference for Relationships with Children		2.97 (2.79)	0	8	
DASS-21		38.2 (25.0)	0	124	.927
Stress		12.3 (9.04)	0	40	
Normal	67.0 (408)				
Mild	11.2 (68)				
Moderate	10.8 (66)				
Severe	8.0 (49)				
Extremely Severe	3.0 (18)				
Anxiety		8.81 (8.16)	0	42	
Normal	51.6 (314)				
Mild	11.5 (70)				
Moderate	17.7 (108)				
Severe	6.4 (39)				
Extremely Severe	12.8 (78)				
Depression		8.55 (5.91)	0	42	
Normal	30.5 (186)				
Mild	12.3 (75)				

Table 8 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Moderate	20.5 (125)				
Severe	13.8 (84)				
Extremely Severe	22.8 (139)				
PID-5-BF		27.1 (12.1)	0	62	.866
Negative Affect		6.41 (3.42)	0	15	
Detachment		7.07 (3.96)	0	15	
Antagonism		3.57 (3.05)	0	14	
Disinhibition		4.30 (3.58)	0	15	
Psychoticism		6.02 (3.56)	0	15	
SELSA-S		59.9 (18.4)	15	105	.855
Romantic		24.7 (9.32)	5	35	.848
Family		16.8 (8.13)	5	35	.883
Social		18.4 (8.18)	5	35	.853
Brief COPE – MAP					.873
Adaptive		31.9 (8.83)	16	58	.855
Active Coping		3.93 (1.79)	2	8	
Use of Emotional Support		3.22 (1.75)	2	8	
Use of Instrumental Supports		2.98 (1.63)	2	8	
Positive Reframe		4.45 (2.04)	2	8	
Planning		4.14 (1.98)	2	8	
Humour		3.92 (2.05)	2	8	
Acceptance		6.48 (1.72)	2	8	
Religion		2.78 (1.53)	2	8	
Maladaptive		21.1 (6.44)	12	41	.784
Self-Distraction		4.31 (1.99)	2	8	
Denial		2.89 (1.45)	2	8	
Substance Use		2.66 (1.59)	2	8	
Behavioural Disengagement		4.02 (1.97)	2	8	
Venting		3.09 (1.42)	2	8	
Self-Blame		4.14 (2.07)	2	8	
RSBM-SR		14.3 (9.30)	4	40	.771

Table 9

*Descriptive statistics and frequencies of participants in the Other Paraphilia sample (*N *= 224).*

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Age (years)		35.3 (11.8)	19	77	-
Unknown	5.36 (12)				
Relationship Status		-	-		-
Single, Never Married	41.5 (93)				
In a Relationship	23.2 (52)				
Married or Common-Law	29.9 (67)				
Widowed	.9 (2)				
Separated/Divorced	4.0 (9)				
Unknown	.4 (1)				
Sexual Orientation		-	-		-
Gay	8.0 (18)				
Bisexual	17.4 (39)				
Heterosexual	66.1 (148)				
Asexual	.9 (2)				
Questioning	1.3 (3)				
Other	4.0 (9)				
Don't Know	.4 (1)				
Pref. No Labels	1.8 (4)				
Race/Ethnicity		-	-		-
Aboriginal	.4 (1)				
Black	4.9 (11)				
Caucasian	75.4 (169)				
Latin American/Hispanic	7.1 (16)				
East Asian	3.6 (8)				
South Asian	1.8 (4)				
Southeast Asian	2.2 (5)				
Multi-Racial	4.0 (9)				
Other	.4 (1)				
Country of Residence		-	-		-
Canada	11.2 (25)				
United States	81.7 (183)				
Other	6.7 (15)				
Europe	5.4 (12)				
Asia	.4 (1)				
Oceania	.4 (1)				
Unknown	.4 (1)				
Primary Language		-	-		-
English	93.8 (210)				
French	1.3 (3)				
Other	4.5 (10)				
Unknown	.4 (1)				
Education Status		-	-		-
Less than High School	.9 (2)				
High School/GED Complete	11.6 (26)				
Some College	5.8 (13)				
College Complete	11.2 (25)				
Some University	17.0 (38)				

Table 9 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
University Complete	41.1 (92)				
Some Post-Graduate	2.2 (5)				
Post-Graduate Complete	9.4 (21)				
Other	.9 (2)				
Employment Status		-	-		-
Full-Time Student	24 (10.7)				
Employed Full-Time	66.1 (148)				
Employed Part-Time/Casual/Temporary	9.3 (22)				
Unemployed	8.0 (18)				
Retired	2.7 (6)				
Unable to Work	1.3 (3)				
Other	1.3 (3)				
Employment Change (COVID-19)		-	-		-
Yes	6.3 (14)				
No	24.1 (54)				
Unknown	69.6 (156)				
Activities with Access to Children			-		-
Yes	10.3 (23)				
No	89.7 (201)				
Parental Status		-	-		-
Yes	20.5 (46)				
No	79.0 (177)				
Unknown	.4 (1)				
Living Arrangements		-	-		-
Live Alone	25.4 (57)				
Roommates (Non-Relatives)	12.5 (28)				
Extended Family	19.2 (43)				
Immediate Family	40.2 (90)				
Other	2.7 (6)				
Criminal History		1.34 (.49)	0	5	-
Yes	8.9 (20)				
No	91.1 (204)				
Assault	1.3 (3)				
Breach	.4 (1)				
Drug Possession	2.7 (6)				
Drug Trafficking/Cultivating	1.3 (3)				
Mischief, Vandalism, Destruction	2.2 (5)				
Weapons Offence	.4 (1)				
Prostitution/Soliciting	.4 (1)				
Sex Offence – Adult (>16 years)	.4 (1)				
Sex Offence – Child (< 16 years)	.4 (1)				
Other	3.6 (8)				
Current Community Sentence		-	-		-
Yes	.9 (2)				
No	99.1 (222)				
Head Injury ≤ 13 years old			-		-
Yes	11.6 (26)				
No	88.4 (198)				
Sexual History					
Age First Masturbation (years)		12.3 (2.25)	4	19	
Not Applicable	.4 (1)				
Unknown	.9 (2)				
Age First Pornography (years)		12.2 (2.45)	4	23	

Table 9 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Unknown	1.3 (3)				
Age First Sexual Contact (years)		15.7 (3.79)	5	27	
Not Applicable	5.4 (12)				
Unknown	.9 (2)				
Age First Consensual Intercourse (years)		17.4 (2.98)	10	27	
Not Applicable	5.8 (13)				
Unknown	1.3 (3)				
Lifetime Sexual Partners*		6.12 (4.67)	0	18	
*Self-Report ≥20 Partners	18.3 (41)				
Not Applicable – No partners	5.33 (12)				
Unknown	1.33 (3)				
ACES-R		2.56 (2.97)	0	13	.835
Abuse	29.0 (65)	.47 (.83)	0	3	
Neglect	22.3 (50)	.28 (.56)	0	2	
Household Dysfunction	45.5 (102)	.88 (1.20)	0	5	
Contextual Adversity	57.1 (128)	.93 (1.03)	0	4	
ECR-S		34.7 (11.6)	12	68	.825
Attachment Anxiety		19.2 (7.60)	6	41	.786
Attachment Avoidance		15.5 (6.67)	6	34	.856
HBI-19		40.8 (13.5)	19	78	.934
Control		15.8 (6.49)	8	34	
Coping		17.97 (6.27)	7	35	
Consequences		7.00 (2.89)	4	16	
SUPPS-P		39.2 (8.91)	20	66	.858
Negative Urgency		8.41 (3.01)	4	16	.821
Lack of Perseverance		7.08 (2.32)	4	16	.775
Lack of Premeditation		6.53 (2.23)	4	14	.828
Sensation Seeking		9.85 (3.25)	4	16	.744
Positive Urgency		7.36 (2.92)	4	16	.853
PIS-E					.704
Total – Exclude “MAP” Group	100 (224)	36.9 (8.67)	24	62	
Total # Paraphilia Categories		5.51 (2.27)	1	11	
Teleiophilia	98.7 (221)	3.16 (.734)	1	5	
Female	92.0 (206)	4.28 (1.20)	1	5	
Male	42.4 (95)	2.04 (1.43)	1	5	
Exhibitionism	69.2 (155)	1.96 (.965)	1	5	
Voyeurism	77.7 (174)	2.37 (1.17)	1	5	
Sexual Sadism	39.3 (88)	1.54 (.907)	1	5	
Sexual Masochism	47.8 (107)	1.67 (.922)	1	5	
Fetishism	58.0 (130)	2.25 (1.33)	1	5	
Transvestitism	36.2 (81)	1.73 (1.18)	1	5	
Frotteurism	43.8 (98)	1.75 (1.05)	1	5	
Other Interests (Optional)					
Older Adolescent	1.8 (4)				
Simulated Representations of Human	3.6 (8)				
Animal/Non-Human Representation	7.6 (17)				
Bodily Functions	3.6 (8)				
Non-Binary Themes	3.1 (7)				
Other Pedohebephilic Activity	3.1 (7)				
Roleplay	2.2 (5)				
Incest	1.8 (4)				

Table 9 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Coercive/Violent Activity	2.7 (6)				
Other	26.8 (60)				
No Other Reported	61.2 (137)				
ABCS + CASA		184.8 (10.5)	149	195	.889
Sexual Objectification of Children		62.8 (3.54)	50	65	
Justification		24.5 (1.19)	19	25	
Children as Sexual Agents		24.3 (1.47)	19	25	
Denial of Sexual Offender Status		27.2 (3.28)	17	30	
Emphasis on Cognitive Elements		18.0 (2.05)	10	20	
Power and Entitlement		24.0 (1.44)	19	25	
CS-ECWC		10.2 (11.2)	0	46	.918
Positive Affect from Children		5.90 (6.85)	0	28	
Special Relationship with Children		3.63 (4.36)	0	18	
Preference for Relationships with Children		.72 (1.54)	0	8	
DASS-21		25.53 (23.4)	0	118	.946
Stress		9.75 (8.37)	0	38	
Normal	76.3 (171)				
Mild	9.4 (21)				
Moderate	7.1 (16)				
Severe	5.8 (13)				
Extremely Severe	1.3 (3)				
Anxiety		5.90 (7.81)	0	42	
Normal	71.0 (159)				
Mild	6.3 (14)				
Moderate	9.8 (22)				
Severe	4.9 (11)				
Extremely Severe	8.0 (18)				
Depression		9.88 (10.2)	0	42	
Normal	58.0 (130)				
Mild	10.3 (23)				
Moderate	17.9 (40)				
Severe	5.8 (13)				
Extremely Severe	8.0 (18)				
PID-5-BF		19.5 (12.9)	0	54	.910
Negative Affect		4.56 (3.49)	0	14	
Detachment		4.58 (3.67)	0	14	
Antagonism		2.95 (2.84)	0	11	
Disinhibition		3.29 (3.30)	0	14	
Psychoticism		4.20 (3.61)	0	14	
SELSA-S		46.1 (18.9)	15	98	.892
Romantic		17.5 (9.36)	5	35	.862
Family		13.2 (7.37)	5	35	.905
Social		15.4 (7.81)	5	35	.893
Brief COPE – Other Paraphilia					.898
Adaptive		31.0 (9.53)	16	61	.881
Active Coping		4.08 (1.80)	2	8	
Use of Emotional Support		3.22 (1.70)	2	8	
Use of Instrumental Supports		2.99 (1.52)	2	8	
Positive Reframe		4.53 (2.01)	2	8	
Planning		3.76 (1.85)	2	8	

Table 9 continued.

Variable	% (*n*)	*M* (*SD*)	Range		*α*
			Min.	Max.	
Humour		3.93 (2.06)	2	8	
Acceptance		5.66 (1.93)	2	8	
Religion		2.79 (1.49)	2	8	
Maladaptive		18.9 (5.87)	12	37	.812
Self-Distraction		4.00 (1.87)	2	8	
Denial		2.61 (1.16)	2	8	
Substance Use		2.73 (1.49)	2	8	
Behavioural Disengagement		3.28 (1.63)	2	8	
Venting		2.93 (1.28)	2	7	
Self-Blame		3.42 (1.74)	2	8	

Table 10

Frequencies of substance use in the last 30 days for MAP (n = 609) and Other Paraphilia (n = 224) groups.

Group	No Use [a]		Some Use [b]		Regular / Daily Use [c]		Unknown	
	MAP % (*n*)	**OTHER % (*n*)**	**MAP % (*n*)**	**OTHER % (*n*)**	**MAP % (*n*)**	**OTHER % (*n*)**	**MAP % (*n*)**	**OTHER % (*n*)**
Alcohol	58.6 (357)	50.7 (113)	32.3 (197)	37.5 (84)	6.1 (37)	10.7 (24)	3.0 (18)	1.3 (3)
Opioids	94.0 (572)	97.8 (219)	.5 (3)	.9 (2)	1 (.2)	0 (0)	5.4 (33)	1.3 (3)
Sedatives / Tranquilizers	92.8 (565)	96.9 (217)	1.1 (7)	0 (0)	.8 (5)	1.3 (3)	5.3 (32)	1.8 (4)
Stimulants	93.0 (566)	96.0 (215)	1.5 (9)	1.8 (4)	1.1 (7)	.9 (2)	4.4 (27)	1.3 (3)
Hallucinogens	93.6 (570)	95.5 (214)	.7 (4)	2.7 (6)	0 (0)	0 (0)	5.7 (35)	1.8 (4)
Cannabis	84.3 (513)	70.5 (158)	7.4 (45)	13.8 (31)	4.8 (29)	13.4 (30)	3.6 (22)	5 (2.2)

[a] Report "never use" or "less than once a month."
[b] Report "one or two times a month" or "once or twice a week."
[c] Report "nearly every day" or "once or more a day."

Table 11

Pearson's r correlations between total scores for biopsychosocial-sexual factors and self-perceived risk.

	Low Vulnerability		Moderate Vulnerability		High Vulnerability		MAP-CSA	
Total Scales	***r***	***p***	***r***	***p***	***r***	***p***	***r***	***p***
ACES-R	-.125	.110	-.093	.125	-.151	.066	-.073	.729
ECR-S	-.047	.546	.004	.947	-.043	.605	.329	.109
HBI-19	.007	.932	.027	.654	.207	.011	.265	.200
SUPPS-P	-.008	.918	.076	.215	.065	.430	.554	.004
PIS-E	.150	.055	.126	.039	.117	.154	.289	.161
ABCS+CASA	-.572	<.001	-.519	<.001	-.580	<.001	-.560	.004
CS-ECWC	.310	<.001	.285	<.001	.386	<.001	.329	.108
DASS-21	-.169	.030	.081	.186	-.181	.027	.324	.114
PID-5-BF	.007	.930	.172	.005	-.035	.673	.432	.031
SELSA-S	.037	.663	.094	.123	-.027	.746	.089	.673

ACES-R = Adverse Childhood Experiences Scale – Revised; ECR-S = Experiences in Close Relationships Scale – Short; HBI-19 = Hypersexual Behaviour Inventory; SUPPS-P = Short UPPS-P Impulsive Behaviour Scale; ABCS+CASA = Abel and Becker Cognition Scale + Children and Sexual Activities Inventory; CS-ECWC = Emotional Congruence with Children Scale; DASS-21 = Depression Anxiety Stress Scale – 21; PID-5-BF = Personality Inventory for the DSM-5 – Brief Form; SELSA-S = Social and Emotional Loneliness Scale for Adults.

Table 12

Pearson's r correlations between subscale scores for biopsychosocial-sexual factors and self-perceived risk.

		Low Vulnerability		Moderate Vulnerability		High Vulnerability		MAP-CSA	
Subscales		***r***	***p***	***r***	***p***	***r***	***p***	***r***	***p***
ACES-R	Abuse	-.068	.383	-.092	.133	-.163	.047	-.149	.477
	Neglect	-.039	.616	-.039	.518	-.174	.034	-.085	.687
	House Dysfunction	-.045	.566	-.105	.086	-.128	.229	-.015	.943
	Context Adversity	-.176	.024	-.023	.712	-.004	.963	.007	.975
ECR-S	Attach Anxiety	-.058	.457	-.030	.624	-.041	.619	.332	.105
	Attach Avoidance	-.017	.165	.033	.584	-.012	.889	.202	.333
HBI-19	Control	.009	.906	.001	.984	.297	<.001	.276	.183
	Coping	-.022	.783	.005	.933	.028	.731	.179	.391
	Consequences	.057	.464	.107	.080	.172	.036	.226	.278
SUPPS-P	Negative Urgency	-.090	.251	-.040	.514	-.048	.560	.400	.048
	Lack Perseverance	.009	.911	.058	.344	-.017	.841	.138	.509
	Lack Premeditation	.007	.931	.014	.819	-.087	.292	.430	.032
	Sensation Seeking	.036	.648	.082	.177	.195	.017	.297	.150
	Positive Urgency	-.001	.985	.067	.274	.065	.433	.457	.022
PIS-E	Teleiophilia	.012	.876	-.143	.019	-.203	.013	-.046	.826
	Pedophilia	.428	<.001	.279	<.001	.372	<.001	.287	.165
	Hebephilia	.281	<.001	.235	<.001	.298	<.001	.172	.412
	Exhibitionism	.039	.616	-.003	.955	.034	.677	.074	.724
	Voyeurism	<.001	.997	.066	.281	.116	.160	.265	.201
	Sexual Sadism	-.006	.942	.023	.708	.034	.685	.008	.969
	Sexual Masochism	-.027	.7228	.095	.119	.004	.962	-.091	.664
	Fetishism	.085	.277	.028	.642	.017	.837	.210	.314
	Transvestism	.020	.804	.057	.352	-.022	.786	-.038	.859
	Frotteurism	.058	.460	.056	.362	.117	.154	.136	.517
ABCS +	Sexually Objectify	-.583	<.001	-.504	<.001	-.584	<.001	-.564	.003
CASA	Justification	-.486	<.001	-.500	<.001	-.502	<.001	-.443	.027
	Child as Sex Agents	-.429	<.001	-.455	<.001	-.449	<.001	-.437	.029
	Deny SO Status	-.382	<.001	-.352	<.001	-.459	<.001	-.599	.002
	Cognitive Elements	-.355	<.001	-.367	<.001	-.456	<.001	-.390	.054
	Power/Entitlement	-.600	<.001	-.474	<.001	-.521	<.001	-.543	.005
CS-ECWC	Positive Affect	.305	<.001	.295	<.001	.396	<.001	.330	.107
	Special Relationship	.205	<.001	.231	<.001	.241	<.001	.233	.261
	Prefer Relationship	.366	<.001	.191	.002	.365	<.001	.456	.022
DASS-21	Stress	-.153	.049	.043	.478	-.083	.317	.181	.388
	Anxiety	-.102	.193	.015	.804	-.111	.178	.388	.056
	Depression	-.132	.090	.104	.088	-.220	.007	.279	.177
PID-5-BF	Negative Affect	-.069	.381	-.011	.858	-.163	.047	.252	.224
	Detachment	-.040	.613	.101	.096	-.114	.167	.030	.887
	Antagonism	.109	.164	.130	.033	.082	.321	.262	.206
	Disinhibition	.035	.652	.180	.003	.019	.815	.505	.010
	Psychoticism	-.026	.740	.008	.902	.064	.436	.504	.010
SELSA-S	Romantic	.085	.275	.083	.174	.180	-.028	.206	.322
	Family	.023	.772	.073	.231	-.206	.012	-.202	.333
	Social	-.076	.333	.031	.613	-.051	.536	.159	.448

Table 13

Results of latent cluster analysis of MAPs with no previous criminal charges for sexual offences against minors.

Model	Participants % (*n*)	Maximum Loglikelihood	AIC	BIC	SSABIC	Entropy	Adjusted LMR (*p*)	BLRT (*p*)
2 class	56.8 (332) 43.2 (252)	-31426.1	62956.284	63183.5	63018.4	.853	1374.7 (<.001**)	-32119.5 (<.001**)
3 class	**28.3 (165)** **46.2 (270)** **25.5 (149)**	**-31233.0**	**62606.0**	**62911.9**	**62689.7**	**.825**	**382.9 (.036*)**	**-31426.1 (<.001**)**
4 class	26.4 (154) 34.6 (202) 28.3 (165) 10.8 (63)	-31124.4	62424.8	62809.3	62530.0	.813	215.4 (.255)	-31233.0 (<.001**)
5 class	14.4 (84) 27.6 (161) 21.2 (124) 254.8 (145) 12.0 (70)	-31023.6	62259.3	62722.5	62386.0	.823	199.8 (.212)	-31124.4 (<.001**)
6 class	11.5 (67) 25.3 (148) 29.1 (170) 5.82 (34) 11.8 (69) 16.4 (96)	-30935.2	62118.5	62660.4	62266.7	.860	175.3 (.108)	-31023.6 (<.001**)

AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SSABIC = sample-size adjusted BIC; LMR = Lo-Mendell-Rubin Likelihood Ratio Test; BLRT = Bootstrapped Likelihood Ratio Test. Bold text indicated the optimal class solution based on current study results

Table 14

Latent class membership differences on measures of developmental, self-regulatory, sexual, cognitive, and socio-affective characteristics.

Variables	Cluster 1 "Low Vulnerability" *n* = 165		Cluster 2 "Moderate Vulnerability" *n* = 270		Cluster 3 "High Vulnerability" *n* = 149		Full MAP Sample *N* = 584	
	M	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
ACES-R	2.07	2.30	3.193	2.51	5.15	3.11	3.38	2.86
ECR-S – Attachment Anxiety	18.65	6.04	24.74	6.29	28.04	6.93	23.86	7.29
ECR-S – Attachment Avoidance	16.69	6.37	21.43	6.62	22.19	6.46	20.28	6.89
HBI-19	36.37	12.54	45.31	13.69	60.20	14.45	46.58	16.17
SUPPS-P – Negative Urgency	6.68	1.91	9.04	2.08	12.56	1.93	9.27	2.94
SUPPS-P – Lack of Perseverance	7.62	2.06	8.00	2.07	8.08	2.43	7.91	2.17
SUPPS-P – Lack of Premeditation	5.90	1.62	6.58	2.08	8.26	2.51	6.82	2.26
SUPPS-P – Sensation Seeking	9.92	2.78	9.29	2.86	10.08	2.91	9.67	2.87
SUPPS-P – Positive Urgency	5.64	1.92	7.08	2.21	10.33	2.41	7.50	2.81
# of Paraphilias	6.87	2.46	7.05	2.28	8.27	2.15	7.31	2.36
ABCS+CASA	153.65	26.30	143.98	27.07	134.56	30.29	144.31	28.54
CS-ECWC	20.78	14.41	24.71	15.85	29.04	14.95	24.70	15.50
DASS-21	16.34	12.68	37.54	18.05	63.55	22.51	38.19	24.98
PID-5-BF	14.16	6.41	27.51	6.75	41.26	7.04	27.25	11.99
SELSA-S - Romantic	20.48	10.55	26.95	8.07	25.46	8.39	24.74	9.32
SELSA-S - Family	10.69	6.12	17.91	7.24	21.60	7.54	16.81	8.14
SELSA-S - Social	12.35	6.37	20.28	7.67	21.38	7.37	18.32	8.16

ACES-R = Adverse Childhood Experiences Scale – Revised; ECR-S = Experiences in Close Relationships Scale – Short; HBI-19 = Hypersexual Behaviour Inventory; SUPPS-P = Short UPPS-P Impulsive Behaviour Scale; ABCS+CASA = Abel and Becker Cognition Scale + Children and Sexual Activities Inventory; CS-ECWC = Emotional Congruence with Children Scale; DASS-21 = Depression Anxiety Stress Scale – 21; PID-5-BF = Personality Inventory for the DSM-5 – Brief Form; SELSA-S = Social and Emotional Loneliness Scale for Adults.

Table 15

Cluster profiles: Comparison of clusters on biopsychosocial-sexual characteristics (n = 833).

Variables	Statistic			Cluster 1 "Low" *n* = 165	Cluster 2 "Moderate" *n* = 270	Cluster 3 "High" *n* = 149	MAP – CSA *n* = 25	Other Paraphilia *n* = 224
	F	***p***	η^2_p	***M (SD)***	***M (SD)***	***M (SD)***	***M (SD)***	***M (SD)***
Developmental Factors	15.7	< .001	.102					
ACES-R								
Abuse	21.5	< .001	.094	.376 (.684)^{a}	.515 (.794)^{a}	1.14 (1.11)^{b}	1.04 (.889)^{b}	.473 (.825)^{a}
Neglect	17.0	< .001	.076	.115 (.356)^{a}	.296 (.511)^{ab}	.611 (.695)^{c}	.360 (.638)^{b}	.281 (.565)^{ab}
Household Dysfunction	8.70	< .001	.040	.770 (.985)^{a}	1.02 (1.12)^{ab}	1.48 (1.34)^{b}	1.00 (.817)^{ab}	.875 (1.20)^{a}
Contextual Adversity	28.0	< .001	.119	.812 (1.04)^{a}	1.36 (1.10)^{b}	1.93 (1.06)^{c}	1.36 (1.15)^{b}	.929 (1.03)^{ab}
ECR-S								
Attachment Anxiety	58.6	< .001	.221	18.6 (6.04)^{a}	24.7 (6.29)^{c}	28.0 (6.93)^{d}	22.1 (8.47)^{bc}	19.2 (7.60)^{ab}
Attachment Avoidance	39.0	< .001	.158	16.7 (6.37)^{a}	21.4 (6.62)^{b}	22.2 (6.46)^{b}	20.6 (8.12)^{b}	19.0 (7.18)^{a}
Self-Regulation Factors	16.4	< .001	.137					
HBI-19								
Control	60.0	< .001	.225	15.2 (6.89)^{a}	19.4 (8.01)^{b}	26.2 (7.26)^{c}	23.2 (9.39)^{c}	15.8 (8.29)^{a}
Coping	34.6	< .001	.143	15.1 (6.57)^{a}	18.2 (6.71)^{b}	23.8 (7.11)^{c}	19.2 (8.23)^{b}	18.0 (6.27)^{b}
Consequences	38.5	< .001	.157	6.11 (2.82)^{a}	7.76 (3.09)^{bc}	10.2 (3.66)^{d}	9.04 (4.31)^{c}	7.00 (2.89)^{ab}
SUPPS-P								
Negative Urgency	128.0	< .001	.382	6.68 (1.91)^{a}	9.04 (2.08)^{bc}	12.6 (1.93)^{d}	9.43 (3.43)^{c}	8.41 (3.01)^{b}
Lack of Perseverance	6.83	< .001	.032	7.62 (2.06)^{ab}	8.00 (2.07)^{ab}	8.07 (2.43)^{b}	7.99 (2.28)^{ab}	7.08 (2.32)^{a}
Lack of Premeditation	26.7	< .001	.114	5.90 (1.62)^{a}	6.58 (2.08)^{ab}	8.26 (2.51)^{c}	7.36 (2.41)^{bc}	6.53 (2.23)^{ab}
Sensation Seeking	2.27	.061	.011	9.92 (2.78)^{a}	9.29 (2.86)^{a}	10.1 (2.91)^{a}	9.68 (2.67)^{a}	9.85 (3.25)^{a}
Positive Urgency	76.4	< .001	.270	5.64 (1.92)^{a}	7.08 (2.21)^{b}	10.3 (2.41)^{c}	7.64 (3.21)^{b}	7.36 (2.92)^{b}

Table 15 continued.

Variables	Statistic			Cluster 1 "Low" *n* = 165	Cluster 2 "Moderate" *n* = 270	Cluster 3 "High" *n* = 149	MAP – CSA *n* = 25	Other Paraphilia *n* = 224
	F	***p***	η^2_p	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**
Sexual Factors	9.06	< .001	.090					
PIS-E								
Total # Paraphilia Categories	34.6	< .001	.143	6.87 (2.46)^{b}	7.05 (2.28)^{b}	8.27 (2.15)^{c}	6.12 (2.20)^{ab}	5.51 (2.27)^{a}
MAP Attraction (≤ 14 years)	1.32	.267	.007	2.85 (.968)^{a}	3.03 (.902)^{a}	2.97 (.891)^{a}	3.06 (.980)^{a}	-
Female	1.70	.167	.008	3.35 (1.41)^{a}	3.64 (1.29)^{a}	3.51 (1.37)^{a}	3.32 (1.53)^{a}	-
Male	.653	.581	.003	2.35 (1.54)^{a}	2.42 (1.53)^{a}	2.43 (1.39)^{a}	2.80 (1.51)^{a}	-
Teleiophilia	9.93	< .001	.046	2.89 (.836)^{b}	2.72 (2.72)^{ab}	2.89 (.964)^{b}	2.52 (1.08)^{a}	3.16 (.724)^{c}
Pedophilia	2.73	.043	.013	2.71 (1.14)^{a}	3.01 (1.12)^{a}	2.95 (1.06)^{a}	3.02 (1.09)^{a}	-
Hebephilia	.226	.878	.001	3.00 (.918)^{a}	3.04 (.832)^{a}	2.99 (.906)^{a}	3.10 (1.05)^{a}	-
Exhibitionism	7.23	< .001	.034	1.89 (1.10)^{a}	1.81 (.989)^{a}	2.33 (1.19)^{b}	1.62 (.845)^{a}	1.96 (.965)^{ab}
Voyeurism	4.65	.001	.022	2.17 (1.13)^{ab}	2.16 (1.06)^{ab}	2.59 (1.16)^{b}	2.02 (1.26)^{a}	2.37 (1.17)^{ab}
Sexual Sadism	7.70	< .001	.036	1.48 (.827)^{a}	1.54 (.911)^{a}	2.00 (1.25)^{b}	1.44 (.939)^{a}	1.54 (.907)^{a}
Sexual Masochism	11.7	< .001	.054	1.37 (.790)^{ab}	1.47 (.842)^{ab}	1.98 (1.15)^{c}	1.24 (.694)^{a}	1.67 (.912)^{bc}
Fetishism	4.09	.003	.019	1.89 (1.15)^{a}	1.98 (1.12)^{a}	2.28 (1.18)^{a}	1.80 (1.08)^{a}	2.25 (.1.33)^{a}
Transvestitism	5.13	< .001	.024	1.72 (1.15)^{a}	1.83 (1.21)^{ab}	2.25 (1.31)^{b}	1.80 (1.29)^{ab}	1.73 (1.18)^{a}
Frotteurism	7.11	< .001	.033	1.67 (1.67)^{a}	1.80 (1.06)^{ab}	2.24 (1.30)^{b}	1.52 (.872)^{a}	1.75 (1.05)^{a}
Cognitive Factors	15.7	< .001	.147					
ABCS + CASA								
Sexual Objectification of Children	124.3	< .001	.375	48.8 (11.4)^{bc}	45.6 (11.2)^{ab}	42.7 (12.0)^{a}	50.5 (12.8)^{c}	62.8 (3.54)^{d}
Justification	55.7	< .001	.212	22.0 (3.40)^{b}	20.9 (4.00)^{ab}	19.4 (4.71)^{a}	21.8 (3.68)^{b}	24.5 (1.19)^{d}
Children as Sexual Agents	64.5	< .001	.238	21.7 (3.39)^{b}	20.5 (3.72)^{ab}	19.2 (4.13)^{a}	21.1 (4.57)^{b}	24.3 (1.47)^{d}
Denial of Sexual Offender Status	65.0	< .001	.239	24.0 (4.47)^{b}	22.3 (4.55)^{ab}	20.6 (4.91)^{a}	21.9 (4.66)^{a}	27.2 (3.28)^{c}
Emphasis on Cognitive Elements	137.8	< .001	.400	13.9 (2.84)^{b}	13.0 (2.87)^{ab}	12.5 (3.08)^{a}	15.3 (2.99)^{c}	18.0 (2.05)^{d}
Power and Entitlement	93.0	< .001	.310	20.5 (3.56)^{b}	19.1 (3.84)^{a}	17.9 (4.38)^{a}	20.8 (3.98)^{b}	24.0 (1.44)^{c}
CS-ECWC								
Positive Affect from Children	40.6	< .001	.164	11.6 (8.14)^{b}	13.4 (9.01)^{bc}	15.8 (8.55)^{c}	14.4 (8.97)^{bc}	5.90 (6.85)^{a}
Special Relationship with Children	36.8	< .001	.151	6.91 (5.12)^{b}	8.19 (5.74)^{bc}	9.84 (5.45)^{c}	7.68 (7.28)^{bc}	3.63 (4.36)^{a}
Preference for Relationships with Children	38.5	< .001	.157	2.25 (2.51)^{b}	3.13 (2.80)^{bc}	3.41 (2.91)^{c}	3.36 (2.93)^{c}	3.36 (2.93)^{a}

Table 15 continued.

Variables	Statistic			Cluster 1 "Low" *n* = 165	Cluster 2 "Moderate" *n* = 270	Cluster 3 "High" *n* = 149	MAP – CSA *n* = 25	Other Paraphilia *n* = 224
	F	***p***	η^2_p	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**
Socio-affective Factors	17.9	< .001	.193					
DASS-21								
Stress	95.1	< .001	.315	5.84 (5.47)^{a}	11.1 (6.90)^{bc}	21.4 (8.17)^{d}	13.9 (9.70)^{c}	9.75 (8.37)^{b}
Anxiety	72.7	< .001	.260	3.33 (4.02)^{a}	8.16 (6.46)^{b}	16.1 (9.09)^{c}	8.48 (7.60)^{b}	5.90 (7.81)^{ab}
Depression	95.9	< .001	.317	7.17 (6.81)^{a}	18.4 (10.2)^{b}	26.0 (10.7)^{c}	15.8 (13.3)^{b}	9.88 (10.2)^{a}
PID-5-BF								
Negative Affect	106.6	< .001	.340	.692 (.513)^{a}	1.29 (.511)^{b}	1.92 (.511)^{c}	1.20 (.737)^{b}	.912 (.698)^{a}
Detachment	62.4	< .001	.232	.817 (.645)^{a}	1.58 (.739)^{bc}	1.77 (.739)^{c}	1.42 (.678)^{b}	.917 (.734)^{a}
Antagonism	38.9	< .001	.158	.395 (.424)^{a}	.678 (.547)^{b}	1.15 (.640)^{c}	.640 (.658)^{b}	.592 (.573)^{ab}
Disinhibition	100.9	< .001	.328	.337 (.368)^{a}	.764 (.539)^{bc}	1.60 (.677)^{d}	.952 (.753)^{c}	.657 (.660)^{b}
Psychoticism	100.3	< .001	.326	.618 (.518)^{a}	1.24 (.543)^{b}	1.85 (.576)^{c}	.808 (.701)^{a}	.840 (.721)^{a}
SELSA-S								
Romantic	39.4	< .001	.160	20.5 (10.6)^{a}	27.0 (8.07)^{b}	25.5 (8.39)^{b}	24.4 (9.53)^{b}	17.5 (9.36)^{a}
Family	59.0	< .001	.222	10.7 (6.12)^{a}	17.9 (7.24)^{b}	21.6 (7.54)^{c}	17.1 (8.10)^{b}	13.2 (7.37)^{a}
Social	43.8	< .001	.175	12.4 (6.37)^{a}	20.3 (7.67)^{b}	21.4 (7.37)^{b}	19.1 (8.72)^{b}	15.4 (7.81)^{a}
Brief COPE – MAP								
Adaptive	14.9	<.001	.049	29.6 (8.90)^{a}	31.3 (8.56)^{a}	34.8 (8.27)^{b}	-	-
Maladaptive	93.5	<.001	.243	16.9 (4.25)^{a}	20.9 (5.72)^{b}	25.7 (6.79)^{c}	-	-

Note. Groups that share superscripts are not significantly different from one another using Tukey's HSD Test for post-hoc analysis ($p < .05$).

Table 16

*Cluster profiles: Comparison of clusters on demographic and individual characteristics (*n = *808).*

Variables	Statistic			Cluster 1 "Low" *n* = 165	Cluster 2 "Moderate" *n* = 270	Cluster 3 "High" *n* = 149	Other Paraphilia *n* = 224
Demographic Characteristics	χ^2	*p*	Cramer's *V*	% (*n*)	% (*n*)	% (*n*)	% (*n*)
Relationship Status	69.2	< .001	.207				
Single				55.8 (92)	75.6 (204)	67.1 (100)	41.7 (93)
In a Relationship/Married				41.8 (69)	20.0 (54)	28.2 (42)	53.4 (119)
Other				2.4 (4)	4.4 (12)	4.7 (7)	4.2 (34)
Sexual Orientation	31.4	< .001	.139				
Heterosexual				54.5 (90)	47.0 (127)	39.6 (59)	66.1 (148)
Homosexual				10.9 (18)	9.6 (26)	12.1 (18)	8.0 (18)
Other				34.5 (57)	43.3 (117)	48.3 (72)	25.9 (58)
Race/Ethnicity	5.104	.164	.080				
Caucasian				82.9 (136)	81.0 (217)	75.2 (112)	75.4 (169)
Other				17.1 (28)	19.0 (51)	24.8 (37)	24.6 (55)
Country of Residence	97.5	< .001	.248				
Canada				9.8 (16)	9.8 (26)	2.1 (3)	11.2 (25)
United States				49.4 (81)	47.5 (126)	62.2 (89)	82.1 (183)
Other				40.9 (67)	42.6 (113)	35.7 (51)	6.7 (15)
Primary Language	48.4	< .001	.246				
English				70.9 (117)	70.4 (188)	77.7 (115)	94.2 (210)
Other				29.1 (48)	29.6 (79)	22.3 (33)	5.8 (13)
Education Status	23.6	< .001	.171				
High School/GED or Less				10.9 (18)	23.0 (62)	28.2 (42)	12.9 (29)
More than High School				89.1 (147)	77.0 (207)	71.8 (107)	87.1 (195)
Employment Status	57.9	< .001	.155				
Student				18.8 (31)	20.0 (54)	21.5 (32)	11.2 (25)
Employed				67.3 (111)	55.2 (149)	43.6 (65)	76.3 (171)
Unemployed				11.5 (19)	21.9 (59)	32.2 (48)	9.4 (21)
Other				2.4 (4)	3.0 (8)	2.7 (4)	3.1 (7)
Access Activities and/or Parent	32.3	< .001	.200	7.3 (12)	5.2 (14)	12.1 (18)	20.5 (46)

Table 16 continued.

Variables	Statistic			Cluster 1 "Low" *n* = 165	Cluster 2 "Moderate" *n* = 270	Cluster 3 "High" *n* = 149	Other Paraphilia *n* = 224
Demographic Characteristics	χ^2	***p***	**Cramer's *V***	**% (*n*)**	**% (*n*)**	**% (*n*)**	**% (*n*)**
Substance Use							
Alcohol	1.64	.651	.046				
No Use				32.5 (53)	37.7 (100)	36.4 (51)	33.5 (74)
Any Use				67.5 (110)	62.3 (165)	63.6 (89)	66.5 (147)
Opioids	4.95	.176	.080				
No Use				96.9 (154)	98.0 (250)	94.2 (130)	95.0 (210)
Any Use				3.1 (5)	2.0 (5)	5.8 (8)	5.0 (11)
Sedatives/Tranquilizers	7.51	.057	.099				
No Use				96.8 (152)	97.7 (250)	92.1 (129)	95.9 (211)
Any Use				3.2 (5)	2.3 (6)	7.9 (11)	4.1 (9)
Stimulants	3.58	.310	.068				
No Use				96.9 (154)	95.0 (245)	92.2 (130)	95.5 (211)
Any Use				3.1 (5)	5.0 (13)	7.8 (11)	4.5 (10)
Hallucinogens	7.92	.048	.101				
No Use				96.9 (154)	96.0 (243)	90.6 (125)	92.7 (204)
Any Use				3.1 (5)	4.0 (10)	9.4 (13)	7.3 (16)
Cannabis	24.2	< .001	.176				
No Use				73.0 (116)	80.5 (210)	69.2 (99)	60.3 (132)
Any Use				27.0 (43)	19.5 (51)	30.8 (44)	39.7 (87)
Any Criminal History	6.22	.101	.088	3.0 (5)	5.6 (15)	5.4 (8)	8.9 (20)
Age First Masturbation	81.5	< .001	.227				
< 13 years old				82.4 (131)	79.6 (211)	80.7 (117)	52.5 (116)
13-19 years old				17.6 (28)	20.0 (53)	16.6 (24)	47.5 (105)
20+ years old				0.0 (0)	.40 (1)	2.8 (4)	0.0 (0)
Age First Pornography	51.6	< .001	.180				
< 13 years old				73.5 (119)	76.5 (202)	78.8 (115)	55.2 (122)
13-19 years old				25.9 (42)	22.7 (60)	17.1 (25)	44.3 (98)
20+ years old				.60 (1)	.80 (2)	4.1 (6)	.50 (1)

Table 16 continued.

Variables	Statistic			Cluster 1 "Low" *n* = 165	Cluster 2 "Moderate" *n* = 270	Cluster 3 "High" *n* = 149	Other Paraphilia *n* = 224
Demographic Characteristics	χ^2	*p*	Cramer's *V*	% (*n*)	% (*n*)	% (*n*)	% (*n*)
Age First Sexual Contact	95.9	< .001	.200				
None				18.4 (30)	28.3 (75)	15.0 (22)	5.4 (12)
< 13 years old				23.9 (39)	29.8 (79)	33.3 (49)	13.1 (29)
13-19 years old				46.0 (75)	34.0 (90)	43.5 (64)	72.1 (160)
20+ years old				11.7 (19)	7.9 (21)	8.2 (12)	9.5 (21)
Age First Consensual Intercourse	117.7	< .001	.222				
None/Never				29.4 (48)	43.0 (113)	25.2 (37)	5.9 (13)
< 13 years old				8.6 (14)	6.5 (17)	8.8 (13)	3.2 (7)
13-19 years old				42.3 (69)	34.2 (90)	44.9 (66)	76.0 (168)
20+ years old				19.6 (32)	16.3 (43)	21.1 (31)	14.9 (33)
Lifetime Sexual Partners	125.9	< .001	.230				
0/None				27.2 (44)	41.1 (108)	24.8 (36)	5.4 (12)
1-5				46.2 (69)	41.8 (110)	49.0 (71)	39.8 (88)
6-10				11.1 (18)	11.0 (29)	13.8 (20)	22.2 (49)
10+				19.1 (31)	6.1 (16)	12.4 (18)	32.6 (72)
Exclusivity of Minor Attraction	808.9	< .001	.707				
No Minor Attraction				0.0 (0)	0.0 (0)	0.0 (0)	100 (224)
Exclusive Minor Attraction				4.8 (8)	3.3 (9)	4.0 (6)	0.0 (0)
Non-Exclusive Minor Attraction				95.2 (157)	96.7 (261)	96.0 (149)	0.0 (0)
	F	***p***	η^2_p	***M (SD)***	***M (SD)***	***M (SD)***	***M (SD)***
Age	24.9	< .001	.124	31.3 (9.67)^{ab}	28.0 (8.79)^{a}	28.4 (8.26)^{a}	35.3 (11.8)^{b}
Total Criminal History	63.8	< .001	.236	.042 (.230)^{a}	.067 (.304)^{a}	.101 (.415)^{a}	.134 (.492)^{a}

Note. Groups that share superscripts are not significantly different from one another using Tukey's HSD Test for post-hoc analysis (p < .05).

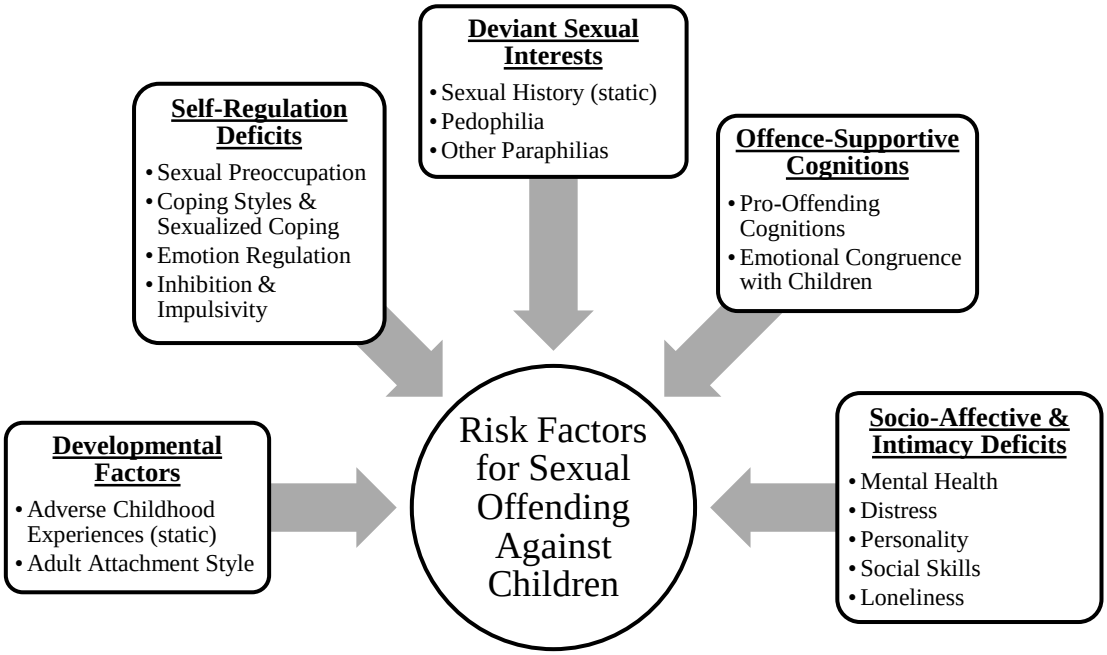
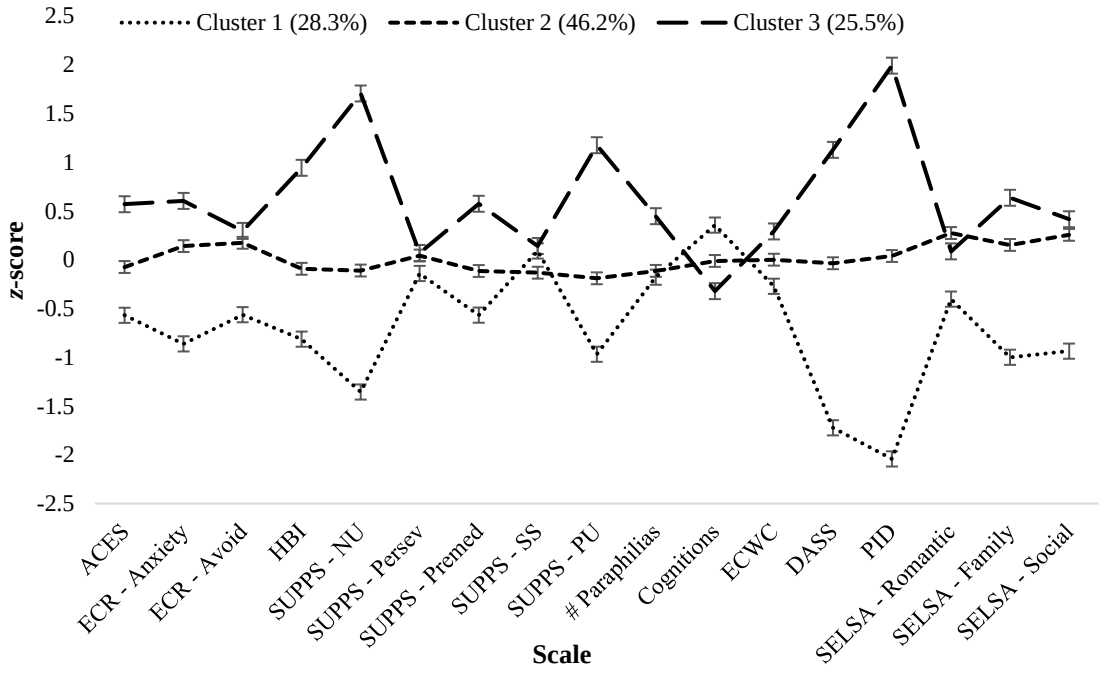


Figure 1. Conceptualizing risk factors within domains of developmental factors, self-regulation deficits, deviant sexual interests, offence-supportive cognitions, and socio-affective and intimacy deficits.



ACES = Adverse Childhood Experiences Scale – Revised; ECR = Experiences in Close Relationships Scale – Short; Anxiety = Attachment Anxiety; Avoid = Attachment Avoidance; HBI = Hypersexual Behaviour Inventory; SUPPS = Short UPPS-P Impulsive Behaviour Scale; NU = Negative Urgency; Persev = Lack of Perseverance; Premed = Lack of Premeditation; SS = Sensation Seeking; PU = Positive Urgency; Procriminal Cognitions = Abel and Becker Cognition Scale + Children and Sexual Activities Inventory; ECWC = Emotional Congruence with Children Scale; DASS = Depression Anxiety Stress Scale – 21; PID = Personality Inventory for the DSM-5 – Brief Form; SELSA = Social and Emotional Loneliness Scale for Adults; Romantic = Romantic Loneliness; Family = Family Loneliness; Social = Social Loneliness.

Figure 2. Standardized mean scores depicting latent profiles of MAP participants with no historical charges for sexual offences against minors based on developmental factors, self-regulation deficits, deviant sexual interests, offence-supportive cognitions, and socio-affective factors.

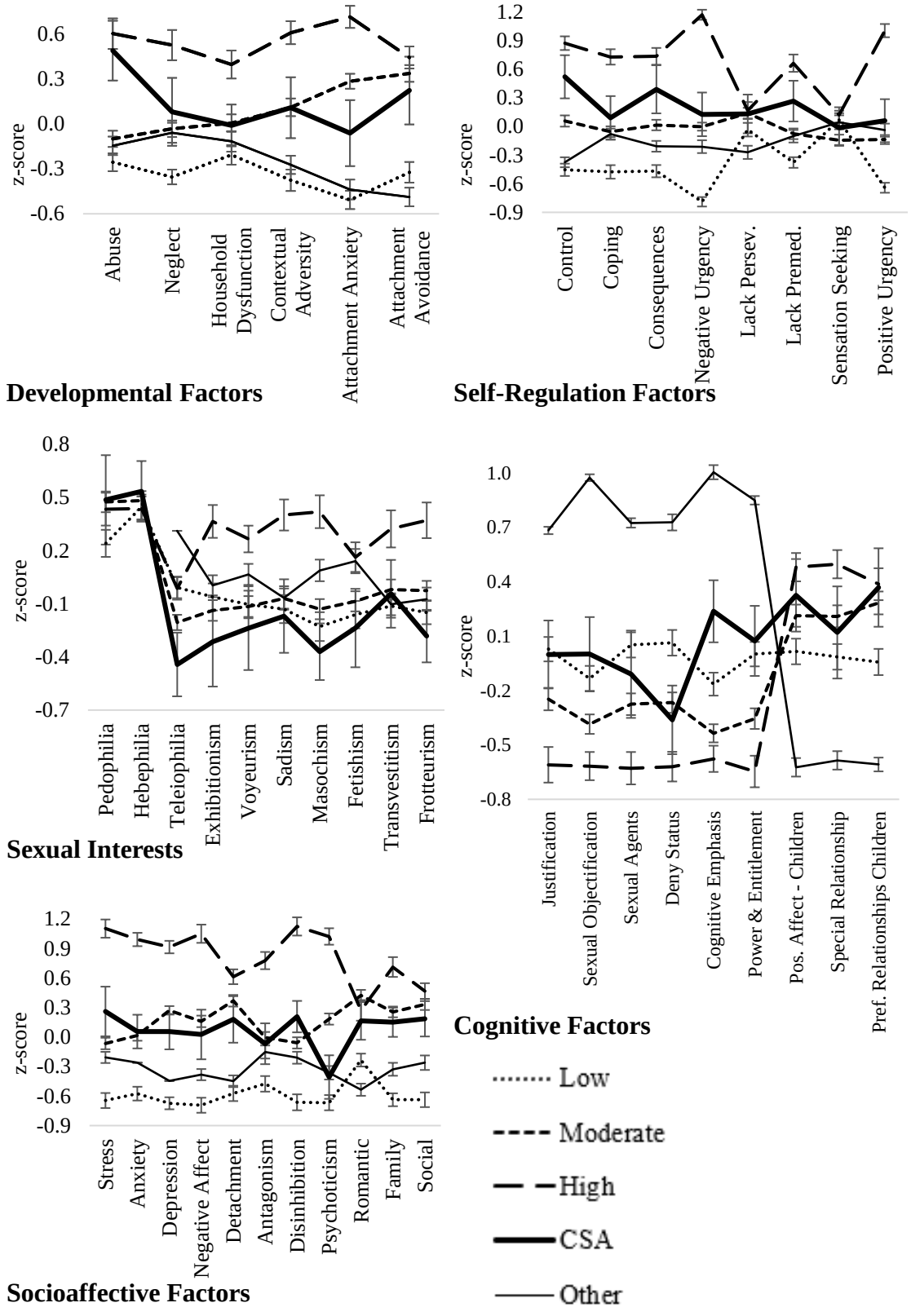


Figure 3. Comparison of mean standard scores for groups across developmental and biopsychosocial-sexual domains.

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APPENDIX A
Letter to Agencies/Organizations

Good day,

My name is Hannah Stewart and I am a PhD Student in Clinical Psychology at the University of New Brunswick and the Centre for Criminal Justice Studies. I am currently developing an online study examining patterns among different characteristics and behaviours of men with non-traditional sexual interests. Along with individuals with non-traditional sexual interests in general, I am particularly interested in recruiting adult men (18+ years) who self-report experiencing sexual attraction, arousal, or fantasies toward young persons and children. This study has been approved by the University of New Brunswick's Research Ethics Board.

I would like to ask you whether you might be interested in sharing this study with some of your [clients/community members/forums/readers].

What is this study about?

Research and clinical evidence show that there is a difference between experiencing sexual arousal and actually engaging in different sexual behaviours. Thus, it is important to begin investigating the experiences and characteristics of people in the community who endorse non-traditional sexual interests. In particular, this research wants to examine whether there are patterns among different characteristics and behaviours of men in the community who experience sexual attractions to young persons. By seeing how individuals might be similar or different from one another, we can better understand how people manage their non-traditional sexual interests. This potentially could help decrease social stigma and improve mental health services for people struggling with their sexual interests. By differentiating between sexual interests and sexual behaviours, this research also might help identify potential needs for intervention to reduce individual distress, or lower vulnerability to engage in illegal sexual activities.

What exactly is this survey?

The survey consists of questionnaires that measure peoples' unique experiences, as well as ways that people think, act, feel, and interact with other people. These characteristics were selected based on existing research examining people who have engaged in sexual activities with children. However, since most research has looked at people who are involved with the criminal justice system, we do not know whether the same characteristics apply to people with non-traditional sexual interests in the community. The survey also provides participants with the opportunity to share their perspectives on any issues that may not have been directly addressed when taking the survey.

How will this survey be administered?

A brief recruitment advertisement will be shared through various clinics, online media, websites, and organization relevant to sexual attraction toward young persons and other

non-traditional sexual interests. After reading the recruitment advertisement, interested participants can choose to follow a research link which will take them directly to the informed consent page on SoSci Survey (survey software), where the study is described in greater detail. Eligible participants can access the survey from any computer with internet access; the full survey will take approximately 30 minutes. Once the survey is completed, participants will be offered the opportunity to follow a link to a separate page to enter their email address for a draw to win one of ten $50 gift cards. Participants' email addresses will not be connected to survey responses in any way and will not be used for any purpose aside from notifying the winner.

The contents of this study are not connected in any way to online media pages or clinics where the recruitment advertisement is shared and no personal information will be collected from online media pages or clinics in any way.

Participants are encouraged to share the survey link with other individuals or groups who they think may be eligible to participate.

How will participants' confidentiality be protected?

This study is anonymous and confidential. Every participant will be assigned a randomly generated identification number by the computer, so it is not possible for any personal information to be identified when taking the survey. All responses from each participant will be examined together to identify patterns amongst all participants.

Participants are asked to refrain from including any identifying information or specific details about any historical or current illegal activities in their responses. To further protect confidentiality, participants will not be asked about whether or not they have engaged in specific sexual activities.

Because of the anonymity, we are not able to provide participants with any information about personal results. However, a summary of the overall study's findings can be provided to your [clinics/agency/organization/forum] once the study is completed, if you so desire.

Each subject can withdraw consent at any time and stop the session. However, since the survey is anonymous and confidential, individual information cannot be retrieved or separated from other participant responses once the survey is completed.

What is your role in this research?

Your role involves being an initial point of contact. This involves choosing whether or not you wish to share this research opportunity with your [clients/community members/forums/readers], or any other individuals, organization, clinic, community, or agency you think might be interested in this research. I have attached a copy of the informed consent form that interested participants would access, which describes the purpose, content, potential risks and benefits of the study in further detail.

How can you contribute to this research?

If you choose to share this research with your [clients/community members/forums/readers], you can help by posting or sharing (or, allowing the researchers to post or share) the recruitment advertisement somewhere at your [clinics/agency/organization/forum], whether through online, paper, or word-of-mouth formats. You also may contribute by sharing the survey link with any other individuals, groups, organizations, blogs, or professionals related to participants who might be eligible to participate. Although we are seeking people with paraphilic sexual interests in general, we are particularly interested in recruiting people with sexual attraction, arousal, or interests toward young people.

Please do not hesitate to contact me with any questions or comments. Alternatively, you may contact my supervisor, Dr. Mary Ann Campbell (Professor, Department of Psychology, University of New Brunswick; Director of Centre of Criminal Justice Studies; mcampbel@unb.ca).

If you are not satisfied at any time during or after the research project, or receive complaints from the participants, you can contact me or my supervisors.

Thank you for your time,
Hannah Stewart
PhD Student in Clinical Psychology
Department of Psychology
University of New Brunswick
hannah.stewart@unb.ca

APPENDIX B
Recruitment Posting

Researchers from the University of New Brunswick need your help! We are looking for adult males (18+ years) who experience sexual attraction or sexual arousal to objects, situations, fantasies, behaviours, or individuals that might be considered "non-traditional," "different," "atypical," or "unusual." This study will explore patterns among characteristics and behaviours related to the management of different sexual interests. The survey is anonymous and confidential. The survey will take approximately 30 minutes to complete. You can enter a draw to win one of ten $50 gift cards. To find out more, please click on the link below.

<LINK TO SOSCI SURVEY WEBSITE>

APPENDIX C
Informed Consent

This online survey is recruiting adult men (18+ years) to participate in a study exploring various characteristics and behaviours of men who have sexual desires, or are "turned on," by things that are considered less common or non-traditional. You will be asked to answer questions about your background history, sexual interests, personality, behaviours, social supports, and how you view yourself and others in your life.

Your participation in this study is important for understanding different similarities and differences among people who experience non-traditional sexual interests. Specifically, this research wants to explore what variations in psychological profiles might look like. This research may be an initial step toward informing targets for services or interventions for community members who experience stigmatization, distress, or who struggle with managing their non-traditional sexual interests. During the survey, you have the chance to express your perspective and to contribute to the advancement of scientific and social understanding of paraphilic sexual interests. Results of this study may help with the development of better strategies for improving peoples' sense of well-being, reducing stigma and distress, and generating effective ways to help people who struggle with their non-traditional sexual interests.

This online survey takes approximately 30 minutes to complete. All of your answers are confidential and anonymous; there will be no way to identify who answered which survey because you will not be asked to provide any personal information. Please refrain from including any identifying information or specific details about any historical or current illegal activities in your responses. To further protect your confidentiality, you will not be asked about whether or not you have engaged in specific sexual behaviours. To maximize participant anonymity, the platform that hosts the survey, SoSci Survey, does not use cookies and does not record IP address. You can skip any questions that you do not wish to answer. Survey results will be securely stored in a password protected database that will only be accessed by the researchers. Findings from this study will be shared through conference presentations and publications (where data is only described in summary form across multiple survey participants, but you will remain anonymous in any publications/presentations of the research findings).

Completion of this survey is completely voluntary. If you wish to end your survey session, you can simply exit the browser without submitting your answers and your responses will be deleted. The survey is considered complete once you finish all of the questionnaires and move on to the debriefing. Once you click on the "submit" button, you cannot withdraw or delete your answers because this is a confidential online survey (we won't know which data is yours).

There are few risks associated with participating in this confidential survey. Some of the questions on the survey are of a personal nature and may cause you to feel discomfort. If

you experience distress as a result of completing the survey, you also may contact the Mental Health Helpline (1-800-273-8255), the 24-hour crisis hotline (1-800-273-8255), or visit http://www.mentalhealthhelpline.ca (CANADA) or http://www.mentalhealthamerica.net (USA).

****For participants recruited broadly via online mediums****As a way of thanking you for your time and effort, you can enter a draw for a chance to win one of ten $50 gift cards if you so choose. A summary of the findings will be available to those who would like to receive them. If you wish to participate in the draw, any personal information you provide will be collected through an external link which is not connected to the survey.

****For participants recruited via MTurk****As a way of thanking you for your time and effort, you will receive payment of $3.00. A summary of the findings will be available to those who would like to receive them. If you wish to participate in the draw, any personal information you provide will be collected through an external link which is not connected to the survey.

This study has been approved by the Research Ethics Board, University of New Brunswick (REB ###-###). If you have any further questions or concerns, please feel free to contact the primary investigator, Hannah Stewart (hannah.stewart@unb.ca), or Dr. Mary Ann Campbell (mcampbel@unb.ca). To discuss this study with someone unrelated to this project, you may contact Dr. Beth Keys (REB@unb.ca), director of the Research and Ethics Board at the University of New Brunswick.

Thank you for your help!

We encourage you to share this survey with any other forums or individuals who might similarly experience sexual interests toward non-traditional, unusual, or atypical objects, situations, fantasies, behaviours, or individuals.

Please select your age range:

- **13-17****
- **18+**

Select the option that you identify with:

- **Male**
- **Female****
- **Transgender, gender-fluid, non-binary, and/or Two-Spirit ****
- **I prefer not to answer ****
- **Prefer to self-describe **: _____**

Are you sexually interested in or aroused by something that might be considered "non-traditional," "unusual," "atypical," or "different" from most people in society?

- **Yes**
- **No****

Can you read and understand information written in English?

- **Yes**
- **No****

Have you completed this same survey before?

- **Yes****
- **No**

I have read and understood the above information and consent to participating in the survey.

- **I <u>agree</u> to participate.**
- **I do not agree to participate****

If selected a variable marked **, the following will appear:

> Thank you for your interest, but you are not eligible to participate.
>
> We encourage you to share this survey with any other forums or individuals who may be eligible to participate.

APPENDIX D
Debriefing Form

Thank you for participating in this study! Your time and efforts are greatly appreciated.

By definition, a sexual "paraphilia" involves intense, recurring sexual arousal, sexual urges, or sexual preferences toward non-traditional, "atypical," or "unusual" activities or targets. However, research suggests that the experience of sexual fantasies and behaviours that related to non-traditional activities or targets may not be as uncommon in the general population as the definition implies. Although many people appear to experience some degree of sexual arousal to some form of non-traditional content, these sexual preferences may become paraphilic disorders when the sexual interests cause distress, impairment, or harm to oneself or others. Some paraphilic sexual interests, such as sexual attractions to young people or inflicting pain upon other, also may increase one's potential risk of pursuing non-consensual or illegal sexual actions. At the same time, it appears that many people manage their paraphilic interests in ways that do not cause harm toward themselves or others. Ultimately, sexual behaviours are the result of active, voluntary, and conscious decisions. Thus, studying people in the community with paraphilic sexual interests is important for clarifying distinctions between sexual interests and sexual behaviours. It also is important for developing effective interventions to reduce the risk of harm to oneself and/or to other people, as well as support mental health resources for people who experience distress.

In this regard, an emerging body of research has begun to examine similarities and differences between people who have been incarcerated for sexual offences and people with non-traditional sexual interests who have not been involved with the criminal justice system. Among others, these efforts include:

- Identifying features that make people more or less vulnerable to engaging in illegal sexual behaviours
- Recognizing and addressing potential obstacles to help seeking
- Promoting social and professional education on the nature and differentiation of sexual interests versus sexual behaviours to help people understand their sexuality
- Developing evidence-based primary prevention and intervention approaches to help people learn ways to manage sexual interests, cope with distress, reduce stigmatization, and prevent sexual victimization

The current study examines whether there are patterns and variations among different characteristics and behaviours of men in the community who experience non-traditional sexual interests. By seeing how individuals might be similar or different from one another, we can better understand how people manage their sexual interests. This includes identifying potential areas of need that might be targeted through professional services to reduce feelings of distress and risk of engaging in illegal behaviours. Through generating scientific information on differences between sexual interests/attractions and behaviours/actions, this research also may contribute in efforts to decrease social stigma. It also might help provide initial steps for developing more

effective ways to provide help or increase wellness amongst people who experience non-traditional paraphilic sexual interests *without* encountering the criminal justice system.

The present study has been approved by the Research Ethics Board, University of New Brunswick (REB ###-###). If you have any further questions or concerns, please feel free to contact the primary investigator, Hannah Stewart (hannah.stewart@unb.ca), or Dr. Mary Ann Campbell (mcampbel@unb.ca). To discuss this study with someone unrelated to this project, you may contact Dr. Beth Keys (REB@unb.ca), Chair of the Research and Ethics Board at the University of New Brunswick.

Should you experience distress as a result of completing the survey, may contact the Mental Health Helpline (1-800-273-8255), the 24-hour crisis hotline (1-800-273-8255), or visit http://www.mentalhealthhelpline.ca (CANADA) or http://www.mentalhealthamerica.net (USA) or https://www.b4uact.org/ (B4U-ACT).

When this research is completed, a summary of study results will be posted on Research tab of the Centre of Criminal Justice Studies Website: https://www.unb.ca/saintjohn/ccjs/research.html

We encourage you to share this survey with any other forums or individuals who might similarly experience sexual interests toward non-traditional, unusual, or atypical objects, situations, fantasies, behaviours, or individuals.

<<Insert link to enter email for raffle **for non-MTurk participants**; separate page from survey>>

APPENDIX E
Raffle & Additional Information

****NEW PAGE SEPARATE FROM SURVEY DATA****

****For participants recruited broadly via online mediums****

1. If you would like to be entered in the draw for a change to win one of ten $50 gift cards, please type your email address here. _____

The winner will be contacted once data collection is completed. Your email address is not connected to your survey responses in any way. We will not use your email for any other purpose aside from notifying the winner.

APPENDIX F
Demographic Questionnaire

Age (in years): _____

Relationship Status:

☐ Single, never married
☐ In a Relationship, not living together
☐ In a Relationship, living together
☐ Married or Common-Law
☐ Widowed
☐ Separated/Divorced
☐ Other (please specify) _____

Which of the following BEST describes your sexual orientation?

☐ Gay
☐ Lesbian
☐ Bisexual
☐ Heterosexual
☐ Asexual
☐ Questioning
☐ Other (specify) _____
☐ Don't know
☐ No labels preferred

Which best describes your race/ethnicity?
☐ Aboriginal (e.g., Indigenous, First Nations People, Métis, Inuit, etc.)
☐ Black (e.g., African Canadian/American)
☐ Caucasian/White
☐Latin American/Hispanic
☐ East Asian (e.g., Chinese, Japanese, Korean)
☐ South Asian (e.g. East Indian, Pakistani, Sri Lankan)
☐ Southeast Asian (e.g. Vietnamese, Cambodian, Malaysian, Laotian)
☐ West Asian (e.g. Iranian, Afghan, Mid-Eastern)
☐ Native Hawaiian or Pacific Islander
☐ Multi-racial
☐ Other (please specify) _____

Country of Residence:
☐ Canada
☐ United States

☐ Other (please specify) _____

What is your primary language?
☐ English
☐ French
☐ Other (please specify) _____

Highest Level of Education:
☐ Elementary School (highest grade): _____
☐ Some Middle School/Junior High or High School (highest grade): _____
☐ High School or GED Completed
☐ Some Trade/Technical/Vocational School/Community College
☐ Trade/Technical/Vocational School/Community College Completed
☐ Some University
☐ University Completed
☐ Post-Graduate (MA, PhD) Completed
☐ Other (please specify): _____

Which of the following best describes your employment status:
☐ Full-time Student (even if you work)
☐ Employed Full-Time
☐ Employed Part-Time
☐ Seasonal Employment
☐ Not employed, but looking for work
☐ Not employed, and not looking for work
☐ Retired
☐ Other: _____

Does your employment involve work with or access to children under the age of 18 years old?
☐ Yes *
    * ***If yes, what age(s) of children? (Please check all that apply)***
    ☐ Ages 0 – 3 years
    ☐ Ages 4 – 7 years
    ☐ Ages 8 – 11 years
    ☐ Ages 12 – 14 years
    ☐ Ages 15 – 17 years
☐ No

Are you involved in any non-employment activities or organizations (e.g., volunteering, coaching, scouting groups, youth sports/recreation) involving work with or access to children under the age of 18 years old?

☐ Yes *

* ***If yes, what age(s) of children? (Please check all that apply)***

☐ Ages 0 – 3 years

☐ Ages 4 – 7 years

☐ Ages 8 – 11 years

☐ Ages 12 – 14 years

☐ Ages 15 – 17 years

☐ No

Are you a parent or guardian to any children under the age of 18 years old?

☐ No

☐ Yes *

* ***If yes, what age(s) of children? (Please check all that apply)***

☐ Ages 0 – 3 years

☐ Ages 4 – 7 years

☐ Ages 8 – 11 years

☐ Ages 12 – 14 years

☐ Ages 15 – 17 years

If yes, do you currently have contact with these children?

☐ Yes

☐ No

Which statement best describes your living situation?

☐ I live by myself

☐ I live with roommates (non-relatives)

☐ I live with extended family members (e.g. parents, siblings, cousins, grandparents)

☐ I live with my immediate family members (e.g. intimate partner/spouse, my children)

☐ Other (please specify) _____

Have you ever been charged with a criminal offence, even if you received a pardon post-conviction?

☐ Yes

☐ No

If yes, please select the type(s) of offences for which you have been charged.

☐ Assault (e.g., uttering threats, common assault, aggravated, or causing bodily harm)

☐ Breach of probation/parole or court order (e.g., failure to comply, breach of condition)
☐ Break and Enter (e.g., with and/or without intent)
☐ Drug possession
☐ Drug trafficking (selling) or Cultivating
☐ Theft (includes shoplifting)
☐ Fraud or Forgery
☐ Mischief, Vandalism, or Destruction of Property
☐ Robbery (with and/or without intent)
☐ Weapons offence (e.g., possession of a weapon, dangerous use of a weapon)
☐ Murder/Manslaughter
☐ Prostitution/Soliciting
☐ Sexual Offence*

**** If yes, did this charge involve a sexual offence against a child (under 16 years old)?***

☐ Yes
☐ No

☐ Other (please specify): _____

Are you currently completing a period of supervision under the criminal justice system? (e.g., probation, parole, house arrest, intermittent sentence)

☐ Yes
☐ No

Prior to the age of 13 years, did you have a head injury that resulted in you being unconsciousness during childhood (i.e., "blacking out")?

☐ Yes
☐ No

Please indicate how frequently you have used the following substances *in the past 30 days* (<u>not</u> including drugs taken as prescribed by your doctor):

1	2	3	4	5	6
never use	less than once a month	one or two times a month	once or twice a week	nearly every day	once a day or more

		IV use? **(tick the box if you ever used the substance via IV)**
Alcohol	1 2 3 4 5 6	
Opioids (e.g., Heroin, morphine, dilaudid, Demerol, Percocet, Vicodin, Hydro, Fentanyl)	1 2 3 4 5 6	☐
Sedatives/Tranquilizers (e.g., Benzos, Valium, Xanax, Ativan)	1 2 3 4 5 6	☐
Stimulants (e.g., Cocaine, crack cocaine, meth, Dexedrine, Ritalin, speed, ice)	1 2 3 4 5 6	
Hallucinogens (e.g., LSD, mescaline, mushrooms, ecstasy, MDMA, PCP)	1 2 3 4 5 6	
Cannabis (e.g., Marijuana, hashish)	1 2 3 4 5 6	

Some people are involved with special groups, communities, organizations, clubs, forums, or chatrooms related to their sexual interests, whether in-person or online. If this applies to you, please indicate the name(s) of those which you are involved with.

_____

_____
_____
_____

Where did you hear about this study? _____

APPENDIX G
Adverse Childhood Experiences – Revised

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often or very often**…
   Swear at you, insult you, put you down, or humiliate you?
   or
   Act in a way that made you afraid that you might be physically hurt?
   Yes No

2. Did a parent or other adult in the household **often or very often**…
   Push, grab, slap, or throw something at you?
   or
   Ever hit you so hard that you had marks or were injured?
   Yes No

3. Did an adult or person at least 5 years older than you **ever**…
   Touch or fondle you or have you touch their body in a sexual way?
   or
   Attempt or actually have oral, anal, or vaginal intercourse with you?
   Yes No

4. Did you **often or very often** feel that…
   No one in your family loved you or thought you were important or special?
   or
   Your family didn't look out for each other, feel close to each other, or support each other?
   Yes No

5. Did you **often or very often** feel that…
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   or
   Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
   Yes No

6. Was a biological parent **ever** lost to you through divorce, abandonment, or other reason?
   Yes No

7. Was your mother or stepmother:
   Often or very often pushed, grabbed, slapped, or had something thrown at her?
   or
   Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?

or

Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

Yes No

8. Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?

Yes No

9. Was a household member depressed or mentally ill, or did a household member attempt suicide?

Yes No

10. Did a household member go to prison?

Yes No

11. Did other kids, including brothers or sisters, **often or very often** hit you, threaten you, pick on you or insult you?

Yes No

12. Did you **often or very often** feel lonely, rejected or that nobody liked you?

Yes No

13. Did you live for 2 or more years in a neighborhood that was dangerous, or where you saw people being assaulted?

Yes No

14. Was there a period of 2 or more years when your family was very poor or on public assistance?

Yes No

APPENDIX H
Experiences in Close Relationship Scale-Short Form

Instruction: The following statements concern how you feel in **emotionally intimate relationships**. We are interested in how you generally experience relationships, including what happens in both previous and current relationship experiences. Respond to each statement by indicating how much you agree or disagree with it. Mark your answer using the following rating scale:

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. It helps to turn to my intimate partner in times of need. _____
2. I need a lot of reassurance that I am loved by my partner. _____
3. I want to get close to my partner, but I keep pulling back. _____
4. I find that my partner doesn't want to get as close as I would like. _____
5. I turn to my partner for many things, including comfort and reassurance. _____
6. My desire to be very close sometimes scares people away. _____
7. I try to avoid getting too close to my partner. _____
8. I do not often worry about being abandoned. _____
9. I usually discuss my problems and concerns with my partner. _____
10. I get frustrated if my intimate partner not available when I need them. _____
11. I am nervous when my partner gets too close to me. _____
12. I worry that my intimate partner won't care about me as much as I care about them. _____

APPENDIX I
Hypersexual Behaviour Inventory – 19

Below are a number of statements that describe various thoughts, feelings, and behaviors. As you answer each question, choose the number on the right that best describes you. Please be sure to answer every question.

For the purpose of this questionnaire, sexual activity is defined as any activity or behavior that stimulates or arouses a person with the intent to produce an orgasm or sexual pleasure (e.g. self-masturbation or solo-sex, using pornography, intercourse with a partner, oral sex, anal sex, etc.…). *Sexual behaviors may or may not involve a partner*.

	Never	Rarely	Sometimes	Often	Very Often
1. I use sex to forget about the worries of daily life.	1	2	3	4	5
2. Even though I promised myself I would not repeat a sexual behavior, I find myself returning to it over and over again.	1	2	3	4	5
3. Doing something sexual helps me feel less lonely.	1	2	3	4	5
4. I engage in sexual activities that I know I will later regret.	1	2	3	4	5
5. I sacrifice things I really want in life in order to be sexual.	1	2	3	4	5
6. I turn to sexual activities when I experience unpleasant feelings (e.g. frustration, sadness, anger).	1	2	3	4	5
7. My attempts to change my sexual behavior fail.	1	2	3	4	5

8. When I feel restless, I turn to sex in order to soothe myself.	1	2	3	4	5
9. My sexual thoughts and fantasies distract me from accomplishing important tasks.	1	2	3	4	5
10. I do things sexually that are against my values and beliefs.	1	2	3	4	5
11. Even though my sexual behavior is irresponsible or reckless, I find it difficult to stop.	1	2	3	4	5
12. I feel like my sexual behavior is taking me in a direction I don't want to go.	1	2	3	4	5
13. Doing something sexual helps me cope with stress.	1	2	3	4	5
14. My sexual behavior controls my life.	1	2	3	4	5
15. My sexual cravings and desires feel stronger than my self-discipline.	1	2	3	4	5
16. Sex provides a way for me to deal with emotional pain I feel.	1	2	3	4	5
17. Sexually, I behave in ways I think are wrong.	1	2	3	4	5

18. I use sex as a way to try and help myself deal with my problems.	1	2	3	4	5
19. My sexual activities interfere with aspects of my life such as work or school.	1	2	3	4	5

APPENDIX J
Short UPPS Impulsive Behaviour Scale

Below are a number of statements that describe ways in which people act and think. For each statement, please indicate how much you agree or disagree with the statement. If you **Agree Strongly** choose **1.** If you **Agree Somewhat** choose **2**. If you **Disagree Somewhat** choose **3**. If you **Disagree Strongly** choose **4**. Be sure to indicate your agreement or disagreement for every statement below.

	Agree Strongly	**Agree Some**	**Disagree Some**	**Disagree Strongly**
1. I generally like to see things through to the end.	**1**	**2**	**3**	**4**
2. My thinking is usually careful and purposeful.	**1**	**2**	**3**	**4**
3. When I am in great mood, I tend to get into situations that could cause me problems.	**1**	**2**	**3**	**4**
4. Unfinished tasks really bother me.	**1**	**2**	**3**	**4**
5. I like to stop and think things over before I do them.	**1**	**2**	**3**	**4**
6. When I feel bad, I will often do things I later regret in order to make myself feel better now.	**1**	**2**	**3**	**4**
7. Once I get going on something I hate to stop.	**1**	**2**	**3**	**4**
8. Sometimes when I feel bad, I can't seem to stop what I am doing even though it is making me feel worse.	**1**	**2**	**3**	**4**
9. I quite enjoy taking risks.	**1**	**2**	**3**	**4**
10. I tend to lose control when I am in a great mood.	**1**	**2**	**3**	**4**
11. I finish what I start.	**1**	**2**	**3**	**4**

12. I tend to value and follow a rational, "sensible" approach to things.	**1**	**2**	**3**	**4**
13. When I am upset I often act without thinking.	**1**	**2**	**3**	**4**
14. I welcome new and exciting experiences and sensations, even if they are a little frightening and unconventional.	**1**	**2**	**3**	**4**
15. When I feel rejected, I will often say things that I later regret.	**1**	**2**	**3**	**4**
16. I would like to learn to fly an airplane.	**1**	**2**	**3**	**4**
17. Others are shocked or worried about the things I do when I am feeling very excited.	**1**	**2**	**3**	**4**
18. I would enjoy the sensation of skiing very fast down a high mountain slope.	**1**	**2**	**3**	**4**
19. I usually think carefully before doing anything.	**1**	**2**	**3**	**4**
20. I tend to act without thinking when I am really excited.	**1**	**2**	**3**	**4**

APPENDIX K
Brief COPE

****Instructions for individuals who self-report pedophilic and/or hebephilic interests on the PIS-E****

These questions ask what you've been doing to cope with having a sexual interest in young persons (that is, persons who are 14 years old or younger, or 0 – 14 years old). Obviously, different people deal with things in different ways, but I am interested in how you've tried to deal with it. Each item says something about a particular way of coping. Don't answer on the basis of whether it seems to be working or not – just whether or not you're doing it. Make your answers as true FOR YOU as you can.

1 = I don't do this at all
2 = I've done this a little bit
3 = I've done this a medium amount
4 = I've done this a lot

When coping with having a sexual interest in young persons (i.e., 0-14 years old), how often do you do the following:

****Instructions for individuals who do not self-report pedophilic and/or hebephilic interests on the PIS-E****

These questions ask what you've been doing to cope with having a sexual interest in non-traditional activities or targets. Obviously, different people deal with things in different ways, but I am interested in how you've tried to deal with it. Each item says something about a particular way of coping. Don't answer on the basis of whether it seems to be working or not – just whether or not you're doing it. Make your answers as true FOR YOU as you can.

1 = I don't do this at all
2 = I've done this a little bit
3 = I've done this a medium amount
4 = I've done this a lot

When coping with having a sexual interest in non-traditional activities or targets, how often do you do the following:

1. I've been turning to work or other activities to take my mind off things._____
2. I've been concentrating my efforts on doing something about the situation I'm in._____
3. I've been saying to myself "this isn't real." _____
4. I've been using alcohol or other drugs to make myself feel better._____
5. I've been getting emotional support from others. _____
6. I've been giving up trying to deal with it. _____
7. I've been taking action to try to make the situation better. _____
8. I've been refusing to believe that it has happened. _____
9. I've been saying things to let my unpleasant feelings escape. _____

10. I've been getting help and advice from other people. _____
11. I've been using alcohol or other drugs to help me get through it. _____
12. I've been trying to see it in a different light, to make it seem more positive. _____
13. I've been criticizing myself. _____
14. I've been trying to come up with a strategy about what to do. _____
15. I've been getting comfort and understanding from someone. _____
16. I've been giving up the attempt to cope. _____
17. I've been looking for something good in what is happening. _____
18. I've been making jokes about it. _____
19. I've been doing something to thin k about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. _____
20. I've been accepting the reality of the fact that it has happened. _____
21. I've been expressing my negative feelings. _____
22. I've been trying to find comfort in my religion or spiritual beliefs. _____
23. I've been trying to get advice or help from other people about what to do. _____
24. I've been learning to live with it. _____
25. I've been thinking hard about what steps to take. _____
26. I've been blaming myself for things that happened. _____
27. I've been praying or meditating. _____
28. I've been making fun of the situation. _____

APPENDIX L
Sexual History Survey

1. How old were you the first time you engaged in masturbation? _____ (in years)

2. How old were you the first time you viewed pornography (i.e., sexual videos, sexual magazines, sexual images)? _____ (in years)

3. How old were you the first time you engaged in <u>any</u> physical sexual contact with another person? _____ (in years)

4. How old were you the first time you had consensual sexual intercourse with another person? _____ (in years)

5. How many sexual partners have you had in your lifetime? _____

APPENDIX M
Paraphilic Interest Scale – Extended

Whether you've engaged in these behaviours or not, how sexually arousing do you find each of the following?

For the purpose of this questionnaire, sexual activity is defined as any activity or behavior that stimulates or arouses a person with the intent to produce an orgasm or sexual pleasure (e.g. self-masturbation or solo-sex, using pornography, intercourse with a partner, oral sex, anal sex, etc.…). *Sexual behaviors may or may not involve a partner*.

	Not Arousing At All	A little Arousing	Somewhat Arousing	Quite Arousing	Extremely Arousing
1. Sexual activity involving an adult woman	1	2	3	4	5
2. Exposing my genitals to an attractive stranger.	1	2	3	4	5
3. Performing sex acts while strangers watched.	1	2	3	4	5
4. Sexual activity involving a girl below the age of 12 years	1	2	3	4	5
5. Sexual activity involving a boy (age 12-14 years)	1	2	3	4	5
6. Some nonhuman	1	2	3	4	5

	objects like shoes, rubber, latex, clothing, strap-ons, etc.					
7.	Wearing women's clothing like panties, lingerie, skirts, dresses, etc.	1	2	3	4	5
8.	Looking through a bedroom window at an unsuspecting couple having sex.	1	2	3	4	5
9.	Sexual activity involving an adult man	1	2	3	4	5
10.	Watching an unsuspecting person getting undressed and taking a shower.	1	2	3	4	5
11.	Touching or rubbing against a stranger.	1	2	3	4	5
12.	Sexual activity involving a girl (age 12-14 years)	1	2	3	4	5

13. Being insulted or humiliated by my sexual partner.	1	2	3	4	5
14. Being physically hurt by my sexual partner.	1	2	3	4	5
15. Insulting or humiliating my sexual partner.	1	2	3	4	5
16. Sexual activity involving a boy below the age of 12 years	1	2	3	4	5
17. Physically hurting my sexual partner.	1	2	3	4	5
18. Other (please specify): _____	1	2	3	4	5
19. Other (please specify): _____	1	2	3	4	5
20. Other (please specify): _____	1	2	3	4	5

APPENDIX N
Abel and Becker Cognition Scale
+
Select items from Children and Sexual Activities Inventory

Please read each statement carefully and then choose the number that indicates the degree to which you agree with each statement using the following scale.

For the purpose of this questionnaire, "children" or "child" means persons aged 14 years and younger (that is, 0 – 14 years old). Please remember that your answers are confidential.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. If a young child stares at my genitals it means the child likes what she or he sees and is enjoying watching my genitals.	1	2	3	4	5
2. A man is justified in having sex with his children or step-children, if his wife or husband doesn't like sex.	1	2	3	4	5
3. A child aged 13 or younger can make his or her own decisions as to whether he or she wants to have sex with an adult or not.	1	2	3	4	5
4. A child, who doesn't physically resist an adult's sexual advances, really wants to have sex with the adult.	1	2	3	4	5
5. If a 13 year old (or younger) child flirts with an adult, it means he or she wants to have sex with the adult.	1	2	3	4	5
6. Sex between a 13 year old (or younger child) and an adult causes the child no emotional problems.	1	2	3	4	5
7. Having sex with a child is a good way for an	1	2	3	4	5

	adult to teach the child about sex.					
8.	If I tell my young child (or step child, or close relative) what to do sexually and they do it, that means they will always do it because they really want to.	1	2	3	4	5
9.	When a young child has sex with an adult, it helps the child learn how to relate to adults in the future.	1	2	3	4	5
10.	Most children 13 (or younger) would enjoy having sex with an adult, and it wouldn't harm the child in the future.	1	2	3	4	5
11.	Children don't tell others about having sex with a parent (or other adult) because they really like it and want to continue.	1	2	3	4	5
12.	Sometimes in the future, our society will realize sex between a child and an adult is all right.	1	2	3	4	5
13.	An adult can tell if having sex with a young child will emotionally damage the child in the future.	1	2	3	4	5
14.	An adult just feeling a child's body all over without touching his or her genitalia is not really being sexual with a child.	1	2	3	4	5
15.	I show my love and affection to a child by having sex with him or her.	1	2	3	4	5
16.	It's better to have sex with your child (or someone else's child) than to have an affair.	1	2	3	4	5

17. An adult fondling a young child or having the child fondle the adult will not cause the child any harm.	1	2	3	4	5
18. A child will never have sex with an adult unless the child really wants to.	1	2	3	4	5
19. My daughter or son or other young child knows that I will still love him or her even if he or she refuses to be sexual with me.	1	2	3	4	5
20. When a young child asks an adult about sex, it means he or she wants to see the adult's sex organs or have sex with the adult.	1	2	3	4	5
21. If an adult has sex with a young child it prevents the child from having sexual hang-ups in the future.	1	2	3	4	5
22. When a young child walks in front of me with no, or only a few, clothes on, he or she is trying to arouse me.	1	2	3	4	5
23. My relationship with my daughter or son or other child is strengthened by the fact that we have sex together.	1	2	3	4	5
24. If a child has sex with an adult, the child will look back at the experience as an adult and see it as a positive experience.	1	2	3	4	5
25. The only way I could do harm to a child when having sex with him or her would be to use physical force to get him or her to have sex with me.	1	2	3	4	5

26. When children watch an adult masturbate, it helps the child learn about sex.	1	2	3	4	5
27. An adult can know just how much sex between him and a child will hurt the child later on.	1	2	3	4	5
28. If a person is attracted to sex with children, he should solve that problem themselves and not talk to professionals.	1	2	3	4	5
29. There is no effective treatment for child molestation.	1	2	3	4	5
30. Because men have high sexual needs it is not always possible to control sexual urges.	1	2	3	4	5
31. Some people who have sex offences involving children are not true ‘‘sex offenders’’ - they are just out of control and make a mistake	1	2	3	4	5
32. Having sexual thoughts and fantasies about a child isn’t all that bad because at least it is not really hurting the child.	1	2	3	4	5
33. Just looking at a naked child is not as bad as touching and will probably not affect the child as much.	1	2	3	4	5
34. Children who get molested by more than one adult probably are doing something to attract adults to them.	1	2	3	4	5
35. For many men their sex offences involving	1	2	3	4	5

children were the result of stress and the offending behaviour helped to relieve that stress.					
36. Sometimes the offender suffers, loses, or is hurt the most.	1	2	3	4	5
37. I feel more comfortable with children than adults.	1	2	3	4	5
38. Children are supposed to do what adults want and this might include serving their sexual needs.	1	2	3	4	5
39. A person should have sex whenever it is needed.	1	2	3	4	5

APPENDIX O
Children and Sex Questionnaire: Emotional Congruence Scale

This questionnaire is concerning your experience of children and your feelings and thoughts about them. For the purpose of this questionnaire, "children" or "child" means persons aged 14 years and younger (that is, 0 – 14 years old). Please remember that your answers are confidential.

Instructions
Read each question carefully. Put a tick in the area which is closest to your view or direct experience.

1. I prefer to spend my time with children.

Very true	Somewhat true	Somewhat untrue	Very untrue	Don't know

2. I have loved a child at first sight.

Very true	Somewhat true	Somewhat untrue	Very untrue	Don't know

3. Thinking about children makes me feel good.

Very true	Somewhat true	Somewhat untrue	Very untrue	Don't know

4. I know when children are interested in me.

Very true	Somewhat true	Somewhat untrue	Very untrue	Don't know

5. Sometimes children look at me in a special way.

Very true	Somewhat true	Somewhat untrue	Very untrue	Don't know

6. Children stop me feeling lonely.

Very true	Somewhat true	Somewhat untrue	Very untrue	Don't know

7. Children are special for me.

Very true	Somewhat true	Somewhat untrue	Very untrue	Don't know

8. Children remind me of myself.

Very true Somewhat true Somewhat untrue Very untrue Don't know

9. I feel more comfortable with children than with adults.

Very true Somewhat true Somewhat untrue Very untrue Don't know

10. Sometimes I meet a child who I know has special feelings about me.

Very true Somewhat true Somewhat untrue Very untrue Don't know

11. I am better than most people at understanding children.

Very true Somewhat true Somewhat untrue Very untrue Don't know

12. I am better than most people at getting along with children.

Very true Somewhat true Somewhat untrue Very untrue Don't know

13. When I feel low children cheer me up.

Very true Somewhat true Somewhat untrue Very untrue Don't know

14. Some children prefer to be with me rather than their parents.

Very true Somewhat true Somewhat untrue Very untrue Don't know

15. Children seem to seek me out.

Very True Somewhat True Somewhat untrue Very Untrue Don't Know

APPENDIX P
Depression Anxiety Stress Scale – 21 Items

Please read each statement and choose the number that indicates how much the statement applied to you **over the past week**. There are no right or wrong answers. Do not spend too much time on one statement.

0	1	2	3
Never	**Sometimes**	**Often**	**Almost Always**

In the past week…

1. I found it hard to wind down.	0	1	2	3
2. I was aware of the dryness of my mouth	0	1	2	3
3. I couldn't seem to experience any positive feelings at all	0	1	2	3
4. I experienced breathing difficulty (e.g., rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5. I found it difficult to work up the initiative to do things	0	1	2	3
6. I tended to over-react to situations	0	1	2	3
7. I experienced trembling (e.g., in hands)	0	1	2	3
8. I felt I was using a lot of nervous energy	0	1	2	3
9. I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10. I felt that I had nothing to look forward to	0	1	2	3
11. I found myself getting agitated	0	1	2	3
12. I found it difficult to relax	0	1	2	3
13. I felt down-hearted and blue	0	1	2	3
14. I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15. I felt I was close to panic	0	1	2	3
16.I was unable to become enthusiastic about anything	0	1	2	3
17. I felt I wasn't worth much as a person	0	1	2	3
18. I felt that I was rather touchy	0	1	2	3

19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)	0	1	2	3
20. I felt scared without any good reason	0	1	2	3
21. I felt that life was meaningless	0	1	2	3

APPENDIX Q
Personality Inventory for DSM-5—Brief Form

Instructions: This is a list of things different people might say about themselves. We are interested in how you would describe yourself. There are no right or wrong answers. So you can describe yourself as honestly as possible, we will keep your responses confidential. We'd like you to take your time and read each statement carefully, selecting the response that best describes you.

		Very False or Often False	Sometimes or Somewhat False	Sometimes or Somewhat True	Very True or Often
1	People would describe me as reckless.	0	1	2	3
2	I feel like I act totally on impulse.	0	1	2	3
3	Even though I know better, I can't stop making rash decisions.	0	1	2	3
4	I often feel like nothing I do really matters.	0	1	2	3
5	Others see me as irresponsible.	0	1	2	3
6	I'm not good at planning ahead.	0	1	2	3
7	My thoughts often don't make sense to others.	0	1	2	3
8	I worry about almost everything.	0	1	2	3
9	I get emotional easily, often for very little reason.	0	1	2	3
10	I fear being alone in life more than anything else.	0	1	2	3
11	I get stuck on one way of doing things, even when it's clear it won't work.	0	1	2	3

12	I have seen things that weren't really there.	0	1	2	3
13	I steer clear of romantic relationships.	0	1	2	3
14	I'm not interested in making friends.	0	1	2	3
15	I get irritated easily by all sorts of things.	0	1	2	3
16	I don't like to get too close to people.	0	1	2	3
17	It's no big deal if I hurt other peoples' feelings.	0	1	2	3
18	I rarely get enthusiastic about anything.	0	1	2	3
19	I crave attention.	0	1	2	3
20	I often have to deal with people who are less important than me.	0	1	2	3
21	I often have thoughts that make sense to me but that other people say are strange.	0	1	2	3
22	I use people to get what I want.	0	1	2	3
23	I often "zone out" and then suddenly come to and realize that a lot of time has passed.	0	1	2	3
24	Things around me often feel unreal, or more real than usual.	0	1	2	3
25	It is easy for me to take advantage of others.	0	1	2	3

APPENDIX R
Social and Emotional Loneliness Scale for Adults – Short Version

On this page you will find a number of statements that an individual might make about his/her social relationships. Please read these statements carefully and indicate the extent to which you agree or disagree with each one as a statement about you, using the 7-point rating provided to the right of each question.

Please take a moment to think about your relationships with your partner, your family and your friends over the ***past year***. Please choose the number that best reflects the degree to which each of the following statements describes your thoughts and feelings during the *PAST YEAR*. Please try to respond to each statement.

In the past year:

	Disagree Strongly						Agree Strongly
1. In the last year I felt alone when I was with my family.	1	2	3	4	5	6	7
2. In the last year I felt part of a group of friends.	1	2	3	4	5	6	7
3. In the last year I had a romantic partner with whom I shared my most intimate thoughts and feelings.	1	2	3	4	5	6	7
4. In the last year there was no one in my family I could depend upon for support and encouragement, but I wish there had been.	1	2	3	4	5	6	7
5. In the last year my friends understood my motives and reasoning.	1	2	3	4	5	6	7
6. In the last year I had a romantic or marital partner who gave me the support and encouragement I needed.	1	2	3	4	5	6	7

7. In the last year I didn't have a friend(s) who shared my views, but I wish I had.	1	2	3	4	5	6	7
8. In the last year I felt close to my family.	1	2	3	4	5	6	7
9. In the last year I was able to depend on my friends for help.	1	2	3	4	5	6	7
10. In the last year I wished I had a more satisfying romantic relationship.	1	2	3	4	5	6	7
11. In the last year I felt a part of my family.	1	2	3	4	5	6	7
12. In the last year my family really cared about me.	1	2	3	4	5	6	7
13. In the last year I didn't have a friend(s) who understood me, but I wish I had.	1	2	3	4	5	6	7
14. In the last year I had a romantic partner to whose happiness I contributed.	1	2	3	4	5	6	7
15. In the last year I had an unmet need for a close romantic relationship.	1	2	3	4	5	6	7

APPENDIX S
Risk of Sexual Behaviours with Minors – Self-Report

****Only participants who self-reported any elevated level of sexual interest toward young people (≤ 14 years old) on the PIS-E saw these prompts****

Please note that for the purpose of this survey, "youth" are considered to be any young person, youth, child, or "minor" person who is aged 14 years old or younger (that is, 0 – 14 years old). Please remember that your answers are confidential.

For the purpose of this questionnaire, sexual activity is defined as any activity or behavior that stimulates or arouses a person with the intent to produce an orgasm or sexual pleasure (e.g. self-masturbation or solo-sex, using pornography, intercourse with a partner, oral sex, anal sex, etc.…). *Sexual behaviors may or may not involve a partner*.

If you were assured that no one would know, and you could in no way be caught or punished, please rate what you think about the following statements:

	Not At All									*Very Much So*
1. In the future, how confident are you that you *will not* act on your sexual interests by engaging in sexual activity involving youth?	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
2. How worried are you that you might one day act on your sexual interests by engaging in sexual activity involving youth?	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
3. How motivated are you to make sure that you *never* engage in sexual activity involving youth?	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
4. How likely are you to engage in sexual activity involving youth?	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*

APPENDIX T
Data Cleaning and Conditioning

Prior to conducting statistical analyses for the research questions, raw data were screened and conditioned to ensure high-quality data and to meet relevant assumptions for analyses. An overview summarizing each step of data conditioning, including number of cases removed for each step, are described in Table 5.

Indications of suspicious responding were addressed first. Step One involved examining completion time for all participants. As the full study was expected to take approximately 30 minutes to complete, cases deemed to be completed unrealistically fast (i.e., less than 15 minutes) were removed using listwise deletion. Next, questions that required free-form textbox entries were examined to check that responses were coherent, sensible, contained minimal/acceptable errors in spelling or grammar, or otherwise demonstrated proficiency in English. Cases which did not satisfy these criteria were excluded. Third, duplicate entries were identified. Any case with no survey data, or where all responses to questionnaires were missing, were removed. Cases with potential duplicate responses on demographic and textbox entries were flagged for manual review, with verified suspected duplicated removed by listwise deletion. Step four verified that all cases satisfied eligibility criteria (i.e., age, debriefing consent, paraphilic interests). Cases with missing data on the PIS-E, or who reported no paraphilia sexual interests (i.e., teleiophilia only), were removed. Next, cases where participants did not access the full survey up to the debriefing form were removed.

In Step 5, missing value analysis (MVA) was performed on the full sample to identify participants with systematic missing data using all continuous questionnaire item variables. MVA output suggests that data are not missing completely at random, χ^2

(62479, N = 915) = 63624, p = .001. When analyzing patterns of missing data, it was observed that missing data were distributed across 91.86% of variables and 35.30% (n = 323) of cases. Missing value patterns suggest that a significant minority of individuals may account for systematic missingness via fully incomplete questionnaires (i.e., ECR-S, ABCS+CASA). Using the variable generated by SoSci Survey that denoted percentage of answers missing by participants, it was observed that 90.5% (n = 828) of cases were missing 5% data or less; 97.6% (n = 894) of cases had 10% missing or less; and 98.5% (n = 902) of cases had 15% missing or less. The decision was made to remove cases with more than 10% of data missing on questionnaires (i.e., cases where item non-response is indicated). After removing cases with more than 10% missing data, MVA was run a second time to suggest that data are not missing completely at random, χ^2 (58267, N = 894) = 59654, p < .001. Analyzing patterns of missing data indicated that missing data were distributed across 74.03% of variables and 33.78% (n = 302) of cases, with a significant minority of individuals accounting for systematic missingness via fully incomplete questionnaires (i.e., ECR-S). Planned hypothesis testing and analysis (i.e., LCA) cannot be performed with full scale (i.e., ECR-S) missing; although missingness is systematic, LCA uses listwise deletion. When full questionnaire data is missing, it is not possible to impute missing values due to missing scale parameters for these participants. As such, the decision was made to remove cases with more than 75% missing data on the ECR-S (i.e., missing 9/12 variables or more). MVA was performed once again and suggested that data were not missing completely at random, χ^2 (51653, N = 846) = 53253, p < .001. However, there now were no variables with more than 5% missing data and missing data patterns suggested that it was distributed across 72.48% of variables and 30.02% (n = 259) of cases. At this point, it was suspected that Little's MCAR may

be significant due to covariate-dependent missingness (CDM), in which case data may be missing at random as a function of an independent variable (Li, 2013). That is, the underlying pattern of missing item data may be predicted by participants' group membership (e.g., not viewing the item question as relevant, or avoiding answering certain questions out of concern of social acceptability). To test the CDM assumption, the full sample was divided into a sample comprising of MAP participants (i.e., MAP Group) and a sample comprising of Other Paraphilia participants (i.e., OTHER group), with MVA re-run on the two groups separately. Missing data in the MAP Group are inferred to be missing completely at random, χ^2 (41146, N = 620) = 37390, p = 1.00, with missing data distributed across 65.50% of variables and 30.97% (n = 192) of MAP cases. Missing data in the OTHER Group are inferred to be missing completely at random, Little's MCAR: χ^2 (13846, N = 226) = 11831, p = 1.00, with missing data distributed across 27.91% of variables and 27.43% (n = 62) of OTHER cases. Given these findings, subsequent analyses will consider each group separately and independently, rather than using the full aggregate sample.

For both MAP and OTHER groups, missing data was scattered throughout cases and variables (MCAR). The overall amount of missing data for variables was very small (i.e., <5% missing for all variables). Additionally, complete cases (i.e., no missing data) were required for hypothesis testing. When there is less than 5% of data missing, the generalizability, reliability, and validity of findings within the confines of the sample are generally believed to not be compromised (Tabachnick & Fidell, 2013). Several methods of handling missing data were considered. Deleting variables was rejected, as variables are necessary for calculating scale and subscale totals to be used in hypothesis testing (i.e., LCA). In this regard, hypothesis testing involved complete case analysis where

participants with missing data on any major dependent variable (except for demographics) will be excluded from analysis. Thus, missing data was handled in a way that both minimizes selection bias and allows information, and thus efficacy, to be retained (Basagaña et al., 2013). Expectation Maximization (EM) methods was not used given that analyses based on this dataset would have inappropriate standard errors for planned hypothesis testing (Tabachnick & Fidell, 2013). Regression imputation also may be inappropriate for planned analyses, as it requires the key assumption of variable linearity to estimate population parameters (Saunders et al., 2006; Tabachnick & Fidell, 2013). However, planned analyses did not necessarily rely on these same parametric assumptions, such that regression imputation may be an inappropriate choice for handling missing data while overestimating model statistics and lowering significance values (Saunders et al., 2006; Tabachnick & Fidell, 2013). Similarly, although Multiple Imputation is an increasingly popular approach to handling missing data, there are several difficulties encountered when used in analyses that do not seek to estimate a population parameter (Basagaña et al., 2013). Specifically, latent cluster analysis aims to predict cluster membership for each participant, with inferences aimed at the individual rather than at a population. Furthermore, there are difficulties with incorporating the uncertainty inherent to imputed values into understanding the final results (Basagaña et al., 2013). Considering these issues, the decision was made to use case-specific mean substitution. This approach involved using an individual's extant mean on subscales to fill in missing data to estimate the value of missing data. In general, mean substitution strategies are limited in that they reduce variance or standard error (Tabachnick & Fidell, 2013). However, replacing values in this way would allow greater sample size to be retained for hypothesis testing without listwise exclusion. Since the value substituted

by this technique is not constant across the sample, case-specific mean substitution does not artificially reduce measures' variability (Bono et al., 2007). Furthermore, in this case where a small percentage of data is inferred to be missing completely at random from a number of random variables, the mean substitution approach of using individual's subscale scores for imputation lessen some concerns about reduced standard error, as imputations were estimated based on individual's own response parameters rather than group/population parameters. As there were small amounts of data missing for each scale, the reliability estimates were unlikely to be unduly inflated and will still be able to provide a good estimate (Bono et al., 2007). Thus, case-specific mean substitution based on individuals' subscales means was used to estimate missing item data for each scale. A breakdown on frequency of missing values for each scale and subscale, and approach for how missing values was estimated, is summarized in Table 6. Any remaining case with excessive missing data on the full scale (i.e., number of missing items notable and appear to be outlier compared to other cases) were removed using listwise deletion.

Step 6 involved addressing any remaining indications of inappropriate responding (e.g., out-of-range, inappropriate entry, outliers). Demographic and SHS variables were checked for inappropriate responding and new variables were calculated and coded from existing data where required. Responses that appear inappropriate on the SHS (e.g., out-of-range age values, imputation transposition of manually entered numerical values likely due to encryption software, non-numeric symbol) were removed or reformatted if the response appeared indicative of data entry error. Any inappropriate entries that were removed were considered "unknown" for analyses. The value "not applicable"' was applied to participants who appear to have not engaged in the activity described by the question, either through self-disclosure or deduction (i.e., missing

values for items regarding partnered sexual history, or when participant reported no lifetime sexual partners). Given the sensitive matter of this survey and its contents, missing demographic and sexual history data were retained and counted as "unknown."

Data then was screened for outliers. Standardized z-scores were transformed for continuous variables. Potential univariate outliers were flagged in cases where scores range outside an absolute criterion threshold of ±3.29 ($p < .001$, two-tailed test; Tabachnik & Fidell, 2013). Histograms were visually analyzed to observe whether any flagged scores are relatively discontinuous from other values within the distribution. Statistical outliers that were continuous with the next nearest non-outlying values were not modified. Winsorization applied to statistical outliers that were discontinuous with other values by converting outliers to the nearest data point not considered to be an outlier (Salkind, 2010).

Multivariate outliers were examined using Mahalanobis distance probabilities for each scale's total value using a criterion of $p < .001$ (Tabachnick & Fidell, 2013). Based on the combination of total scores, the MAP group was observed to have four multivariate outliers and the OTHER group had one multivariate outlier. Since these cases may unduly influence analysis and affect generalizability of results, multivariate outliers were sequentially subject to listwise deletion until no multivariate outliers remained.

As both the MAP and OTHER groups may be considered subclinical samples, it was expected that histograms would reveal some skew for distributions of several variables' total and subscale scores. However, transformations were not applied to variables with non-normal distributions in order to facilitate interpretability of the results involving the study's constructs of interest. Of note, planned LCA is a non-parametric

analysis and does not rely on traditional modeling assumptions. As such, LCA is considered robust to the effects of non-normality (Vermunt & Magidson, 2002). Furthermore, LCA approaches can help address methodological challenges common in other exploratory subgroup analysis methodology, including high rates of Type I error arising from issues with multiple comparisons, low statistical power due to unequal sample sizes in subgroups, and limitations in examining higher-order interaction effects (Lanza & Rhoades, 2013). Although planned MANOVAs do hold parametric assumptions, it is considered sufficiently robust against violations of normality and homogeneity when sample sizes are large and there are at least 20 participants per cell, in cases where cell sizes are unequal (Tabachnik & Fidell, 2013). As such, planned MANOVAs should be robust against potential violations of parametric assumptions. Nevertheless, MANOVAs were interpreted using Pillai's Trace statistic V, as it is a more stringent test and more robust against violations of multivariate assumptions. Correlations between continuous total scores also were examined (see Table 7). There were no apparent concerns regarding multicollinearity or singularity for the MAP group, nor for the OTHER group.

CURRICULUM VITAE

Hannah Shirley Stewart

Universities Attended:

2014 - 2022 Ph.D. Clinical Psychology
University of New Brunswick, Fredericton, NB, Canada (CPA Accredited Program)
Supervisor: Mary Ann Campbell, PhD, L.Psych., R.Psych.

2014 - 2015 Bachelors of Science Honours in Psychology
Specialization in Forensic Psychology
Carleton University, Ottawa, ON, Canada
Supervisors: J. Paul Fedoroff, M.D., FRCPC; Adelle Forth, Ph.D.

2010 - 2014 Bachelor of Honours in Criminology and Criminal Justice
Concentration in Psychology, Minor in Chemistry
Carleton University, Ottawa, ON, Canada
Supervisor: Evelyn Maeder, Ph.D.

Publications:

1. **Stewart, H.** & Fedoroff, J.P. (2017). The elderly sex offender. In Holzer, J.C., Kohn, R., Ellison, J.M. & Recupero, P.R (Eds). *Geriatric Forensic Psychiatry: Principles and Practice.* New York, NY: Oxford University Press.
2. Maeder, E.M., McManus, L., McLaughlin, K., Yamamoto, S., & **Stewart, H.** (2016). Jurors' perceptions of scientific testimony: The role of gender and testimony complexity in trials involving DNA evidence. *Cogent Psychology*, *3*(1264657). Doi: 10.1080/23311908.2016.1264657.
3. Murphy, L., Ranger, R., Fedoroff, J.P., **Stewart, H.**, Dwyer, G. & Burke, B. (2015). Standardization in the use of penile plethysmography as a measure of sexual arousal. *Journal of Sexual Medicine*, *12*(9), 1853-1861. Doi: 10.1111/jsm.12979.
4. Murphy, L., Ranger, R., **Stewart, H.**, Dwyer, G. & Fedoroff, J.P. (2015). Assessment of problematic sexual interests with the penile plethysmograph: An overview of assessment Laboratories. *Current Psychiatry Reports*, *17*(29), 1-5. Doi: 10.1007/s11920-015-0567-z.
5. **Stewart, H.** & Fedoroff, J. P. (2014). The assessment and treatment of sexual people with complaints of hypersexuality. *Current Sexual Health Reports*, *6*(2), 136-144. Doi: 10.1007/s11930-014-0017-7.
6. **Stewart, H.** (2013). *Integrated Forensic Program- Champlain- Program evaluation group evaluations- Results- October 2013*. Ottawa, Ontario: Institute of Mental Health Research.

Conference and Invited Presentations:

1. **Stewart, H.** & Campbell, M.A. (February, 2022). *Developing a biopsychosocial-sexual typology of men with sexual interests in children.* Presentation at the 2nd Annual Canadian Forensic Psychology Virtual Conference. Halifax, NS (virtual).
2. **Stewart, H.** (December, 2021). *Pathways to becoming a clinical forensic psychologist.* Grade 10 Career Studies (GLC20) Professional Pathways Series, John McCrae Secondary School – Ottawa Carleton District School Board, Ottawa, ON (virtual).
3. **Stewart, H.** (April, 2021). *Let's talk about sex (offending): An introduction to forensic psychology and understanding child sexual abuse*. Clinical Psychology (PSYC 3373), Acadia University, Wolfville, NS (virtual).
4. **Stewart, H.** (January, 2021). *Pathways to becoming a clinical forensic psychologist.* Grade 10 Career Studies (GLC20) Professional Pathways Series, Merivale High School – Ottawa Carleton District School Board, Ottawa, ON (virtual).
5. **Stewart, H.**, Starzomski, A., & Armstrong, D. (October, 2020). *Intervention and engagement suggestions for persons with personality disorder*. East Coast Forensic Hospital Staff Training Day, Halifax, NS.
6. **Stewart, H.**, Boyle, B., Campbell, M., Pelland, M., Beauregard, R., & Brideau, M. (2019, June). *Transitions from Crime: Examining Perspectives of How Higher Risk Offenders Begin Processes of Criminal Desistance*. Symposium presentation at the 4th North American Correctional and Criminal Justice Psychology Conference. Halifax, NS.
7. Boyle, B., **Stewart, H.**, Campbell, M., Pelland, M., Beauregard, R., & Brideau, M. (2019, June). *Exploring the Mechanisms of Change in Offenders: The Professional Relationship*. Symposium presentation at the 4th North American Correctional and Criminal Justice Psychology Conference. Halifax, NS.
8. Pelland, M., Campbell, M., Brideau, M., **Stewart, H.**, Boyle, B., & Beauregard, R. (2019, June). *Self-Narratives of Higher Risk Offenders under Community Supervision: Initiation of Change Processes during Probation.* Symposium presentation at the 4th North American Correctional and Criminal Justice Psychology Conference. Halifax, NS.
9. **Stewart, H.** & Vogels, E.A. (2019, May). *Stroking it: Definitions and perceived motives for "dick pics."* Poster presentation at the Society for Sex Therapy and Research Annual Meeting. Toronto, ON.
10. Vogels, E., & **Stewart, H.** (2019, March). *Feeling sexy or sexism? Predicting who has sent pictures of their genitals.* Poster presentation at the Association for Women in Psychology Annual Conference. Newport, RI.
11. Vogels, E.A., & **Stewart, H.** (2018, November). *Sexy messages or sexual harassment: Experiences of individuals who have received "dick pics".* Poster

presentation at the Society of the Scientific Study of Sexuality 61st Annual Meeting. Montreal, QC.

12. Pelland, M., Campbell, M., Brideau, M., **Stewart, H.**, Boyle, B., Beauregard, R., & Mazerolle, C. (2018, July). *High to moderate risk adult offenders on probation: Analysis on the role of their self-narrative in their process toward change*. Presentation presented in French at the 2018 Social Work, Education and Social Development Joint World Conference. Dublin, IE.
13. Beauregard, R., Campbell, M.A., Pelland, M-A., Boyle, B., **Stewart, H**., Brideau, M-E. (2018, May) *The working alliance: Differences between a RNR-based probation program and traditional supervision*. Presentation at the 29th Annual Atlantic Crime Prevention Conference. Saint John, NB.
14. Boyle, B., **Stewart, H.**, Campbell, M., Pelland, M., Beauregard, R., & Brideau, M. (2018, May). *Exploring the mechanisms of change in offenders: The professional relationship*. Presentation at the 29th Annual Atlantic Crime Prevention Conference. Saint John, NB.
15. **Stewart, H.**, Boyle, B., Campbell, M., & Pelland, M. (2018, March). *Transitions from crime: Examining perceptions of how higher-risk offenders progress through the process of criminal desistance*. Paper presentation at the 2018 American Psychology-Law Society Annual Conference. Memphis, TN.
16. **Stewart, H.** & Fedoroff, J.P. (2018, February 16). *Can They "fake it?" Assessing pedophilic interests in a high-psychopathy sample using penile plethysmography*. Presentation at the UNB Clinical Psychology Graduate Student Research Symposium. Fredericton, NB.
17. **Stewart, H.** (2018, January). *Transitions from crime: Examining perceptions of how higher-risk offenders progress through the process of criminal desistance*. Presentation for probation officers and regional directors of New Brunswick Department of Justice and Public Safety Probation Services. Fredericton, NB (web-conference).
18. Dwyer, G., Fedoroff, J.P., Murphy, L., & **Stewart, H.** (2017, June). *Paraphilic disorders: Ask the experts how to assess and treat*. Panel Workshop presentation at the American Association of Sexuality Educators, Counselors, and Therapists Annual Meeting. Las Vegas, NV.
19. **Stewart, H.**, Campbell, M., Canales, D. & Brunelle, C. (2017, June). *Profiles of Mental Health Needs for Police Employees from a Sample of First Responders in Atlantic Canada.* Gimme5 presentation at the Canadian Psychological Association Annual Conference. Toronto, ON.
20. **Stewart, H.**, Campbell, M., & Dyck, H. (2016, May). *Assessing the utility of the LS/CMI with adult community-supervised offenders in New Brunswick*. Symposium presentation at the Atlantic Criminal Justice Research and Professional Practice Conference. Saint John, NB.
21. **Stewart, H.**, & Fedoroff, J.P. (2015, October). *Psychopathy and Paraphilic Sexual Arousal in Referred Dangerous Offenders*. Symposium presentation at the

American Association of Psychiatry and the Law 46th Annual Meeting. Fort Lauderdale, FL.

22. **Stewart, H.**, Murphy, L., & Fedoroff, J.P. (2015, October). *Poster: International Management of Sex Offenders: Comparing Notification and Registration across the Globe*. Poster presentation at the American Association of Psychiatry and the Law 46th Annual Meeting. Fort Lauderdale, FL.
23. Murphy, L. & **Stewart, H.** (2015, July). *International Perspectives on the Assessment, Treatment and Community Management of Sex Offenders*. Panel presentation at the International Academy of Law and Mental Health 34th Annual Meeting. Vienna, AT.
24. **Stewart, H.** & Fedoroff, P. (2015, June). *Dangerous and Long Term Offenders.* PGY-6 Academic Half-Day presentation for the Royal College of Physicians and Surgeons of Canada PGY-6 at the Royal Ottawa Mental Health Centre. Ottawa, ON.
25. **Stewart, H.**, Fedoroff, J.P., & Forth, A.E. (2015, June). *Psychopathy and Deviant Sexual Arousal in Offenders Referred for Dangerous Offender Assessment: Analyzing Sensitivity, Specificity and Dangerousness*. Poster presentation at the North American Correctional and Criminal Justice Psychology Conference. Ottawa, ON.
26. **Stewart, H.**, Murphy, L. & Fedoroff, J.P. (2015, October). *Poster: International Management of Sex Offenders: Comparing Notification and Registration across the Globe*. Poster presentation at the American Association of Psychiatry and the Law 46th Annual Meeting. Fort Lauderdale, FL.
27. Murphy, L. & **Stewart, H.** (2015, July). *International Perspectives on the Assessment, Treatment and Community Management of Sex Offenders*. Panel presentation at the International Academy of Law and Mental Health 34th Annual Meeting. Vienna, Austria.
28. **Stewart, H.** & Fedoroff, P. (2015, June). *Dangerous and Long Term Offenders.* PGY-6 Academic Half-Day presentation for the Royal College of Physicians and Surgeons of Canada PGY-6 at the Royal Ottawa Mental Health Centre. Ottawa, ON.
29. **Stewart, H.**, Fedoroff, J.P., & Forth, A.E. (2015, June). *Psychopathy and Deviant Sexual Arousal in Offenders Referred for Dangerous Offender Assessment: Analyzing Sensitivity, Specificity and Dangerousness*. Poster presentation at the North American Correctional and Criminal Justice Psychology Conference. Ottawa, ON.
30. **Stewart, H.**, Maeder, E.M. & McManus, L. (2015, June). *Effects of Expert Gender and Testimony Complexity in Juror Decision Making in Criminal Trials*. Poster presentation at the North American Correctional and Criminal Justice Psychology Conference. Ottawa, On.
31. **Stewart, H.**, Fedoroff, J.P., & Forth, A.E. (2015, April). *Psychopathy and Paraphilic Sexual Arousal in Offenders Referred for Dangerous Offender*

Assessment. Poster presentation for Carleton University's Psychology Undergraduate Research Event (PURE). Ottawa, On.

32. Murphy, L. & **Stewart, H.** (2014, October). *Megan's Law in the Child and Adolescent Population- International perspectives on open sex offender registries*. Panel presentation for the American Academy of Psychiatry and the Law 45th Annual Meeting. Chicago, IL.
33. **Stewart, H.** (2014, March). *Jury decision making and expert presentation of physical forensic evidence in criminal trials*. Poster presentation for Carleton University Field Placement Mixer. Ottawa, On.