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VICTIM AGE POLYMORPHISM IN STRANGER SERIAL SEXUAL OFFENCES

by

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Bachelor of Arts in Psychology and Criminology, York University, April 2009

A Thesis presented to Ryerson University+

In partial fulfillment of the requirements for the degree of Master of Arts in the Program of Psychology

Toronto, Ontario, Canada, 2012

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Abstract

Victim age polymorphism in stranger serial sexual offences

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Master of Arts in the Program of Psychology, 2012

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Victim age polymorphism describes a subset of serial sexual offenders who offend against victims from multiple age groups (Guay, Proulx, Cusson, & Ouimet, 2001). Research on victim age polymorphism is an important area of study as polymorphic offenders have been found to have high recidivism rates (Parent, Guay, & Knight, 2011). The current study provided an exploration of polymorphism in 72 sexual offenders who committed 361 stranger offences. Polymorphism occurred in 36% of offenders' sexual offence series, with the majority of polymorphic offenders victimizing minors aged 11 to 14. In comparison to age specific offenders, polymorphic offenders were found to be a) younger at the start of their sexual offence series, b) more opportunistic, c) less concerned with victim characteristic, d) more likely to be antisocial, and e) a trend was observed that suggested they were more likely to show deviant arousal to rape. These results will be discussed within the contexts of Investigative and Forensic Psychology.

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Dedication

I dedicate this thesis to my mother and father who provided me with the support to pursue

postsecondary education. You're both such amazing parents who have always inspired me to do

my best.

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Introduction

Victim age polymorphism[1] represents a subgroup of sexual offenders that offend against victims of different age groups (e.g., an offender with both child and adult victims; Guay, Proulx, Cusson, & Ouimet, 2001). The present study explores polymorphism in sexual offenders with stranger victims through an examination of their criminal careers, offence behaviours, and offender characteristics. It is hypothesized that polymorphic offenders are more likely to have criminal careers marked by a wide range of sexual and non-sexual offences, and are more likely to be opportunistic, antisocial, and sexually deviant when compared to age-specific offenders. The results will be discussed within the context of Investigative and Forensic Psychology.

The current study will exclusively focus on stranger victims, in which there was no prior relationship between the victim and the offender prior to the sexual offence. In 82% of reported sexual assaults, the offender was known to the victim (Brennan & Taylor-Butts, 2008), which makes sexual offences committed against strangers a rare occurrence. However, in cases of stranger offences the perpetrator is not as readily identifiable to the victim, which makes them more difficult for the police to solve, especially if evidence is inconclusive or there is an absence of forensic evidence (Canter, 2000; Canter & Heritage, 1990). Further, sexual offenders with stranger victims are more likely to sexually recidivate (Hanson & Bussiere, 1998), which suggests that they are a relatively persistent subgroup of offenders. Thus, offenders with stranger victims require a significant time commitment and a great deal of resources on behalf of the police. Given the emphasis on Investigative Psychology, the current study will focus on sexual offenders who have stranger victims.

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[1] Unless otherwise specified "Polymorphic" and "Polymorphism" will be used to describe polymorphism specifically in terms of a victim's age, as opposed to the victim's gender or relationship to the perpetrator.

The Offence Specific Fallacy and Polymorphism in Sexual Offenders

The offence specific fallacy is a commonly held belief that sexual offenders "have specific deviant sexual preferences and commit only one type of offence" (Laws, 1994, p.3). This fallacy guides the study of sexual offenders influencing both the research that is conducted but also the application of this research across various settings (e.g., police investigation; Laws, 1994; Robertillo & Terry, 2007). However, the offence specific fallacy has recently been challenged by the concept of victim choice polymorphism (e.g., Guay et al., 2001).

Victim choice polymorphism represents inconsistency across an offender's sexual offence series regarding the characteristics of their victims, and includes the domain of gender, victim-offender relationship, and victim age (Guay et al., 2001). This is an area that deserves further research as these offenders were found to be more likely to have started their criminal career at a younger age, committed a greater number of sexual offences, and were over-represented in the high-risk category of the Static-99 (Cann, Friendship, & Gonza, 2007). Further, given the greater diversity in the victims they offend against, they may pose a greater risk to society upon their release from prison (Laws, 1994; Sim & Proeve, 2010). This was confirmed in a meta-analysis conducted by Hanson and Bussiere (1998) who found that a greater diversity in victim type was associated with sexual recidivism. Although the research examining victim choice polymorphism in serial sexual offenders has recently developed, it was first supported by research on multiple paraphilias.

Sexual deviancy. Paraphilias are mental disorders that represent intense and frequent sexual preferences expressed via sexual behaviours, impulses, or needs (American Psychiatric Association, 2000). A subset of paraphilias represents sexual deviancy or sexual preference(s) that if acted on would cause harm to others (American Psychiatric Association, 2000). Sexual deviancy includes constructs such as sadism, biastophilia (sexual preference for rape),

pedophilia, and hebephilia (sexual preference for pubescent-aged children), but does not include other paraphilias such as transvestic fetishism. The role of sexual deviancy in our understanding of sexual offending is crucial as it has been identified as one of the most robust predictors of sexual recidivism (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005; Mann, Hanson, & Thornton, 2010).

Abel, Becker, Cunningham-Rathner, Mittleman, and Rouleau (1988) examined multiple paraphilic interests among 561 men seeking voluntary assessment, the majority of whom had committed sexual offences. Abel and colleagues found that only 10.4% met diagnostic criteria for only one paraphilia, with a large number (37.6%) of participants meeting diagnostic criteria for anywhere between five and ten paraphilias. Importantly, 37% of offenders who reported a sexual preference in children also reported sexual interest in other age groups and 20% reported sexual interest in both males and females. The results of the Abel and colleagues study are in accordance with the findings of Bradford, Boulet, and Pawlak (1992), who also found multiple paraphilias were more common than single paraphilias.

Although the findings of Abel et al. (1988) and Bradford et al. (1992) have been cited as support for victim choice polymorphism, these studies have been challenged by other researchers in the field who have reported lower rates of multiple paraphilias in sexual offenders (e.g., Marshall, Barbaree, & Eccles, 1991; Smallbone & Wortley, 2004b). For example, Smallbone and Wortley (2004b) found that in a sample of child molesters, paraphilic interest was associated with non-sexual offending but not sexual offending. They speculated that this relationship might exist as paraphilias are one example of a more generalized form of social deviancy. However, the study conducted by Smallbone and Wortley (2004b) was not without limitations, the most crucial of which was the exclusion of pedophilia from their study, which was problematic due to the

close relationship between pedophilia and child molestation (Blanchard, Klassen, Dickey, Kuban, & Blak, 2001; Michaud & Proulx, 2009; Seto, 2008; Seto, Cantor, & Blanchard, 2006).

While contradictory at times, the research on paraphilic interest in sexual offenders does not detract from the importance of these research findings to our understanding of victim choice polymorphism, as sexual preference is important to any theoretical understanding of the behaviour of sexual offenders (Lussier, Leclerc, Healey, & Proulx, 2007), These studies demonstrate that sexual offenders can have a vast array of sexual interests that are not always delineated in terms of clear preferences (e.g. the victim's age). Therefore, high rates of victim choice polymorphism might not be unexpected in serial sexual offenders.

Although important, the research on multiple paraphilias does not provide clarification on whether polymorphic offenders exhibit a greater degree of sexual deviancy than age-specific offenders. In one of the only studies to address this, Michaud and Proulx (2009) examined the phallometric response pattern of different subgroups of offenders. When presenting mixed offenders (they defined mixed offenders as those with child and adult victim) with stimuli developed for child molesters (age preference) and rapists (preference for coercive sex) they found similar penile responses were exhibited to consensual sex with adults, rape against adult females, and non-violent sexual activity with a child. Although an important development, these findings are limited in that they do not compare penile responses across different subgroups of offenders. Therefore, the question still remains as to whether victim choice polymorphic offenders are more likely to display sexually deviant interests when compared to age-specific sexual offenders. This is an important empirical question given the relationship between sexual deviancy and recidivism (e.g., Hanson & Morton-Bourgon, 2005).

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Prevalence of Victim Choice Polymorphism

Research suggests that victim choice polymorphism is a common occurrence ranging from 25% to 89% in serial sexual offenders (Cann et al., 2007; Sim & Proeve, 2010; Heil, Ahlmeyer, & Simon, 2003). However these rates vary greatly across studies, which may be partially accounted for by the characteristics of the sample and the various methodologies used. For example based on archival data, Cann et al. (2007) found that 25% of offenders exhibited victim choice polymorphism. In contrast, Heil and colleagues (2003) collected data from a high-risk sex offender treatment program, and found that 89% of offenders admitted victim choice polymorphism under polygraph testing. Regardless, these studies indicate that victim choice polymorphism does occur to some degree in the context of serial sexual offending.

Gender. Although the rate of victim choice polymorphism in sexual offences varies across studies, there has been some agreement on the frequency of polymorphism for more specific victim choice domains. For example, researchers have found victim gender remains highly stable across sexual offence series, with rates of polymorphism generally below 10% (Cann et al., 2007; Gebhard, Gagnon, Pomeroy, & Christenson, 1965; Guay, Proulx, Cusson, & Ouimet, 2001; Heil, et al., 2003; Lussier, Leclerc, Healey, et al., 2007; Sim & Proeve, 2010; Sjostedt, Langstrom, Sturidsson, & Grann, 2004). Levenson, Becker, and Morin (2008) found that gender polymorphism was more likely if the victim was six or younger. Further, Lussier and colleagues (2007) found that gender polymorphism was associated with low levels of sexualization as indicated by sexual promiscuity, compulsivity, and preoccupation.

Relationship. Researchers have also found that the relationship of the victim to the offender remained stable across the offence series, with rates of polymorphism generally below 20% (Guay et al., 2001; Cann, et al., 2007; Sim & Proeve, 2010; Sjostedt et al., 2004). However,

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relationship polymorphism was found to be more likely among offenders with a greater number of victims (Lussier, Leclerc, Healey, et al., 2007; Sim & Proeve, 2010). It is important to note that this association and others like it may be due to the increased chance of an offender being polymorphic which could result from an offender having a higher number of victims.

Victim Age Polymorphism

Of all the victim choice domains, offenders show the highest levels of polymorphism when age is examined (e.g., Guay et al., 2001; Sim & Proeve, 2010). Heil and colleagues (2003) reported that 70% of offenders victimized both children and adults. Similarly, Weinrott and Saylor (1991) found that of 130 men, only 47 could be strictly classified as child molesters or rapists. Polymorphic behaviour was found to be higher among rapists with 32% assaulting a child under the age of 12, compared to 12% of child molesters who reported trying to assault an adult. In cases of polymorphism, it may be that victim age preference is not as important to the offender as the activity preference (e.g., preference for coercive sex), which may serve as the main motivator in polymorphic offenders' sexual offending (Sjostedt, Langstrom, Sturidsson,& Grann, 2004).

Victim age polymorphism warrants further investigation as Lussier, Leclerc, Healey, et al. (2007) found that offender characteristics were more likely associated with higher frequency polymorphic activity. Additionally, it warrants further investigation as it has been suggested that polymorphic offenders are at a higher risk to reoffend when compared to age-specific offenders (Harris et al., 2011; Parent et al., 2011). Harris and colleagues (2011) found that polymorphic offenders were more likely to sexually recidivate in comparison to rapists, child molesters, and incest only offenders. Further, rapists and polymorphic offenders had similar rates of violent recidivism both of which were higher than non-sexual recidivism among child molesters and

incest only offenders. Parent and colleagues (2011) found that polymorphic offenders reoffended more rapidly and at 15-years follow-up, had a recidivism rate of 43% which was much higher than rapists (19%) and child molesters (3%). For violent and nonviolent recidivism, rapists had the highest level of recidivism, followed by polymorphic offenders, and child molesters. Interestingly, the actuarial risk measures used in the study were not as accurate in predicting recidivism in polymorphic offenders. Thus, studies that specifically examine the association between polymorphism and variables that have been identified as being predictive of recidivism (e.g., Hanson & Morton-Bourgon, 2005) would be particularly warranted given these findings. However, to date this has gone unexplored as has research on the reasons sexual offenders may be polymorphic, both of which are important next steps in furthering our understanding of their high risk to the community.

In a review paper, Laws (1994) found evidence that those who victimize adolescents have the highest rates of polymorphism, compared to those who victimize children and adults. Guay and colleagues (2001) provided further support for this finding, reporting that offenders who victimized adolescents were the least stable in the age of the victim when compared to those who victimized children or adults. Other researchers have reached the same conclusion finding that the frequency of polymorphism is highest among those with adolescent victims (Abel et al., 1988; Gebhard et al., 1965; Lussier, Leclerc, Healey, et al., 2007). Although estimates of polymorphism among rapists and child molesters tend to be high, there are discrepancies in these rates across studies. Given the finding that those with adolescent victims are more likely to be polymorphic, these discrepancies in rates of polymorphism could potentially be the result of the inclusion of adolescents in the child molester or rapist categories.

A related issue of concern is the way victim age is defined and 'banded' across studies of polymorphism. In the literature on erotic age preference, the terms pedophilia, hebephilia, ephebophilia, and teleiophilia are used to describe sexual preference in prepubescent (roughly ten and under corresponding to Tanner Stage 1), pubescent (roughly 11 to 14 corresponding to Tanner Stage 2 and 3), late pubertal (roughly 15 to 16 corresponding to Tanner Stage 4) and to those who show signs of sexual maturity (roughly 17 and older corresponding to Tanner Stage 5), respectively (e.g., Blanchard et al., 2009; Blanchard, 2010; Hames & Blanchard, 2012). It is important to note that teleiophilia and arguably ephebophilia reflect normative sexual preferences in adult males, whereas pedophilia and hebephilia do not (Hames & Blanchard, 2010). In general, the sexual offending literature does not subscribe to these approximate age bands and often conflates pubescent and late pubertal aged-victims. For example, Guay and colleagues (2001) defined a pre-pubertal victim as under age 13, a pubertal victim as 13 to 15 and an adult victim as 16 and over. It is crucial to remain consistent with the age bands in the erotic age preference literature, given that the proposed ages are intended to provide the best estimation of pubertal development. However, given that that victim age is used to approximate pubertal development, a methodological limitation inherent in studies on victim age targeting is the inability to categorize victims based on pubertal development. Overall, using the age bands from the erotic age preference literature would not only increase generalizability across studies, but also increase the accuracy of the approximation of Tanner Stages of sexual development.

The General Theory of Crime and Polymorphism

A contentious debate has emerged in the sexual offending literature on whether sexual offenders' criminal careers are marked by generalization or specialization, which has significance to the study of polymorphism. Theorists who subscribe to the view of offender

generalization view sexual offending as part of an overall criminal lifestyle whereby offenders commit a wide array of sexual and non-sexual offences (Harris, Mazerolle, & Knight, 2009; Harris, Smallbone, Dennison, & Knight, 2009; Lussier, 2005). This is supported by the general theory of crime, which postulates that all types of offending are caused by low self-control and a need for immediate gratification (Gotterfredson & Hirschi, 1990). This is in contrast to theories of specialization whereby sexual offenders are viewed as unique in that they exclusively commit sexual offences (Harris, Mazerolle, et al., 2009; Lussier, 2005). This is supported by learning theorists. For example, some postulate that sexual offending behaviour is learned through a complex process of continuous operant conditioning, in both interpersonal and non-social situations, with reinforcement strengthened over time (Burgess & Akers, 2010).

Weinrott and Saylor (1991) utilized offender self-report and police records and found that prior to incarceration, 99 male rapists and child molesters had committed a total of 19,518 non-sexual offences. However, in comparison to rapists, child molesters committed fewer non-sexual offences which led to the conclusion that rapists were *generalist* offenders and child molesters were *specialist* offenders, which has been supported by other researchers in the field (e.g., Harris et al., 2009; Lussier et al., 2007; Parent et al., 2011). Others have debated these findings, suggesting that the offending behaviour of child molesters can also be explained by the general theory of crime (Smallbone & Wortley, 2003; Smallbone & Wortley, 2004a; Smallbone & Wortley 2004b). Smallbone and Wortley (2004a) found that prior to the commission of their sexual offence(s) child molesters had committed a large number of non-sexual offences. They speculated that molesters' sexual offences against children may arise from a general antisocial disposition. These findings highlight the difficulty of getting an overall picture of the criminal career and offender characteristics of sex offenders by studying homogenous samples.

In terms of specific characteristics, Harris, Mazerolle, et al. (2009) found that *generalists* were more likely to have substance use problems, engage in antisocial behaviour, school histories associated with maladjustment, and higher scores on the Psychopathy Checklist-Revised (PCL-R; Hare, 2003). *Specialists* were more likely to be incestuous, sexually preoccupied, have male victims, and display emotional congruence with their victims. In contrast to *generalists*, *specialists* were also more likely to start their criminal career with a sexual offence as opposed to a property or violent offence (Harris, 2012). Further, Harris, Knight, Smallbone, and Dennison (2011) found that generalization and specialization established prior to arrest were generally stable upon release from prison, as *generalists* and *specialists* continued their pattern of offending (e.g., prior sexual specialist offenders more likely to sexually recidivate than non-sexually recidivate).

Soothill, Francis, Sanderson, and Ackerley (2000) conducted a 32-year longitudinal study, and found that overall sexual offenders could be characterized as *generalists*. However, when examining the sexual offences they committed across time, they clearly specialized within their sexual offending as they more likely reoffended with a similar type of sexual offence as their prior convictions. Similarly, in a review of the literature Lussier (2005) concluded that there is evidence to support both generalization and specialization in the criminal careers of sexual offenders. As a result, it is crucial to look at an offender's stability across their sexual offences and develop a more explicit theoretical understanding of why some sexual offenders are unstable within their sexual offending. Additionally, the connection between generalization and polymorphism is an important area of research.

Research has generally supported the association between higher levels of criminal generalization and polymorphism in sexual offending (Smallbone and Wortley, 2004b; Lussier,

Leblanc, & Proulx, 2005). Lussier Leclerc, Healey, et al. (2007) examined the relationship between different forms of polymorphism and offender self-control by calculating a diversity index that indicated the degree of versatility within a sexual offenders' sexual offending series. Multivariate analyses revealed that low self-control was only associated with victim age polymorphism. They concluded that victim age polymorphism was a form of general deviance, in which polymorphism offenders may be more non-specific in the commission of both their sexual and non-sexual offences. As a result, they postulated that polymorphic offenders may be offenders who are unable to resist opportunities to offend, due to the need for immediate gratification, an important component in the general theory of crime (Gotterfredson & Hirschi, 1990). Accordingly, the role of opportunity has been highlighted by other researchers who have explored the factors that may increase the chances of polymorphism among serial sexual offenders (e.g., Heil et al., 2003).

Potential Factors that Explain Victim Age Polymorphism

While the empirical research has been limited on victim age polymorphism, a number of potential factors explaining its occurrence have been proposed. Although these explanations may appear disparate, they are largely connected in that they emphasize the role of opportunity in polymorphism (e.g., Heil et al., 2003).

Sexual Surrogate. Researchers who have found that polymorphic offenders were more likely to have adolescent victims, have postulated that adolescent victims may serve as viable option when the offender's preferred victim type is not accessible (Guay et al., 2001; Lussier, Leclerc, Healey, et al., 2007). Adolescents may represent an appropriate transition for an offender who prefers to offend against children or adults, given their stage of sexual development. For example, an offender who prefers children may offend against an adolescent

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victim who more closely resembles a child, whereas someone who prefers adults may also offend against an older looking adolescent victim. As such, adolescent victims may easily fit in to the expanded victim pool targeted by offenders when their preferred victim type is unavailable (Heil et al., 2003).

This hypothesis is further supported by studies of sexual arousal in non-offending males attracted to sexually mature females. Lykins and colleagues (2010) found a negative linear relationship between sexual preference and age in heterosexual males, in that men who were most attracted to sexually mature females showed the next highest level of attraction to pubescent-aged children (11 to 14 years of age), followed by prepubescent-aged children (below 10 years of age), and the lowest level of arousal to males of any age group. Further, in studies of sexual offenders, men with pedophilic interest had the highest degree of attraction to prepubescent children followed by pubescent aged children and sexually mature adults, whereas teleiophilic men had a similar arousal pattern as reported by Lykins and colleagues (Blanchard et al., 2009). These findings give rise to a dimensional understanding of erotic age preference, which was supported in a study conducted by Mackaronis, Strassberg, and Marcus (2011), who found that pedophilic sexual interest was a matter of degree as opposed to a strict categorical distinction. These findings also suggest that given their sexual development, pubescent-aged children or adolescents, may be selected due to being the most similar victim type to their ideal victim, referred to as the sexual preference gradient by Seto, Lalumiere, and Kuban (1999). Thus when an offender's ideal victim is not available, some offenders may offend opportunistically against other suitable victims. As a result, the concept of opportunity would also appear to be important to furthering the literature on polymorphism.

Premeditated Opportunism. Premeditated opportunism occurs when an offence is planned to the extent that the offender is always ready to offend if the opportunity presents itself (Rossmo, 2000). Support for this concept came from Goodwill and Alison (2007) who in a sample largely comprised of offenders who targeted adults, found that planning moderated the negative linear relationship between victim age and offender age. They found that in the absence of planning the relationship between victim age and offender age may disappear, because these offenders may be more opportunistic and hence likely to forfeit their ideal victim type. This is in accordance with the literature on polymorphism, in which it has been argued that polymorphism demonstrates how sexual offenders may be a more opportunistic type of offender (e.g., Heil et al., 2003).

From this perspective, offenders may be less likely to select on physical characteristics of the victim and more likely to select on characteristics that signal opportunity (e.g., victim vulnerability). Stevens (1994) found that 66% of offenders selected their victims because they believed that they would be easy targets (based on an available opportunity to offend and the assumption that the victim wouldn't fight back). Further, offenders identified a number of situations in which they picked up on cues of vulnerability and used it to their advantage. One area that contributed to this appraisal was the age of the victim, which played a significant role in this consideration as young females were judged as vulnerable and hence suitable victims. This is an important finding given the high rates of polymorphism in those with adolescent victims (e.g., Guay et al., 2001), as it suggests they may be more suitable victims for opportunistic offenders.

Psychopathy. Lussier, Leclerc, Healey, et al. (2007) postulated that polymorphism may be an indicator of general deviance, which has been supported by a small body of research

focused on the relationship between polymorphism and psychopathy. Psychopathy is a personality constellation involving interpersonal-affective deficits and social deviancy (Hare, 2003). It is a crucial construct to consider as alongside sexual deviancy, it is one of the most robust predictors of future recidivism among sexual offenders (e.g., Hanson & Morton Bourgon, 2005; Mann et al., 2010).

Porter and colleagues (2000) found that polymorphic sexual offenders had the highest number of offenders assessed to be psychopathic when compared to extrafamilial, intrafamilial, relationship polymorphic, rapists, and non-sexual offenders. Though victim age polymorphic offenders had the highest rates of psychopathy, their scores did not differ significantly from rapists and non-sexual offenders. While they found elevated interpersonal-affective deficits among all sexual offender groups, social deviancy (a component of which is antisociality) was shown to be highest among rapists, polymorphic, and nonsexual offenders when compared to different groups of child molesters (extrafamilial, intrafamilial, and relationship polymorphic offenders). These findings have been replicated in other studies that have found an association between psychopathy and polymorphism (Olver & Wong, 2006; Skorvan, Huss, & Scalora, 2010). However, there has been debate on whether it is the interpersonal-affective deficits or social deviancy that contributes to this relationship, with some researchers finding significant group differences on the interpersonal-affective dimension (e.g., Skorvan et al., 2010) and others finding differences on the social deviancy dimension (e.g., Olver & Wong, 2006).

Porter and colleagues (2000) argued that psychopathy among sexual offenders would increase the chances that sexual offenders would be more likely to switch victim types, due to an increased need for sexual sensation seeking. The hypothesis that psychopathic sexual offenders may be higher on measures of sexual sensation seeking has been supported in recent research

(Skorvan, Huss, & Scalora, 2010). Moreover, it fits with the hypothesis put forth by Lussier, Leclerc, Healey, et al. (2007) who hypothesized that polymorphic offenders may be hypersexual as they seek out different types of sexual experiences across various contexts.

Additionally, recent research has highlighted the importance of victim vulnerability in psychopathic sexual offenders. Wheeler, Book, and Costello (2009) had college students select individuals they would most likely offend against after they watched videotape vignettes of women and men walking down a hallway. The confederates from the vignettes had previously indicated if they had experienced victimization, which was how the researchers defined victim vulnerability. When asked to rate the videotapes, college students high in psychopathy were better than those low in psychopathy in identifying individuals who appeared vulnerable and would be more suitable targets in a potential offence. Similarly, Book, Quinsey, and Langford (2007) found that criminal offenders high in psychopathy were more accurate in rating individuals on their level of assertiveness after watching a videotaped vignette. Thus initial evidence suggests that psychopathy and victim selection for vulnerability may be associated, and psychopathic sexual offenders may be more specifically attuned to victim characteristics that indicate vulnerability.

Implications for Investigative Psychology and Forensic Psychology

Beauregard (2010) argued that although Investigative Psychology and Forensic Psychology research on sexual offenders have developed separately, the two fields have much to offer each other, which would further aid in our understanding of sexual offending. The current study takes a similar approach by exploring the ways in which polymorphism has implications for both Investigative and Forensic Psychology.

Investigative Psychology. Canter (2004, p .8) defines Investigative Psychology as the process by which "behavioural science can help in the detection of offenders or the investigative issues that could aid in the defense or prosecution of suspects." This field is most commonly associated with offender profiling in which a suspect's background information is inferred from crime scene behaviours (Egger, 1999). In recent years the field has been conceptualized as behavioural investigative advice (BIA), which focuses on the evolution of the field beyond offender profiling to include activities such as suspect prioritization, case linkage, information management, risk assessment and interviewing strategies (Alison, Goodwill, Almond, Van den Heuvel, & Winter, 2010).

Case linkage involves the analysis of crime scene behaviours in order to assess whether behaviours are consistent across different crimes in an attempt to ascertain whether one offender is responsible for the entire series (Woodhams & Toye, 2007). Case linkage is directly relevant to polymorphism as offenders have to be consistent in the way they target victims and commit crimes; otherwise attempts at case linkage would be futile. Polymorphism also has relevance to provision of BIA advice as offenders must be consistent in the way they commit their crimes in order for BIA advice to be accurate (Alison, Bennell, Mokros, & Omerod, 2002). However, there may be specific behavioural markers in a sexual offence that would increase the probability that the offender has committed sexual offences against other victim age groups. Therefore, victim age polymorphism is directly relevant to the provision of behavioural investigative advice on cases of serial sexual offences, especially in relation to case linkage.

Case linkage, offender profiling, and sex offender research in general have also invested much research in the creation of offender typologies, most often in attempt to classify offenders as one type over another (e.g. Massachusetts Treatment Center, Rapist Typology Version 3;

Knight & Prentky, 1990). Goodwill et al. (2009) compared police-investigative based typologies, thematic, and the MTC:R3 typologies and concluded that the majority of typologies studied were too broad. Instead they argued that the focus should be on the multivariate relationships among crime scene variables, including situational aspects of the crime, and offender characteristics (Goodwill & Alison, 2007). However, sexual offender typologies continue to guide both policing and forensic practice. This is problematic given that they have been criticized due to their assumption of specialization among serial sexual offenders (Robertiello & Terry, 2007). If rates of victim age polymorphism are as high in sexual offenders as some studies suggest, then categorizing offenders based on the age of their victim alone are likely deeply flawed and have the potential to misguide police investigations and the assessment and treatment of sexual offenders.

Forensic Psychology. Victim age polymorphism is an important area of study in Forensic Psychology given its implications for risk assessment. Polymorphic offenders have been found to have higher levels of sexual recidivism (Harris et al., 2011; Parent et al., 2011), a greater number of victims (Cann et al., 2007), and risk assessment tools demonstrated low predictive accuracy in the prediction of sexual recidivism among polymorphic offenders (Parent et al., 2011). Further, polymorphic offenders have been found to have high levels of psychoapthy (e.g., Porter et al., 2000), which has been found to be a significant risk factor for recidivism among sexual offenders (Hanson & Morton-Bourgeon, 2005). These results signify that polymorphism may be a general indicator of an offender's level of risk. Therefore, additional studies are crucial in furthering our understanding of the relationship between risk and polymorphic behavior, which in turn has implications for offender management decisions. For example, given that polymorphic offenders are at a higher risk to recidivate and have a wider range of victims, it may be more important to

limit their access to children when they are released, even if the majority of their offences have involved adults.

Additionally, these findings may have direct implications for sexual offender treatment. For example, one of the most common modalities guiding the assessment and treatment of correctional populations in North America is the risk-need-responsivity principle (RNR). The principles of RNR established that treatment should be matched to the offender's risk to reoffend, criminogenic needs, and the offender's social and cognitive abilities (Andrews & Bonta, 2010; Andrews, Bonta, & Hoge, 1990). In a review of the literature, Seto (2008) stressed the importance of the development of empirically supported treatments based on strong theoretical models. Further, Hanson, Bourgon, Helmus, and Hodgson (2009) conducted a meta-analysis of 23 treatment studies and found that programs that adhered to RNR principles were associated with lower recidivism rates than programs that did not adhere to these principles. These findings suggest that the principles of RNR are crucial in treating sexual offenders and should be adhered to when treating polymorphic sexual offenders. Therefore, if polymorphic offenders are higher risk as suggested in previous research (e.g., Parent et al., 2011) they should receive more intensive treatment services. Additionally, it may be problematic if sexual offenders are classified for treatment based on their predominant victim type as doing so may not adequately target the dynamic risk factors that contribute to their sexual offending.

Current Study: Aims and Hypotheses

The current study examines victim age polymorphism among serial sexual offenders with stranger victims by exploring the differences between polymorphic and victim age specific sexual offenders in their a) criminal careers, b) crime scene behaviours, and c) offender characteristics. Underlying the majority of these hypotheses is the idea that polymorphic

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offenders are more opportunistic types of offenders. The implications of these results will be discussed within the domains of Investigative and Forensic Psychology.

The first aim will be to explore the criminal careers of polymorphic offenders by examining both their sexual offending and their non-sexual offending. Hypotheses are as follows:

H1: Polymorphic offenders are more likely than age-specific offenders to have pubescent aged victims.

H2: Polymorphic offenders are more likely to have a greater number of victims than age-specific offenders.

H3: Polymorphic offenders are more likely to be *generalists* than age-specific offenders.

H4: Polymorphic offenders will have started sexually offending at a younger age in comparison to age-specific offenders.

Additionally, multivariate analysis will be used to investigate differences in the crime scene behaviors of polymorphic and age-specific offenders. Canter, Bennell, Alison, and Reddy (2003) argued that the themes present in crime scene behaviours- hence the way variables cluster- is a better approach than examining individual behaviours as it may give a better indication to the overall function of these behaviours. It is hypothesized that polymorphic offenders will show distinct patterns in crime scene behaviours, specifically highlighting the importance of opportunity in their sexual offending series. The wider literature on Investigative Psychology has highlighted the role of a number of crime scene variables ranging from pre-crime facilitators to the commission of the sexual offence (e.g., Canter, 1994; Canter & Heritage, 1990; Canter et al., 2003; Chambers, Horvath, & Kelly, 2010; Porter & Alison, 2006; Santilla, Junkkila, & Sandabba, 2005). These variables in addition to victim selection (Beauregard &

Leclerc, 2007; Beauregard, Lussier, & Proulx, 2005; Beauregard, Rebocho, Rossmo, 2010; Deslauriers-Varin & Beauregard, 2010; Rossmo, 2000; Stevens, 1994) will be included in analyses in order to provide a composite of the sexual offence.

Based on the literature, it is hypothesized that variables will cluster together that are related to sexual behaviours, which constitutes the highest frequency behaviours in stranger rape (Canter et al., 2003). Additionally, it is expected that variables that demonstrate an attempt to physically control the victim (e.g., weapons) will cluster together (Canter et al., 2003; Chambers et al., 2010; Porter & Alison, 2004), and whose excessive use has been viewed as a behavioural marker of sexual sadism (Richards & Jackson, 2001). For example, the role of restraints in analyses of crime scene behaviours has been identified as an important behavioural marker of sexual sadism (Marshall, Kennedy, & Yates, 2001; Richards & Jackson, 2001). It is hypothesized that variables of physical aggression will cluster together (Canter et al., 2003) and that alcohol will play a large role in physical violence as sexual offenders who were intoxicated were more likely to have caused physical harm to the victim and force intercourse (Beauregard et al., 2005; Busch-Armendariz, DiNitto, Bell, & Bohman, 2010; Parkhill, Abbey, & Jacques-Tiura, 2009). Finally, it is expected that deviant sexual fantasies prior to the crime will cluster with victim selection specific to the victim, as deviant fantasies have been argued to provide a behavioral script for the offender (Bartels & Gannon, 2011). Specific hypotheses are as follows:

H5: Four clusters will emerge in analyzing crime scene behaviours specific to sexual behaviours, control, aggression, and deviant fantasies.

H6: Polymorphism will be more likely to be associated with crime scene behaviours that demonstrate opportunity in comparison to age-specific offenders.

Finally, the relationship between offender characteristics and polymorphism will be examined as it is expected that polymorphic offenders will differ from age-specific offenders in their general and psychological characteristics. Hypotheses are as follows:

H7: Polymorphic offenders are more antisocial than age-specific offenders.

H8: Polymorphic offenders will be more likely to be sexually deviant than their age-specific counterparts.

It is important to note that sexual deviancy and opportunistic offending are not necessarily contradictory concepts. Offenders can have multiple sexual interests and they may be highly specific in their offending regarding more salient interests and more opportunistic in regards to less salient interests (Sjostedt et al., 2004). As previously discussed, an example of this would be that an activity preference (e.g., preference for coercive sex) may be more important than a victim preference for a subset of offenders.

Method

Participants

An initial sample of 1,000 male sexual offenders serving a sentence in a Canadian federal penitentiary was restricted to 92 offenders who had committed serial sexual offences against stranger victims. As previously discussed, stranger offences were examined given the Investigative Psychology focus, in which crimes against strangers are the most difficult for police to solve in the absence of other evidence (Canter & Heritage, 1990).

All offenders were asked to take part in the study and 20 declined, which resulted in a final sample of 72 serial sexual offenders. In some cases the offenders had committed other criminal offences during the sexual offence such as murder or forcible confinement. At the time they agreed to participate the offenders were serving a sentence of two years or more for at least two sexual offences between 1995 and 2004. They committed their offence against a victim of either any age or gender.

The average age of the offenders at the beginning of their sexual offence series was 30.72 years (*SD*=9.40). The majority of the offenders (91.3%) were Caucasian, 39.6% were unemployed, and 89.9% of the offenders had a previous criminal record. Based on official records, offenders had committed an average of 2.91 (*SD*=6.34) violent sexual offences, 1.00 non-violent sexual offences (*SD*=3.08), 2.46 violent non-sexual offences (*SD*=4.40), and 11.99 non-sexual non-violent offences (*SD*=19.60).

The 72 offenders were responsible for a total of 361 sexual offences. The number of sexual offences the offenders had committed ranged from two to 37 (*Mode*=3). The majority of the victims were female (80%). The mean age of the victim in the 361 offences was 18.7 (*SD*=9.60) with 78 of the offences classified as sexual offences against children with the victim aged ten or younger (Victim age Mean= 7.86 *SD*=1.85), 59 offences classified as sexual offences

against minors with the victim between the ages of 11 and 14 (Victim age Mean=12.68, *SD*= 1.10), and 224 of the offences classified as sexual offences against adults with the victim aged 15 or older (Victim age Mean= 24.11 *SD*=8.21). Although collapsed with the offences against adults group, it is important to note that there were 41 (11%) offences against older adolescent victims aged 15 to 16.

Procedure

In-depth semi-structured interviews were conducted by a criminologist with each offender. Additionally, a file review was conducted to gather further information and to corroborate the interview material. Offenders were asked about the stranger sexual offences that appeared on their record, and offenders were guaranteed confidentiality with the only limit being if a victim was still in danger. The offender was asked to report on each individual sexual offence and provide detailed information on the offence, characteristics of the victim, and the geographic and behavioural aspects of the crime. Further information was collected from their files on a number of variables not exclusively limited to developmental risk factors, prior convictions, and available psychometric test results (e.g., phallometric test results). The total length of the interviews ranged from 2 to 12 hours depending on the number of offences committed by the offender and the willingness of the offender to provide detailed information on each individual crime. If there were discrepancies between the interview and the official police records, the police records were used to code for that aspect of the crime. Given the subjectivity of many aspects of a sexual offence (e.g., victim selection), not all details could be confirmed by official records. However, offenders were routinely questioned around the consistency of their self-report. Participants consented to participate in the study and were not compensated for their

participation in accordance with Correctional Services of Canada guidelines. The study was approved by both the University of Montreal and Correctional Services of Canada IRBs.

Variables

Victim Age Polymorphism. Victim age data were collected for all 361 sexual offences. In order to be consistent with the literature on erotic age preference that distinguishes between pedophilia, hebephilia and teleiophilia (Blanchard et al., 2009; Blanchard, 2010), offences were classified as occurring against a child (10 and under), minor (11 to 14), or adult (15 and higher). Although ephebophilia (sexual preference for late pubertal adolescents, typically 15 to 16) has been distinguished from teleiophilia, both have been argued to be normative erotic preferences in adult males (Hames & Blanchard, 2012). Therefore, the decision was made to collapse the late pubertal victims with the adult group.

After each of the 361 offences was classified into a victim age category, the 72 offenders were classified as age-specific (offenders who exclusively sexually assaulted children, minors, or adults) or polymorphic offenders (offenders who had victims from more than one victim age group). For example, one offender committed five offences against victims aged 32, 17, 19, 21, and 12. The offences against victims aged 32, 17, 19, and 21 were classified as sexual offences against adults and the offence involving the 12 year-old was classified as a sexual offence against a minor. The offender was labeled as a polymorphic sexual offender and this classification was assigned to each of their offences indicating that they were part of a polymorphic series.

This method of categorization is consistent with the literature on polymorphism (e.g., Guay et al., 2001). However, the average victim age spread for each offender is an important consideration and was also calculated (*M*=5.22, *SD*=6.56). Using the previous offender as an

example, the average victim age spread across his sexual offence series would be 20.2 years. Although the average age spread is an important consideration and was included in preliminary correlational analyses, it was not examined in other analyses. This approach was taken in order to be consistent with the general polymorphism literature (e.g., Guay et al. 2001). Additionally, average age spread does not necessarily equate to polymorphism. For example, an offender could have an average victim age range of 30 years, if he offended against a 30 year-old and a 60 year-old, which would not represent polymorphism (both victims are adults). This is in contrast to an offender with a five-year old and a 14 year-old victim with an average victim age range of 9.5 years, which would represent polymorphism.

Further, it is important to note that analyses reported in the current study included late pubertal victims with adults. Therefore, anyone with a victim who was 15 and older who also offended against a child and/or a minor was labeled as polymorphic. However, additional analyses were run that did not take in to account the 15 to 16 year age group in the determination of polymorphism. For example, if an offender had victims aged 11, 13, and 16 they were coded as age-specific as they offended against a late adolescent victim and pubescent aged victims. However, running the statistical analyses excluding the late pubertal victim group in the determination of polymorphism did not significantly change the results and are not reported in the present study.

Criminal offending history. Offenders were categorized as *generalists* or *specialists*. A *generalist* is an offender who committed a greater proportion of non-sexually based offences whereas a *specialist* is an offender who committed a greater proportion of sexually based offences. In order to assess the level of generalization, a specialization threshold and continuum were created (Harris, Smallbone, et al., 2009; Harris et al., 2011). The specialization threshold

was a binary variable in which an offender was categorized as a specialist if 50% or more of his offences were sexual in nature and a generalist if less than 50% of his crimes were sexual in nature. The specialization continuum was the continuous percentage, with higher percentages indicating a greater degree of specialization (Harris et al., 2011). The specialization continuum is important as it acknowledges that specialization is a matter of degree and is also worthwhile to report, given that the specialization threshold is an arbitrary determination.

Crime Scene Variables. Appendix A lists and defines the crime scene behaviours used in the present study. These variables were selected based on the various stages associated with a sexual offence including pre-crime, victim selection, and crime scene behaviours. All included variables had to have a frequency of 10% or greater (see table 1 for frequencies) to be included in the analyses. Variables were coded dichotomously as present or absent as it has been argued that this increases the reliability of coding crime scene behaviours (Canter & Heritage, 1990).

Table 1

Frequency of behaviours engaged in during the offence

Variable	Total	Polymorphic	Age Specific
Deviant sexual fantasies prior to the crime	322 (89%)	156 (93%)	166 (86%)
Alcohol prior to the crime	86 (24%)	31 (19%)	55 (29%)
Victim selection for location	283 (78%)	144 (86%)	139 (72%)
Victim selection for vulnerability	219 (61%)	123 (73%)	96 (50%)
Victim selection for clothing	54 (15%)	5 (3%)	49 (25%)
Victim selection for physical characteristics	123 (34%)	66 (39%)	57 (30%)

Structured premeditation	164 (45%)	95 (57%)	69 (36%)
Weapon present	111 (31%)	62 (37%)	49 (25%)
Offender used restraints during the offence	50 (14%)	28 (17%)	22 (11%)
Offender brought rape kit to the crime scene	41 (11%)	24 (14%)	17 (9%)
Victim was physically harmed or murdered	84 (23%)	36 (21%)	48 (24%)
Offender forced penetration during the offence	158 (44%)	73 (44%)	85 (44%)
Offender masturbated during the offence	116 (32%)	84 (50%)	32 (17%)
Offender forced oral sex	143 (40%)	103 (61%)	40 (21%)
Offender forced victim to commit other sexual acts	192 (53%)	107 (64%)	85 (44%)

Note. The frequencies and percentages reported refer to the behaviours that were present taking in to account each sexual offence case (n=361), 193 of which were classified as belonging to an age specific series (54%) and 163 which were classified as belonging to a polymorphic series (47%).

File Information. File information was collected from a reduced sample of offenders. A subsample of offenders completed the Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon, Davis, & Millon, 1997), an extensive self-report instrument that assesses mental health symptoms and underlying personality structure. The MCMI-III is divided into a number of subscales, which can be individually examined. The current study examined the responses on the antisocial subscale of the MCMI-III, as a proxy measure of psychopathy. It is important to note

that only 14 offenders completed the MCMI-III antisocial subscale and were included in the analysis, and as such the analysis is exploratory.

File information was also available for a subgroup of offenders (n=46) on phallometric test results that were conducted by Correctional Services Canada. Phallometry (PPG) is a psychophysiological measure designed to assess arousal to pictures or audio recordings as measured through change in penile blood flow (Laws, 2009). PPG testing was completed with a circumferential testing apparatus (mercury in rubber strain gauge) that measured changes in penile circumference (measured in millimeters). Offenders were excluded if penile circumference did not increase to more than 3mm (roughly 10% of a full erection) for at least one of the presented stimuli. They were only included as valid cases if their penile responding was 1mm greater than their penile response to the neutral stimulus. A total of eight profiles were deemed invalid and were not interpretable, further reducing the sample size to 38. A semantic tracking task was used in order to prevent the offender from purposely trying to control their penile responding. During PPG assessment, offenders were asked to press a button if the content was only sexual, a button if the content was only violent, and both buttons if the content was both sexual and violent (Proulx, Cote, & Achille, 1993).

Stimuli were presented to each offender depending on whether the majority of their victims involved child or adult victims, due to the limited resources available at the phallometric lab, which is in high demand predominately for clinical usage. Five audiotaped stimuli developed by Abel, Becker, Blanchard, and Djederedjian (1978) were used for PPG testing of a subset of the rapists in the sample (n=16). Two sets of stimuli were presented in each of the following categories: consensual sexual relationships, rape with physical violence, rape with humiliation, and non-sexual physical assault against a woman. For PPG testing of a subsample of

the child molesters in the sample (*n*=23), the stimuli were based on those developed by Quinsey and Chaplin (1988). The offender was presented with 11 audiotapes (both opposite-sex and same-sex content): sexual activity with adult (consensual), sexual relations with a child who does not resist precoital touching, sexual activity with a child in which the child resists precoital touching, violent sexual activity with a child, and non-sexual non-violent assault. For both sets of stimuli (child molester and rapist) a non-sexual non-aggressive control stimuli was used. Further, it is important to note that new stimuli were not presented to the offender until his penile response returned to baseline. Once the testing was completed a sexual deviance index (binary variable) was calculated that indicated whether the highest response to deviant stimuli was greater than the highest response to mutually consenting sexual stimuli.

PPG has shown adequate reliability (Harris & Rice, 1996), and there is strong evidence for its content and construct validity (Merdian & Jones, 2011). Seto (2001) summarized the research findings on discriminant and predictive validity, and found that PPG discriminates between subgroups of sexual offenders based on victim history and was a robust predictor of sexual recidivism. Given its psychometric properties, PPG testing is viewed as the gold-standard in the assessment of sexual preferences (Laws, 2009).

Results

Preliminary Analyses

Prior to hypothesis testing, initial analyses were conducted to examine the underlying assumptions for each statistical test. Additionally, intercorrelations were examined among the variables (not including crime scene behaviours). For the intercorrelations, polymorphism was examined in a variety of ways (refer to methods). Polymorphism was examined as a categorical variable that included 15 to 16 year-old victims in the determination of polymorphism and as a categorical variable that did not take in to account 15 to 16 year-old victims in the determination of polymorphism. Further, the average victim age spread was included in order to assess its relationship with polymorphism and the other variables.

Intercorrelations are presented in Table 2. Both categorical measures of polymorphism (0 represented age-specific and 1 represented polymorphic) were not significantly correlated with average victim age spread. Further, the relationship between polymorphism and average victim age spread was negative. However, both measures of polymorphism as binary variables were significantly correlated. Additionally, both measures of polymorphism were positively correlated with the deviance score for rape. Average victim age spread was negatively correlated with both measures of specialization. Finally, antisociality was negatively correlated with the specialization continuum. None of the other variables were significantly correlated.

Table 2

Intercorrelations among study variables (n=72)

	1.Polymorphim	2.Polymorphism alternate	3. Mean victim age	4.Specialist continuum	5.Specialist binary	6.Antisociality	7.Sexual deviancy	8.Deviance score for rape	9.Deviance score for pedophilia
1	-	-	-	-	-	-	-	-	-
2	.85**	-	-	-	-	-	-	-	-
3	-.24	-.15	-	-	-	-	-	-	-
4	-.06	-.03	-.35*	-	-	-	-	-	-
5	-.02	.01	-.30*	.88**	-	-	-	-	-
6	.44	.44	-.19	-.63*	-.41	-	-	-	-
7	.21	.31	-.21	.21	.31	-.26	-	-	-
8	.48*	.52*	.14	-.27	-.26	.56	.63*	-	-
9	-.04	.18	.16	.07	.08	.13	.64**	N/A	-

Notes. *p<.05 **p<.01. The polymorphism alternate variable does not take in to account those who are 15 and 16 in the determination of polymorphism, whereas polymorphism does. The intercorrelations between deviance score for rape and pedophilia are not reported, as none of the offenders were tested using both sets of stimuli (refer to methods for an explanation of testing).

Frequency of Polymorphism

In order to test hypothesis 1 and 2, the different forms of victim age polymorphism and the average number of victims were computed. In regards to age-specific offenders (see Table 3), the majority of offenders exclusively targeted adult victims followed by offenders who exclusively targeted children. Sexual offenders who exclusively victimized minors were rare. A non-parametric chi square test was conducted in order to examine whether there were differences in the frequencies of age-specific offenders. The chi square was significant, χ^2 (2) = 33.17, $p<.001$ which indicated that the frequency of age-specific offenders differed significantly. Further, the offenders who exclusively targeted children had the lowest number of victims followed by those who targeted adults and minors.

Of the polymorphic offenders, the majority were offenders who targeted minors and adults, followed by those who targeted children and adults, all victim age groups, and lastly those who targeted children and minors. A non-parametric chi square was conducted in order to examine whether the frequencies of polymorphic offenders differed from one another. The chi square was not significant χ^2 (2) = 4.46, $p=.22$, which indicated that the number of polymorphic offenders did not differ significantly across the polymorphic groups. However, as observed from Table 3, the majority of the polymorphic victims had victims who were minors. Further, those offending against all victim age groups had the highest number of victims, followed by those with minor and adult victims, those with child and minor victims, and those with adult and child victims.

Overall, the majority of the 72 offenders were classified as age-specific sexual offenders with a mean victim age of 20.90 (SD=10.04). The polymorphic sexual offenders represented 36% of the sample with a mean victim age of 16.22 (SD=8.43). A t-test was conducted to

examine whether polymorphic offenders had a greater number of victims than the age-specific offenders. Although there was not a significant difference, the t-test approached significance t (70) = -1.56, $p=.14$, the effect size ($d=-0.36$) was slightly lower than a medium effect based on Cohen's (1988) criteria.

Table 3

Frequency of offending per offender group

Offender Distinction	Number of offenders ($n=72$)		
	Frequency	Percentage	Number of Victims (M)
Age-specific			
Child	11	15%	3.73
Minor	2	3%	4.50
Adult	33	46%	4.30
Polymorphic			
Child-adult	6	8%	2.83
Child-minor	4	6%	5.25
Minor-adult	11	15%	7.00
Minor-child-adult	5	7%	10.4
Total			
Age-specific	46	64%	4.17
Polymorphic	26	36%	6.42

The Criminal Histories of Polymorphic Offenders

In order to test hypothesis 3, polymorphic offenders were compared to age-specific offenders on whether their criminal careers would classify them as *generalists* (less than 50% of their crimes were sexual offences) or *specialists* (more than 50% of their crimes were sexual in nature). This was tested in two ways (Harris et al., 2011). First, offenders were compared on the specialization threshold, which produced a dichotomous outcome. It was found that polymorphic offenders were not more likely to be *generalists* χ^2 (1) = .10, $p=.76$, $V=.04$. This hypothesis was then examined by comparing age-specific and polymorphic offenders on the specialization continuum (continuous percentage score), which indicated that there was no significant

difference between polymorphic offenders (*M*=.54, *SD*=.34) and age specific offenders (*M*=.50, *SD*=.32) on a continuous measure of generalization *t* (66) = .50, *p*=.62, *d*=0.12.

To test hypothesis 4, polymorphic offenders were compared to age-specific offenders on the age at the start of their sexual offence series. Polymorphic offenders were found to be younger (*M*=27.77, *SD*=7.22) than age-specific offenders (*M*=32.65, *SD*=10.21) at the start of their sexual offence series, *t'* (63.49) = 2.27, *p*=.03, *d*=0.55. The effect size was medium according to Cohen (1988).

Crime Scene Behaviours of Polymorphic Offenders

In order to test hypothesis 5 and 6, a weighted principal component analysis (PCA) was conducted on 15 crime scene variables in order to investigate the latent dimensions within crime scene behaviours and to investigate if these factors differentiated polymorphic and age-specific offenders (refer back to Table 1 for a list of these variables).The PCA was conducted on the 361 crimes, with an adjustment applied to weight each offender's crime scene behaviours by the number of cases they contributed to the dataset. Therefore, the PCA was conducted on all 361 offences, but the weight ensured that each offender contributed an equal weight of behaviours to the analysis. Therefore, the present study attempted to reduce the relatedness of the sample by using the weight, which goes a step beyond similar analyses that have been conducted in the field (e.g., Beauregard, Proulx, Rossmo, Leclerc, & Allaire, 2007).

An oblique rotation (direct oblim) was applied to the PCA as it was expected that the factor scores would correlate to some degree given that all of the behaviours occurred in the context of a sexual offence. The KMO Measure of Sampling Adequacy was .62, which indicated that the sample size was sufficient for PCA. The Bartlett's Test of Sphericity χ^2 (105) = 232.47,

p<.001, indicated that PCA was appropriate as the correlations in the R matrix were not an identity matrix.

Five factors were extracted based on Kaiser's criterion of extracting factors with eigenvalues of one and above. The scree plot was examined and found to be consistent with Kaiser's criterion. Five components were retained which together explained 61% of the variance. The five factors were entitled as follows: Multiple Sexual Behaviours, Planned, Deviance and Availability, Physical Aggression, and Preferential. Stevens (2002) found that for sample sizes of 300, a factor score of .3 is significant at the *p*=.01 level. Thus, Table 4 presents all factor loadings, but bolds those that are .3 and above.

Table 4

Rotated Factor Scores of crime scene behaviours

	Multiple Sexual Behaviours	Planned	Deviance and availability	Preferential	Physical Aggression
Victim selection for vulnerability	**.46**	.03	.21	-.06	.16
Forced oral sex	**.73**	-.13	.15	.11	-.09
Offender masturbated	**.79**	-.11	.05	.04	-.11
Victim forced to commit sexual acts	**.77**	.08	-.19	-.02	.06
Alcohol prior to the crime	-.20	**-.48**	-.01	.03	**.66**
Structured premeditation	.26	**.33**	-.01	**.37**	-.23
Weapon present	-.03	**.62**	.00	-.14	**.37**
Restraints	.00	**.79**	.00	-.13	.07
Rape kit	-.10	**.76**	.07	.13	-.03
Victim selection for location	.13	.06	**.86**	-.23	.04
Deviant sexual fantasies	-.05	.01	**.77**	**.30**	-.09
Victim selection for clothing	-.17	.06	.05	**.71**	.15
Victim selection for physical characteristics	.21	-.19	-.03	**.70**	.01
Victim harmed	-.16	.24	.09	.12	**.71**
Forced penetration	**.30**	.18	-.11	.01	**.73**

Eigenvalues	2.81	2.51	1.41	1.27	1.16
% of variance accounted for	18.72	16.73	9.43	8.45	7.71

The five resultant factor scores were saved and entered as predictors in to a logistic regression analysis with polymorphism as the outcome (see Table 5). The overall model was significant χ^2 (5) = 71.04, $p<.001$. Classification accuracy increased from 54% to 71% when the factor scores were entered in to the model. Based on the Nagelkerke pseudo R^2, 24% of the variance was accounted for by the model.

Table 5

Contribution of factor scores to the model predicting polymorphism

Factor	B	Wald's	Odds Ratio [95% CI]
Multiple Sexual Behaviours	.67***	39.23	1.96[1.59-2.42]
Planned	.06	.28	1.07[.84-1.35]
Deviance and availability	.32*	5.05	1.37[1.04-1.81]
Physical aggression	-.25	3.08	0.78[0.59-1.03]
Preferential	-.38**	8.76	0.68[0.53-0.88]

Note. *p<.05 **p<.01 ***p<.001

Multiple Sexual Behaviours (factor 1) increased the odds by a factor of 1.96 ($p<.01$) of being a polymorphic offender, compared to an age specific offender. Deviance and Availability (factor 3) increased the odds by a factor of 1.37 ($p=.03$) of being a polymorphic offender, compared to an age specific offender. Preferential (factor 5) decreased the odds by a factor of 0.68 ($p<.001$) of being a polymorphic offender compared to an age specific offender. Finally, Physical Aggression (factor 5) approached significance ($p=.08$), and indicated that the odds of being a polymorphic offender decreased by 0.78, compared to an age-specific offender.

The Role of Antisociality and Sexual Deviancy in Polymorphism

In order to test hypothesis 7, a reduced sample of polymorphic and age specific offenders were compared on the antisociality subscale of the MCMI-III. Overall, 14 offenders had MCMI-

III scores, 10 of whom were age-specific and 4 of whom were polymorphic. As such findings should be interpreted with the small sample size in mind. A Welch's t-test was used to test this hypothesis due to unequal variances. A significant difference was found with a large effect size (Cohen, 1988) t' (11.21) = -2.61, p=.02, d=-1.26. Polymorphic offenders were found to have higher antisocial mean scores (*M*=67.50, *SD*=4.93) than age-specific offenders (*M*=50.0, *SD*=19.70).

In order to test hypothesis 8, polymorphic offenders were compared to age specific offenders on phallometric test results that assessed sexual deviancy for 38 (14 polymorphic and 24 age specific) offenders. Approximately 71% (*n*=10) of polymorphic offenders were labeled as deviant based on their PPG results compared to 50% (*n*=12) of age-specific offenders χ^2 (1) = 1.71, p=.20, *V*=.20.

Offenders were then compared on the PPG deviancy indices for sexual arousal to both children and rape. Approximately 23 of the offenders (8 polymorphic and 15 age-specific) were tested for preference to rape and 16 of the offenders (7 polymorphic and 9 age specific) were tested for a preference in children. For deviant arousal to rape, a Welch's t-test was conducted due to unequal variances. The difference between polymorphic offenders (*M*=2.35, *SD*=2.30) and age-specific offenders (*M*=0.76, *SD*= 0.74) on deviant arousal to rape approached significance with a large effect size (Cohen, 1988) t' (7.78) = -.1.91, p=.09, d=-.93. However, there was no significant difference in deviant interest in children t (14) = 0.15, p=.89, d=.07 between polymorphic offender (*M*=2.17, *SD*=1.82) and age-specific offenders (*M*=2.30, *SD*=1.73).

Discussion

The current study is among the first to exclusively study polymorphism in a sample of sexual offenders with stranger victims, using age bands consistent with the clinical literature on erotic age preference (Blanchard, 2010; Blanchard et al., 2009). Moderate rates of victim-age polymorphism were found in the present study, with those victimizing minors also having a higher number of child and adult victims. Although not significant, a trend with a large effect was observed with polymorphic offenders having a greater number of victims than age-specific offenders. Additionally, polymorphic offenders were younger at the start of their sexual offence series, but were not more likely to be *generalists*. Further, the specific sexual offences polymorphic offenders committed were more likely to be marked by multiple sexual behaviours, deviant fantasies, and selection for vulnerability and location. Finally, polymorphic offenders were found to score higher on a measure of antisociality, and a trend was observed suggesting that polymorphic offenders were more likely to display sexual arousal to rape. Overall, these findings challenge the offence specific fallacy (Laws, 1994) that continues to guide the fields of Investigative and Forensic Psychology, and highlight the need for future research on polymorphic offenders.

Polymorphism in Stranger Sexual Offenders

Approximately 36% of the offenders were classified as polymorphic in the current study, which is similar to the levels of polymorphism reported in other studies of sexual offenders (e.g., Cann et al., 2007; Lussier, Leclerc, Cale, et al., 2007; Guay et al., 2001). However, the reported rate of polymorphism in the present study is lower than that reported by Heil and colleagues (2003), who sampled a more diverse group of sexual offenders and used a polygraph to gather self-report data. Given that the current study relied on official record information the rates of

polymorphism reported may be an underestimate. However, Guay and colleagues (2001) found that sexual offenders with stranger victims evidence the greatest level of stability in regards to victim characteristics. Therefore, the percentage obtained in the current sample may reflect that offenders who victimize stranger victims evidence greater stability within their sexual offending series.

Consistent with the sexual offender literature, the majority of age-specific offenders exclusively victimized adults (e.g., Kuznestov, Pierson, & Harry, 1992). This finding is in line with Guay and colleagues (2001) who found that offenders who victimized adult stranger women were the most stable across their sexual offending, as they were the least likely to be polymorphic. Additionally, sexual offenders who exclusively targeted minors were rare in comparison to those who exclusively targeted children or adults, as the vast majority of offenders who victimized minors were found to be polymorphic. This is consistent with the robust findings in the literature that suggest polymorphism is highest in those who victimize adolescents (Abel et al., 1988; Gebhard et al., 1965; Guay et al., 2001; Laws, 1994; Lussier, Leclerc, Healey, et al., 2007.). These findings further add to this research (e.g., Guay et al., 2001), as it was found that when the age band was narrowed from adolescence to pubescent aged children (as proposed in the erotic age preference literature; e.g., Blanchard et al., 2009; Blanchard, 2010) this relationship remained significant. These findings suggest that there is something unique about victims who are minors, which make them more likely to be victimized by polymorphic offenders.

There was no significant difference between age-specific and polymorphic offenders on their average number of victims. However the trend was in the hypothesized direction and the effect size was large. The direction of this effect is in line with the literature that has found

polymorphic offenders to be more prolific in that they have a greater number of victims (Cann et al., 2007; Harris et al., 2011). Lussier, Leclerc, Cale, et al. (2007) found that both latent constructs that signified high externalization (externalizing behaviour including conflicts with authority, risk behaviour, and antisocial behaviour) and sexualization (impersonal sex, sexual preoccupation, sexual compulsion, and paraphilic interest) were related to a greater frequency of victims in sexual offending. Further, Smallbone and Wortley (2004a) found that a greater frequency of victims resulted in a greater likelihood that the offender started offending at a younger age, which was also confirmed in the present study. Therefore, the greater diversity of victims available to polymorphic offenders may result in the prolific nature of their sexual offending, which may in turn contribute to their elevated risk of recidivism among polymorphic offenders (e.g., Cann et al., 2007; Harris et al., 2011; Parent, et al., 2011).

Criminal Careers

The current study is among the first to explore the criminal careers of polymorphic offenders among stranger sexual offenders. Researchers have previously examined offender generalization in samples that consisted of rapists and child molesters (e.g., Harris et al., 2009), but have generally neglected generalization in polymorphic offenders. The current study did not find support for the hypothesis that polymorphic offenders would have higher levels of generalization in comparison to age-specific offenders. This was unexpected given the general association that has been found between generalization and polymorphism reported in other studies (e.g., Lussier et al., 2005). Additionally, given that polymorphic offenders reoffend more rapidly upon their release from prison (Parent et al., 2011) and that sexual offenders tend to reoffend by committing non-sexual offences (Hanson & Morton-Bourgeon, 2005; Sjostedt et al., 2004) it was expected that there would be higher levels of generalization among polymorphic

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offenders. Further, it was expected that given the association between polymorphism and psychopathy (e.g., Porter et al., 2000), that polymorphic offenders would have higher rates of generalization as psychopathic sexual offenders have been found to have higher levels of generalization (e.g., Harris et al., 2009).

However, differences may have been obscured given that the majority of age-specific offenders were rapists who have been found to have high levels of generalization (e.g., Harris et al., 2009). Therefore, it is a possibility that polymorphic offenders have similar levels of generalization to rapists, both of whom have higher levels of generalization than child-only or minor-only age-specific offenders. Unfortunately, due to the sample size, more refined analyses testing this hypothesis were not possible and should be addressed in future research.

In comparison to age-specific offenders, polymorphic offenders were younger at the start of their sexual offending series. These findings support the finding of Cann and colleagues (2007) who found that victim choice polymorphic offenders were younger at the age they first appeared in court on sexual assault charges. Being younger at the age of first offence is an important consideration as it suggests a higher number of victims (Smallbone & Wortley, 2004a). Additionally, the younger the offender is when they start their criminal career the more likely they are to commit a wide range of criminal offences (Lussier et al., 2005; Wijkman et al., 2011). However as previously discussed, the current study did not find support for the association between generalization and polymorphism.

The current study found that an offender was more likely to be polymorphic if they started sexually offending at a younger age and had a greater number of victims. Lussier, Leclerc, Healey, et al. (2007) made the argument that persistent sexual offending may result in an increased likelihood of polymorphic behaviour. Thus the finding that polymorphic offenders

are younger at age of first sexual offence, may be an important indicator of polymorphism, as it may partially explain the effect found in the current study between polymorphism and a higher number of victims. Perhaps polymorphism can be viewed as a behavioural manifestation of sexual sensation seeking that occurs when an offender habituates to a specific type of victim over time (Porter et al., 2000).

Crime Scene Behaviours

The five factors that emerged when examining the crime scene behaviours of sexual offenders were largely consistent with the Investigative Psychology literature that has found specific clusters of behaviours in sexual offences (e.g., Canter, 1994; Canter & Heritage, 1990; Canter, Bennell, Alison, & Reddy, 2003; Chambers, Horvath, & Kelly, 2010; Porter & Alison, 2006; Santilla, Junkkila, & Sandabba, 2005). The factor Multiple Sexual Behaviours, involved victim selection for vulnerability and a number of sexual behaviours. The clustering of sexual behaviours in a sexual offence is commonly found (e.g., Canter; 1994; Canter et al., 2003) and may speak more generally to the underlying motivation of the offender.

The positive loading of victim selection for vulnerability on the same factor that the majority of the sexual behaviours loaded on to, provides additional insight in to the underlying motivations of these offenders. Overall, victim selection for vulnerability is an important consideration for a specific subgroup of sexual offenders when they select a victim (e.g., Stevens, 1994), and fits more generally with the concept of premeditated opportunism (Rossmo, 2000). However, the specific reason that the sexual behaviours and victim selection for vulnerability loaded on the same factor was not clear. Perhaps these offenders are more motivated by the specific sexual behaviours that occur during a sexual offence, and are not as concerned with the specific characteristics of their victim.

A Planned factor emerged that involved structured premeditation in the absence of alcohol and positive loadings for weapons, restraints, and a rape kit is generally consistent with the literature that has found clustering of behaviours specific to high levels of control (e.g., Cantor et al., 2003). The variables that loaded on to this factor highlight the high level of organization exhibited by the offender. Further, their excessive use of tactics to control the victim may be a behavioural marker of sexual sadism (Richards & Jackson, 2001). Additionally, the Physical Aggression factor comprised of alcohol prior to the offence, penetration, and physical harm to the victim, is consistent with the literature, as researchers have found that when an offender is intoxicated they are more likely to be physically violent with the victim and force intercourse (Busch-Armendariz, DiNitto, Bell, & Bohman, 2010; Parkhill, Abbey, & Jacques-Tiura, 2009).

The Preferential and Deviance and Availability factor were similar given that deviant sexual fantasies loaded on to both factors. However, the two factors differed in the role of victim selection and premeditation. Overall, the role of deviant sexual fantasies has been emphasized in the sexual offending literature and it has been concluded that deviant fantasies influence the commission of a sexual offence (e.g., Bartels & Gannon, 2011). However, the role of victim selection is an important consideration as deviant fantasies may lead to either a highly specific offence regarding victim characteristics or it could result in an offence that is less specific to victim characteristics and more specific to other types of behaviours (e.g., sexual activity preference; Sjosedt et al., 2004). These findings signify that when deviant sexual fantasies occur in combination with structured premeditation, the deviant fantasies may serve as a sexual script that guide the commission of the offence (Bartels & Gannon, 2011), and lead to victim selection that is specific to the characteristics of the victim.

The Association between Crime Scene Behaviours and Polymorphism

The Multiple Sexual Behaviours and Deviance and Availability factors were positively associated with polymorphism. Both of these factors involved victim selection related to availability, alongside deviant sexual fantasies and multiple sexual behaviours. Recent research has specifically highlighted the role of victim vulnerability, suggesting that certain offenders such as psychopaths are more adept at picking out vulnerable victims (Book, Quinsey, & Langofrd, 2007; Wheeler et al., 2009). The finding that when compared to age-specific offenders, polymorphic offenders may be selecting more on availability and vulnerability is important as it provides further support to the association between psychopathy and polymorphism (e.g., Porter et al., 2000; Olver & Wong, 2006). Additionally, the role of multiple sexual behaviours may speak to an underlying sexual preoccupation or high sexual sensation seeking that drives polymorphic offender. High sexual sensation seeking was hypothesized by both Lussier, Leclerc, Healey, et al. (2007) and Porter and colleagues (2000) as one of the key features of polymorphic offenders. Thus the role of victim selection appears crucial in understanding the motivations regarding the sexual offending of polymorphic offenders.

The Preferential factor, which involved deviant sexual fantasies prior to the crime and selection based on victim characteristics, was negatively associated with polymorphism. This complements the above findings as it suggests that victim selection based on victim characteristics is not as important to polymorphic offenders as it is to age-specific offenders. As Sjostedt and colleagues (2004) argued, those with persistent sexual deviancy may be more likely to act this out in their sexual offending, which would lead to a high degree of stability across sexual offences as offenders may seek out victims specific to these fantasies. However, less stability in offending may speak to a less specific sexual deviancy on the part of the offending.

Further, the nature of the individual's offending may depend on the focus of the sexual deviancy as some would be more fixated on behaviours as opposed to the specific characteristics of the victims. The finding of the negative association between the preferential factor and polymorphism generally supports this assertion.

Overall the factors that loaded on to polymorphism highlight the role of opportunity in the sexual offending of polymorphic offenders. These findings are in line with the factors that have been proposed to influence the display of polymorphism (e.g., Guay et al., 2001). Polymorphic sexual offenders have been hypothesized to select victims based upon availability when their ideal victim type is unavailable (Guay et al., 2001). As argued by Heil and colleagues (2003) all offenders may have a preferred and expanded victim pool and polymorphism may represent an offender who is more likely to choose a victim from the expanded victim pool if they are presented with the opportunity. However, these findings suggest that regardless of the role of opportunity, deviant sexual fantasies play a role in the sexual offending of polymorphic offenders, albeit to a different degree (Sjostedt et al, 2004). When taken together, these findings support the view that polymorphic offenders represent a particularly dangerous subgroup of sexual offenders, perhaps due to the opportunistic nature of their offending, which in turn leads to a greater range of victim types of and diversity in their offending behaviour (Lussier, Leclerc, Cale, et al., 2007).

Psychopathic Characteristics and Sexual Deviancy

Although the findings should be interpreted with caution due to the small sample size, the current study found a significant and large effect suggesting that when compared to age-specific offenders, polymorphic offenders are more likely to be antisocial. These findings are in line with the body of research that has established an association between psychopathy and polymorphism

(Olver & Wong, 2006; Porter et al., 2000; Skorvan et al., 2010), as antisociality is a main component of psychopathy (Hare, 2003). Further, the results suggest that it may be the social deviancy (factor 2) as opposed to the emotional-interpersonal deficits (factor 1) of psychopathy that contributes to this relationship, which has been the subject of debate within the literature (Olver & Wong, 2006; Skorvan et al., 2010).

Given the role that both opportunity and sexual behaviours play in the sexual offending of polymorphic offenders it is not surprising that polymorphic offenders have higher levels of antisociality when compared to age-specific offenders. Psychopaths are more adept at picking out vulnerable victims and are more likely to indicate that they would be more likely to select a victim who appeared vulnerable (Book et al., 2007; Wheeler et al., 2009). As a result, it may be that given their personality constellation, polymorphic offenders are more attuned to vulnerability and are hence more likely to take this as an opportunity to sexually offender. Further, the role of sexual sensation seeking in psychopathic sexual offenders has also been supported (Skorvan et al., 2010), and Porter and colleagues (2000) have argued that polymorphism may be a behavioural manifestation of psychopathy whereby an offender seeks out novel experiences in their offending due to high sensation seeking. Therefore, victim characteristics may be less important to this type of offender, who may be more inclined to engage in a variety of sexual behaviours as a means of sexual sensation seeking.

The current study is one of the first to examine the role of sexual deviancy in polymorphic offenders, an important consideration given that it is one of the most robust predictors of sexual recidivism (e.g., Hanson & Morton-Bourgon, 2005; Mann et al., 2010). Overall polymorphic and age-specific offenders did not differ on overall categorization of sexual deviancy. This is important as it suggests that similar to age specific offenders (e.g., child

molesters), polymorphic offenders may still be motivated by underlying sexual deviancy. Therefore, it should not be assumed that just because polymorphic offenders have victims of different age groups that they are less likely to be sexually deviant. As such, specific testing for sexual deviancy, such as PPG assessments, should still occur with polymorphic offenders.

Since sexual deviancy encompasses a wide range of behaviours, more refined hypothesis testing was used to examine specific forms of sexual deviancy in polymorphic offenders. Similar to the statistical analysis regarding antisociality and polymorphism, these findings were based on a reduced sample and should be interpreted with caution. Although not significant, the current study found a trend suggesting that polymorphic offenders were more likely to exhibit sexual arousal to rape stimuli, when compared to age specific offenders. This is in accordance with Doren (2002) who postulated that one indicator of a deviant preference for rape would be diversity in victim type. Further, it is in support of the PPG profile found when testing mixed offenders who had high responses to deviant stimuli involving rape (Michaud & Proulx, 2009). Therefore, polymorphic offenders may exhibit deviant preference specific to rape. However, polymorphic offenders were not more likely to show a preference for children when compared to age-specific offenders, which is not unexpected given the close association between child molestation and pedophilia (e.g., Seto, 2008). Thus it appears that activity preference as opposed to preference for the victim may be more crucial in terms of polymorphism, which fits with Sjostedt and colleagues (2004) who hypothesized that polymorphism may be due to a less specific form of sexual deviancy. However, given the nature of the phallometric testing the current study was unable to fully test hypothesis 8, given that offenders were not tested with both forms of stimuli. Therefore more refined testing comparing polymorphic offenders to different

types of offenders (e.g., rapists) is needed in order to further our understanding of this relationship.

These findings may further our understanding of why polymorphic offenders have high levels of recidivism (Harris et al., 2011; Parent et al., 2011), as both antisociality and sexual deviancy are important predictors of sexual recidivism (e.g, Hanson & Morton-Bourgon, 2005; Mann et al., 2010). The role of antisociality in these offenders is clear and supported by past research (e.g., Porter et al., 2000). However, the role of sexual deviancy has not been the focus of much empirical research. Therefore, given the small sample used to explore this relationship in the present study, this should be the focus of further empirical study. Overall, it would be expected that polymorphic offenders would be higher risk given the emphasis on these aspects in risk assessment. However, given that actuarial instruments have been found to be not as accurate with polymorphic offenders (Parent et al., 2011), there may be other risk factors that remain unexplored in this group of offenders. Thus the study of risk factors among polymorphic offenders deserves future research.

Implications

Police often work under the offence specific fallacy (Laws, 1994) believing that sexual offenders are likely to confine themselves to a specific type of victim. These findings have important implications for police investigators as the current study suggests that a there exists a sizeable number of sexual offenders have victims spanning multiple age groups. Further, the study found specific behavioural indicators in the sexual offence that increases the likelihood that an offender is polymorphic. Specifically an offender is more likely to be polymorphic if the offence appears to have occurred opportunistically and the offender engaged in a gratuitous number of sexual behaviours. However, the most important indicator of polymorphism is the age

of the victim, as if the victim was a minor this greatly increases the likelihood that the offender has victims from other age categories. Overall, the results of the study highlight the importance of considering polymorphism in investigative decision making, as cases may be considered erroneously unrelated (e.g. unlinked) simply because of differences in victim age.

Clinically, these findings further our understanding of the reasons why polymorphic offenders may have higher levels of recidivism (Parent et al., 2011). Given the pilot findings on antisociality and sexual deviancy, it would be expected that these offenders would be more likely to be of a higher risk to the community. These characteristics are further compounded by the diversity in polymorphic offenders sexual offending as with no self-imposed age boundaries they inevitably have a wider range of potential victims they can target. Interestingly, Parent and colleagues (2011) found that actuarial risk instruments as a whole were not as accurate at predicating recidivism among polymorphic sexual offenders suggesting that some characteristics of polymorphic offenders may not be adequately captured by current actuarial instruments. Given that polymorphism represents a risk of sexual recidivism (Harris et al., 2011; Parent et al., 2011) it may be useful to add this in as an item on current actuarial measures in order to assess whether it increases predictive accuracy in addition to the items already represented on these measures.

In relation to recidivism, these results further highlight the role of offender management strategies that may need to be modified for polymorphic offenders. For example, offenders against children may be released with specific guidelines regarding places that they are to avoid because children are expected to congregate there (e.g., schools). These management strategies would differ from the management strategies in place for those who offend against adults. The current study highlights the careful consideration that should be given to polymorphic offenders

in parole and probation, especially given that they are appear to be more opportunistic offenders who have a diverse victim pool available to them. For example, whether an offender is polymorphic or not should be factored in to parole and probation decisions not only regarding their risk to the community, but also in the conditions that are placed on them.

The current study findings have important implications for sexual offender treatment. Results suggest that polymorphic offenders have similar criminal careers to age specific offenders, but that they differ on age at first sexual offence in that they are significantly younger when they started their sexual offending series. Additionally, they are more likely to be antisocial and a trend was observed regarding sexual deviancy specific to sexual arousal to rape. These results highlight two potentially important treatment targets for polymorphic offenders given that these two factors are strongly associated with future recidivism (Hanson & Morton-Bourgeon, 2005). Further, the role of opportunity in their offending also speaks to an important target during offender treatment.

Limitations

The current study should be interpreted with a number of limitations in mind. Offenders were interviewed about their crimes and asked to retrospectively report on specific aspects of their sexual offences. Although official police records were consulted to assess the veracity of the offender's account, many of the questions asked of offenders could not be confirmed by official records (e.g., police reports). Therefore, more subjective variables increased the likelihood that the offender may have been dishonest with the interviewer. The current study attempted to minimize this limitation by relying on variables that would be readily observable to the police during their investigation. However, some variables (e.g., victim selection) were exclusively reliant on the offender's self-report as it was not possible to verify them in any other

way. Further, one criminologist was responsible for all of the interviews with the offenders and subsequent coding of the data. Therefore, there is no measure of inter-rater reliability in the assessment of crime scene behaviours.

The current study is also limited by its exclusive focus on stranger victims based on official records. Offenders could have committed other crimes that they were not asked to report on during the interview because the victims were not strangers or the crime was not a part of their official record. Therefore, the current study may be an underrepresentation of the number of crimes committed by each offender, which could have an impact on the rate of polymorphism. Similarly, the data for the current study only included ages of victims and did not include information on the pubertal development of victims. This highlights a more general limitation of the research on victim age targeting as a victim's level of sexual development cannot be determined.

Additionally, the current study supports the hypothesis that polymorphic offenders are more opportunistic offenders. However, a trend was observed suggesting that polymorphic offenders have a higher number of victims than age-specific offenders and were younger at the start of their sexual offence series. Thus, it could be argued that polymorphic offenders have a greater probability of being polymorphic given the prolific nature of their offending, as they would have more of an opportunity to cross victim age categories. Whether the findings surrounding polymorphism are strictly due to the nature of their sexual offending should be explored in future studies.

Further, in examining offender characteristics the study is limited in two ways. First, the research literature had found an association between psychopathy and polymorphism. However, the *MCMI-III* antisocial subscale was used as opposed to a more direct measure of psychopathy

such as the *PCL-R* (Hare, 2003). Therefore, it is important to note that psychopathy as measured by the *PCL-R* and antisociality as measured by the *MCMI-III* does not represent the same construct. Further, although PPG represents the gold standard in the assessment of sexual deviancy (Laws, 2009) it also has its limitations and should never be solely relied on in the assessment of sexual deviancy (Fedoroff, Kuban, & Bradford, 2009). Therefore, the current study is limited in that it did not compare polymorphic and age specific offenders on other measures of sexual deviancy. Furthermore, as previously stated given the nature of the phallometric data available on the offender's file, the current study was unable to fully test hypothesis 9 (sexual deviancy).

Finally, the current study involved interviews with 72 serial sexual offenders, which is further complicated by incomplete file information. For example, only a small number of offenders had *MCMI-III* data on file. This significantly reduced the sample when running specific analyses regarding offender characteristics, reducing the power to detect statistically significant differences, and increasing the potential for type 2 errors. Thus the analyses with a reduced sample were referred to as pilot analyses to highlight the need for future research to replicate and extend these results. Effect sizes were also reported to provide the readers with an additional level of interpretation regarding the importance of these findings.

Future Directions

The current study highlights the importance of assessing and including polymorphism in studies of serial sexual offenders. As highlighted by the offence specific fallacy (Laws, 1994), too often are polymorphic offenders ignored when they are categorized into other groups or excluded from analyses. Unfortunately, this has substantially decreased our understanding of polymorphic sexual offenders who are particularly high-risk group of offenders (e.g., Parent et

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al., 2011), and as highlighted in the current study, differ from age-specific sexual offenders in their criminal careers, offence behaviours, and offender characteristics. Therefore, future research on polymorphic offenders is crucial in order to further our understanding of why polymorphism occurs and the role it plays in offending.

Future research should continue to explore polymorphism in serial sexual offenders. Specifically, future studies should assess the role of sexual preference in the sexual offending of polymorphic offenders. Additionally, the concept of risk should be explicitly assessed in this group of offenders. For example, the important risk factors identified in the Hanson and Morton-Bourgon (2005) could be examined in samples of polymorphic offenders. It would also be interesting to see if considering polymorphism as an indicator of risk among sexual offenders, would improve actuarial risk estimates. Further, the role of correctional treatment with polymorphic offenders has not been explicitly examined and would be an interesting line of future research. It is the author's hope that the present thesis will serve as an impetus to other researchers in the field to make this subgroup of offenders the subject of future empirical study.

Appendix A

Crime Scene Behaviours

1. *Pre-crime facilitators*

Alcohol was consumed prior to the commission of the crime.

Offender had deviant sexual fantasies hours before the commission of the crime.

Offender engaged in structured premeditation. Premeditation involves clear intention to commit the offence and is *structured* when its level of planning is elaborate and involves specific components of the offence.

2. *Victim Selection*

The victim was selected based on vulnerability.

The victim was selected based on location.

The victim was selected based on their clothing.

The victim was selected based on non-sexual physical characteristics.

3. *Offence behaviours*

The offender used a weapon during the crime.

The offender used physical restraints during the crime.

The offender brought a rape kit to the scene of the crime. A rape kit consists of materials (e.g., handcuffs) brought to the crime scene by the offender.

The offender physically harmed or murdered the victim.

The offender forced the victim to perform oral sex on him.

The offender masturbated during the crime.

The offender forced the victim to commit fellatio, self-touching, masturbation, sodomy or sexual acts between victims.

The offender forced the victim to engage in vaginal penetration or sodomy with fingers, penis, or objects.

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