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What Propels Sexual Homicide Offenders? Testing an Integrated Theory of Social Learning and Routine Activities Theories

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What Propels Sexual Homicide Offenders?

Testing an Integrated Theory of Social Learning and Routine Activities Theories

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
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College of Behavioral and Community Sciences
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Dedication

This dissertation is dedicated to my mom, dad, and three elder sisters for their unwavering and unconditional love and support throughout my academic quest. I ought to express my deepest gratitude to them. They have taught me so much, particularly, to have faith in myself no matter how difficult and challenging the circumstances have brought into my life. Certainly, to my beloved fiancée and soon to be my wife in approximately four months, Courtney, who is also my soul mate for life: Your love, support, and encouragement given to me over the years have provided me strength and determination to continue my journey.

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ABSTRACT

Sexual homicide is a rare occurrence. Little is known about the offending perspective of sexual homicide from a criminological standpoint. Recently, Chan, Heide, and Beauregard (2011) proposed an integrative theoretical framework using concepts and propositions of Social Learning Theory (*differential association, definitions, differential reinforcement or punishment, and imitation*) and Routine Activities Theory (*a motivated offender, an attractive and suitable target, and the absence of a capable guardian or guardianship*) to elucidate the sexual homicide offending dynamics. According to this integrative model, the individual-level view of the sexual murderers is explained by the social learning principles, while the offending process is complemented by the routine activities propositions from a micro-level to provide a better explained sexual homicide offending model. However, this model has yet to be tested empirically. In addition to testing the Chan et al.'s model, this study proposes and tests an alternative model by incorporating the construct of pre-crime precipitators to better explain the motivating factor of an offender to commit a sexual homicide. To empirically test both models, this study utilizes the dataset collected by a group of Canadian researchers on 230 incarcerated non-serial homicidal ($N = 55$) and non-homicidal ($N = 175$) sex offenders in the province of Quebec, Canada for the period between 1995 and 2005. Using step-wise logistic regression, four regression models are tested to examine the offending process of sexual homicide by investigating the effects of the offender's motivation, the target suitability and attractiveness, the absence of a capable guardian or guardianship, and

the pre-crime precipitating factors in deciding the lethal outcome of a sexual offense. The theoretical model proposed by Chan and colleagues received some support. Consistent with Chan et al.'s theoretical propositions, findings suggest that the sex offender's sexually deviant behaviors and attitudes serve as a motivating factor, and the presence/absence of a capable guardian or guardianship at the immediate crime surroundings are significant factors in deciding the survival rate of the victim. Methodological limitations of the study, practical implications for offender profiling and crime preventive measures, and suggestions for future research are discussed.

Chapter One

Introduction

Cases where the sexual assaultive behavior leads to the death of the victim have always concerned the public. However, this distinct type of murderous behavior is not something new to society; it has occurred and alarmed people throughout the centuries. Earliest recorded rape-murder cases can be traced as far back as the 15th century (e.g., Gilles de Rais). According to Wilson and Seaman (1996), another infamous case involved an 8-year-old girl who was murdered in 1867 in Hampshire of the United Kingdom (U.K.) by Frederick Baker. This recorded case of sexual killing predated the gruesome career of Jack the Ripper, the most infamous British sexual serial killer, whom law enforcement agents believed had killed and mutilated five London prostitutes in 1888 (Marriner, 1992). Although the 19th century provides periodic recorded examples of sexual homicide comparable with evidence documented in current times, it is arguably the 20th century that attracts the most public attention with more published individual case studies and empirical research on this topic (Carter & Hollin, 2010).

Fundamentally, sexual homicide, sexual murder, sex-related homicide, sexually-motivated murder, and rape homicide are some common terms used to refer to a homicide that occurs in concurrence with a sexual assault or to signify that the homicide occurred was sexually motivated (Chan & Heide, 2009; Henry, 2010). Basically, sexual activities that occur before, during, or after the killing can be contact (e.g., oral, vaginal, and anal penetration against the victim) and/or noncontact (e.g., offender masturbation) in nature. In addition to the overt sexual assault against the victim, sexually symbolic behavior, such as the lack of clothing on the victim and

sexualized positioning of the victim's body, is also frequently observed in crime scenes of sexual murders (Myers, Burgess, & Nelson, 1998). Despite manifest differences in crime scenes and offender behavior, there is a consistent theme that exposes the sexual nature of these offenses.

Purpose and Significance of the Study

Despite its massive public interest and media portrayal, sexual homicide is a rare offense. In light of the rarity of this crime, sexual homicide remains an understudied research area involving few researchers. In the last two and a half decades, there have been less than 50 empirically published studies on sexual homicide (Chan & Heide, 2009). Clearly, more research is needed to comprehend the complexity of not only the crime itself, but also the individuals involved in sexual homicide such as the offender and the victim.

To complicate the matter more, theoretical propositions from a criminological standpoint have yet to emerge to advance a more complete understanding of the offending process in sexual homicide. Recently a theoretical integrative model based on published empirical studies was proffered by Chan, Heide, and Beauregard (2011) with the aim of providing a criminological understanding of the sexual homicide offending process. Their proposed conceptual model of the offending process in sexual homicide through the integration of social learning and routine activities theories has yet to be empirically tested. Therefore, the primary purpose of this study was to empirically test Chan and colleagues' (2011) proposed integrative model for its validity and testability in a group of incarcerated non-serial homicidal and non-homicidal sexual offenders. The data used for this study was originally collected by a group of Canadian researchers for studying convicted sexual offenders in Canada. In order to test Chan et al.'s (2011) integrative model, sexual offenders who committed

or attempted to commit homicide of a sexual nature against female adults were selected for this study.

This study was designed to contribute to the existing body of research in several important ways. First, the present study was the first to empirically test Chan et al.'s (2011) integrative offending model – which includes individual and situational levels – in sexual homicide. Specifically, this study examined if this integrative model of social learning and routine activities theoretical concepts and propositions was capable of producing a stronger and more comprehensive criminological theory of the offending process in sexual homicide. Most importantly, if Chan et al.'s (2011) proposed integrative model advanced understanding of the offending dynamics of sexual murder via the empirical tests conducted in this study; strategies geared toward effectively reducing the occurrence of this offense from both individual and situational levels can be suggested.

Composition of the Chapters

This dissertation consists of seven chapters. To provide a more comprehensive understanding of the violent offense examined in this study, Chapter Two presents an overview of the sexual homicide phenomenon. In this chapter, the rarity of sexual homicide occurrence is discussed first. One of the possible reasons for the low documented occurrence of this crime is likely due to the inconsistency in defining and detecting sexual murder. Within this chapter, various definitions and criteria of sexual homicide are outlined. Because most of these definitions overlap to a large extent, proposed sexual homicide criteria are offered with an aim to standardize the definition of sexual murder in order to reduce confusion among scholars and practitioners, and to maintain consistency in sexual murder characterization.

Next, a brief overview of the offending dynamics from the homicidal perspective is presented to lay the groundwork for a comprehensive examination of sexual homicide from the offender's standpoint. Findings of comparative studies between homicidal and non-homicidal sexual offenders are detailed. The differences between these two distinct groups of sexual offenders in terms of demographic characteristics, childhood and adolescence psychological and behavioral development, and crime phases are described in Chapter Two. In Chapter Three, four widely cited theoretical models of sexual homicide (i.e., Burgess et al.'s motivational model, Hickey's trauma-control model, Arrigo and Purcell's paraphilic model, and Mieczkowski and Beauregard's crime event perspective model) are discussed at length. Theorizing different socio-psychological and situational factors, these theoretical frameworks offer distinct explanations of the offending dynamics in sexual homicide.

It is important to note that criminological theory has rarely, if ever, been applied to explain sexual homicide (Chan, et al., 2011). Hence, the purpose of Chapter Four is to explicate the proposed integrative theoretical model of the offending perspective of sexual homicide, by integrating Akers' (1985) social learning theory with Cohen and Felson's (1979) routine activities theory. First, this chapter reviews the concepts theorized in social learning theory, and their use in explaining sexual violence and sex-related offenses. Similarly, the propositions of routine activities theory are also reviewed along with their applicability in elucidating sex-related offenses. Next, the incompleteness of applying only a single theory (social learning theory *or* routine activities theory) in understanding the complete sexual homicide offending process is highlighted.

As limitations of using only a single theory to explain the sexual homicide offending phenomenon are apparent, the subsequent section of Chapter Four outlines the Chan et al.'s (2011) proposed integrated theory of the offending perspective of sexual homicide at length. The final section of Chapter Four discusses the primary objective of this study is to empirically test Chan et al.'s (2011) theoretical integrative model and a proposed alternative model with the inclusion of pre-crime precipitating factors into the testing model. Hypotheses of this study are outlined.

Next, Chapter Five presents the study's methodological plan for examining the hypotheses discussed in the final section of Chapter Four. Utilizing the data collected by a group of Canadian researchers on incarcerated non-serial homicidal and non-homicidal sex offenders in the province of Quebec, Canada; this study quantitatively assesses the hypotheses. The observed indicators assessing the four theoretical measures and the outcome measure are described. Next, the analytic technique used in this study – step-wise logistic regression technique – is discussed at length, followed by a summary of the purpose of this study.

Findings of this study are presented in Chapter Six. In this chapter, the demographic characteristics of the sex offender sample are described. Results of chi-square analyses of the differences between homicidal and non-homicidal sex offenders on the observed indicators of different measures are subsequently detailed. This chapter next discusses the descriptive statistics of different measures that are assessed in different scales and subscales. Mean differences between the two types of sex offenders in these measures are also explored. Lastly, the chapter concludes with the theoretical analyses of four different step-wise logistic regression models in predicting the lethal outcome of a sexual offense.

Chapter Seven discusses the findings of the study. Within this chapter, implications stemming from the findings such as crime preventive measures to reduce the potential shaping of a SHO and the occurrence of sexual homicide are examined. The chapter concludes by detailing the limitations of the present study and suggesting areas for future research detailed.

Chapter Two

Sexual Homicide: An Overview of the Phenomenon

Notwithstanding great interest in sexual homicide from law enforcement, academic scholars, and the general public, sexual homicide is a relatively rare violent crime. The reporting rate of sexual murder documented by law enforcement constitutes between 1% and 4% of the overall annual homicide rate in the United States (U.S.), Canada, and Britain (Chan & Heide, 2009). This percentage has remained relatively stable over the years. In a representative dataset for a 30-year period spanning from 1976 until 2005, sexual homicide accounted for approximately 0.6% out of a total of 597,351 individuals arrested for homicide in the U.S. (Chan, Myers, & Heide, 2010).

The overwhelming majority of sexual homicides are perpetrated by males (Chan, et al., 2010; Myers & Chan, 2012). In a 29-year study, close to 95% of those arrested for sexual homicides were males and the remaining 5% were females (Chan & Heide, 2008). Although female sexual homicide offenders (abbreviated hereafter as “SHO”) were identified in several studies (Chan & Frei, in press; Gacono, Meloy, & Bridges, 2000; Harbot & Mokros, 2001; Myers & Chan, 2012), this subpopulation of sexual murderers has been understudied due to its rarity. Among male SHOs, 88% of them were adults (aged 18 and above) and the remaining 12% were juveniles under the age of 18 years (Chan & Heide, 2008; Chan, Heide, & Myers, in press; Chan, et al., 2010). Research found that most of the victims were females (Van Patten & Delhauer, 2007) and a large proportion of the victims, from 73-80% in most recent empirical studies (Chan & Heide, 2008; Chan, et al., 2010; Henry, 2010; Smith, Basile, & Karch, 2011) were at least 18 years old.

The Definition and Classification Dilemma

Although numerous definitions of sexual homicide have emerged over the years, it is the lack of a standardized definition that has hindered the accurate classification of sexual homicides and the accuracy in the reporting systems of national crime statistics (see Chan & Heide, 2009). Sex-related killing is frequently classified as a homicide in official crime statistics in both North America and the U.K. (Burgess, Hartman, Ressler, Douglas, & McCormack, 1986; Milsom, Beech, & Webster, 2003). Due to the classification dilemma, documented statistics of this distinct type of violent crime is often misleading, difficult to estimate, or simply unavailable (Ressler, Burgess, & Douglas, 1988). Specifically, the official U.S. national crime statistics source – Uniform Crime Reports (UCRs) – indexed sexual homicide under the “unknown motive” category, and thus reflects the uncertainty of the nature of this crime even within the U.S. criminal justice system.

Notably, Burgess and colleagues (1986) were among the first to attempt to classify sexual homicide and to distinguish sexual homicide from simply a homicide resulting from a sexual assault. They maintained that sexual homicides “result from one person killing another in the context of power, control, sexuality, and aggressive brutality” (p. 252). To simplify the classification, Holmes and Holmes (2001) defined sexual homicide as the combination of lethal violence with a sexual element. Although succinct, these definitions seem over-simplistic to accurately characterize offending dynamics of sexual homicide.

To clearly characterize sexual homicide, the definition proposed by Ressler, Burgess, and Douglas (1988) is considered one of the most complete and widely used defining criteria of sexual homicide. In order to consider a homicide as sexually-motivated, it has to fulfill at least one of the following criteria: (a) victim’s attire or

lack of attire, (b) exposure of the sexual parts of the victim's body, (c) sexual positioning of the victim's body, (d) insertion of foreign objects into the victim's body cavities, (e) evidence of sexual intercourse (oral or anal), and (f) evidence of substitute sexual activity, interest, or sadistic fantasy (e.g., mutilations of the genitals). Although this defining classification seems comprehensive with detailed criteria for the physical evidence of sexual assault or of sexual activity, it is nevertheless oversimplifying the nature of this crime. Clear evidence of sexual assault or of sexual activity, which may not be readily available at the immediate crime scene surroundings, is not sufficient (Clarke & Carter, 2000). The true motive of the offender is also an important aspect to be considered in order to classify a homicide as sexually-motivated.

Gacono and Meloy (1994) and Meloy (2000) further revised Ressler and colleagues' (1988) sexual homicide defining criteria. In order to classify a homicidal crime scene as sexually-oriented, (a) physical evidence of sexual assault or of sexual activity in the immediate area of the victim's body (e.g., masturbation) should be present and/or (b) a legally admissible offender confession of the sexual nature of the homicide. When clear physical evidence of sexual assault or of sexual activity is not readily available at the homicidal crime scene, it is the offender's confession that becomes the determining factor to whether to categorize the homicide as sexually-motivated. However, the offender's confession for a sexually-motivated homicide is not easily obtained. Denial of responsibility is often observed among suspects who are accused of committing sexual violence, including sex-related killing. Some offenders attempt to deny accountability for their behavior and suggest it was an accident by reporting drug or alcohol intoxication as an excuse (Folino, 2000).

Based on previous efforts to define sexually-motivated murder, a revised definition of sexual homicide is proposed with the aim to accurately classify this type of distinct offense and to offer a standardized definition. In order to classify a homicide to be sexual, one of the following criteria has to be met: (a) physical evidence of pre-, peri- and/or post-mortem sexual assault (vaginal, oral, or anal) against the victim, (b) physical evidence of substitute sexual activity against the victim (e.g., genitalia mutilation, exposure of the sexual parts or sexual positioning of the victim's body, insertion of foreign objects into the victim's body cavities) or in the immediate area of the victim's body (e.g., masturbation) reflecting deviant or sadistic sexual fantasy of the offender, (c) a legally admissible offender confession of the sexual motive of the offense that intentionally or unintentionally results in a homicide, and (d) an indication of sexual element(s) of the crime from the offender's personal belongings (e.g., home computer and journal entries).

Understanding of Sexual Homicide from a Homicidal Perspective

Homicide is the most lethal form of violence. According to Wolfgang and Ferracuti (1967), homicide typically occurs either as a result of (a) a premeditated or rationalized action or (b) an accident in the heat of passion by an offender with intent to injure another individual, but not to kill. A large majority of the homicides can be best characterized as the latter (Silverman & Mukherjee, 1987). Furthermore, Wolfgang and Ferracuti (1967) categorized homicides into premeditated, felonious, intentional, planned, and rational homicide. Homicide can also be simply classified as primary and secondary homicide (Jason, Strauss, & Tyler, 1983; Jason, Klock, & Tyler, 1983). According to Jason and colleagues (1983), primary homicide is murder that did not occur during the perpetration of another offense (i.e., the offender primary

aim was to murder the victim), whereas secondary homicide is murder that occurred during, or in conjunction with, the perpetration of another offense (e.g., rape, robbery).

Salfati (2000), in contrast, differentiated types of homicide based on their crime scene behavioral nature of the homicide, a model she built upon Feshbach's (1964) two types of aggression: expressive and instrumental. Expressive (or hostile) aggression, according to Feshbach (1964), typically occurs in response to anger-inducing circumstances (e.g., physical attack, insult) with intention to make the victim suffer. Conversely, aggressive behavior of the instrumental type often results from the desire to acquire the objects or status (e.g., money, valuable items, territory) possessed by another individual regardless of the cost. Feshbach's (1964) classification of aggression is somewhat similar to Toch's (1969) self-preserving and needs-promoting dichotomy. Toch (1969) posited that violence seems to be an effective functional strategy for some individuals to obtain positive and avoid negative reinforcement in dealing with conflictual interpersonal relationships.

A Comparison of Homicidal and Non-homicidal Sexual Offenders

Little is known about what makes homicidal sexual offenders distinct from those sexual offenders who are non-homicidal. Although comparative studies of homicidal and non-homicidal sexual offenders have been conducted (e.g., Chene & Cusson, 2007; Gratzler & Bradford, 1995; Firestone, Bradford, Greenberg, & Larose, 1998; Firestone, Bradford, Greenberg, & Nunes, 2000; Firestone, Bradford, Greenberg, Larose, & Curry, 1998; Grubin, 1994; Koch, Berner, Hill, & Briken, 2011; Langevin, 2003; Langevin, Ben-Aron, Wright, Marchese, & Handy, 1988; Milsom, Beech, & Webster, 2003; Oliver, Beech, Fisher, & Beckett, 2007; Proulx, Beauregard, & Nicole, 2002; Salfati & Taylor, 2006), findings generated from these studies vary considerably and at times even contradict one another (see Table 1). Over the years,

12 empirical studies (1988-2011) have examined the differences between sexual offenders who killed and those who did not kill. Of these studies, seven studies sampled Canadian sex offenders, 4 studies used British samples, and the remaining study was conducted with German offenders. The sexual homicide offenders sampled in these studies ranged from 13 to 166 offenders, while the comparison group of non-homicidal sexual offenders ranged from 13 to 714 offenders.

In terms of the differences in demographic characteristics between homicidal and non-homicidal sexual offenders, Grubin (1994) found that, in his sample of 21 sexual killers and 121 rapists, sexual killers ($M = 30.0$, $SD = 8.7$) were generally older than the rapists ($M = 25.9$, $SD = 6.9$) when they committed their index offense. Salfati and Taylor (2006) reported similar findings with sexual murderers ($M = 29.4$) being older than rapists ($M = 23.5$) in their sample of 37 sexual murderers and 37 rapists. However, a recent study by Koch et al. (2011) reported the opposite, whereby their sample of 56 non-homicidal sexual offenders were found to be older ($M = 38.9$, $SD = 10.5$) than their sample of 166 homicidal sexual offenders ($M = 32.8$, $SD = 12.2$).

In terms of victimology, strangers who were older were more likely to be targeted by sexual murderers than other non-homicidal sexual offenders (Chene & Cusson, 2007; Firestone, Bradford, Greenberg, Larose, & Curry, 1998; Koch, et al., 2011; Langevin, et al., 1988; Oliver, Beech, Fisher, & Beckett, 2007). Sexual murderers were also found to have a significant higher estimated IQ compared to the rapists in Oliver et al.'s (2007) sample of 58 sexual murderers and 112 rapists, although both groups' mean IQ was above the average range. Koch et al. (2011), however, found that their sample of non-homicidal sexual offenders were more educated than sexual murderers (82% versus 62% who finished school). A significant greater proportion of the rapists were also found to have committed violent offenses

prior to their index offense compared to the sexual murderers (Oliver et al., 2007). Although sexual murderers (49%) were found to have committed more previous sexual offenses than the rapists (34%) in Oliver et al.'s (2007) study, this difference was not significant. Conversely, Firestone, Bradford, Greenberg, and Larose (1998) and Firestone, Bradford, Greenberg, Larose, and Curry's (1998) samples of homicidal sex offenders and child molesters, respectively, were reported to have committed more violent and sexual offenses prior to their index crime than their non-homicidal counterparts.

Findings regarding the childhood and adolescence development differences between murderous and non-murderous sexual offenders are mixed. Sexual killers, in Grubin's (1994) sample, were reported to have a more stable upbringing, in terms of family structure, compared to the rapists. To illustrate, 66% of rapists experienced a change in primary caregiver in their formative years compared to 43% of sexual murderers, and sexual murderers were more likely to have had a stable father-figure prior to age 10 than the rapists. However, Langevin et al. (1988) found the opposite to be true. In their sample of 13 sexual killers, Langevin et al. (1988) found that sexual killers reported more disturbed relationships with their fathers compared to 13 non-sexual killers and 13 non-homicidal sexually aggressive males. Homicidal sexual offenders in Firestone, Bradford, Greenberg, and Larose's (1998) sample were more likely than their non-homicidal counterparts to be removed from their family before 16 years of age. Nevertheless, Proulx et al. (2002) failed to find any significant differences between sexual murderers ($N = 40$) and rapists ($N = 101$) in terms of their dysfunctional family background (e.g., parental alcoholism, domestic violence).

Sexual murderers, in Proulx et al.'s (2002) sample, were found to have more evidence of being a victim of incest than their sample of non-homicidal sexual

offenders. Similarly, Koch et al.'s (2011) sample of sexual murderers was significantly more likely than non-homicidal sexual offenders to be physically and sexually abused as a child. In sharp contrast, no significant differences between these two groups of sex offenders in terms of their own sexual and non-sexual victimization were found in Grubin's (1994) study. Oliver et al. (2007) also found that sexual murderers and rapists reported a high incidence of having been physically (68% of sexual murderers and 82% of rapists) and sexually (65% of sexual murderers and 52% of rapists) abused during childhood.

In terms of childhood behavioral problems, Grubin (1994) found no differences in terms of incidence of childhood conduct disorder between his sample of sexual murderers and rapists. In contrast, Proulx et al. (2002) found that sexual murderers reported more childhood disciplinary problems compared to the rapists in their study of 40 sexual murderers and 101 rapists. Likewise, Langevin (2003) reported that sexual killers were found to have started their criminal career earlier, to have been to reform school, to have been members of criminal gangs, to have set fires, and to have been cruel to animals than other types of sexual offenders in his sample of 33 sexual killers, 80 sexual aggressive males, 23 sadists, and 611 general sexual offenders.

The study by Langevin et al. (1988) indicated that sexual killers were more frequently diagnosed as having antisocial personality disorders (APD) and sexual sadism than non-sexual killers and non-homicidal sexually aggressive males. Besides being diagnosed with APD and sexual sadism, homicidal child molesters in Firestone, Bradford, Greenberg, Larose, and Curry's (1998) sample were also more frequently diagnosed with different types of paraphilias (e.g., fetishism, voyeurism, exhibitionism, frotteurism, and transvestic fetishism) and pedophilia than non-

homicidal child molesters. In addition, homicidal child molesters in their sample were also reported to display more psychopathic personality characteristics than those child molesters who did not kill.

In a more recent comparative study, Koch et al. (2011) found that sexual murderers were more likely to be diagnosed with schizoid personality disorder than non-homicidal sexual offenders. Relative to non-homicidal sexual offenders, sexual murderers were also significantly more likely to be diagnosed with paraphilias, particularly sexual sadism and fetishism (Koch, et al., 2011). Pedophilia, conversely, was found to be diagnosed more often among non-homicidal sexual offenders than those who killed (Koch, et al., 2011). In terms of psychopathy, inconsistent with Firestone et al.'s (1998) finding, Koch and his colleagues found no significant differences in psychopathic personality between homicidal and non-homicidal sexual offenders. Interestingly, homicidal sexual offenders were found to have higher mean scores on Factor 2, which corresponds to social deviance and antisocial personality in Hare's (2003) Psychopathy Checklist-Revised (PCL-R), than their non-homicidal counterparts.

Grubin (1994) found that sexual murderers reported a higher level of social isolation when compared with rapists, both in childhood and adulthood. Of particular note, relative to rapists, sexual murderers were less sexually experienced and had fewer sexual relationships. Similarly, in their qualitative analysis of 19 sexual killers and 16 non-murdering sex offenders, Milsom et al. (2003) found that sexual killers, compared to non-homicidal sex offenders, reported higher levels of peer group loneliness in adolescence. In addition, compared to non-homicidal sex offenders, sexual killers also reported having higher levels of grievance towards females in childhood and higher levels of seeing themselves as victims in adulthood.

In the context of the offense, sexual killers were more likely than rapists to live alone at the time of the offense (Grubin, 1994). In addition, Oliver et al. (2007) found that sexual murderers were involved in significantly fewer intimate relationship experiences than the rapists. Although not specifically profound, 38% of sexual murderers were reported to have had no relationship at the time of their offense compared to 44% of rapists who were married or had one main partner at the time of their offense. Firestone, Bradford, Greenberg, and Larose (1998) also yielded similar findings whereby homicidal sex offenders were significantly less likely to have married (30%) than incest offenders (84%). However, Milsom et al. (2003) found the opposite to be true whereby non-homicidal sex offenders were more likely to have married than their homicidal counterparts.

Findings relating to sexual deviance between homicidal and non-homicidal sex offenders are also contradictory. Grubin's (1994) findings indicated that an interest in sexual deviation, aggressive pursuits, and a rich fantasy life were equally likely to be found in sexual murderers and rapists. Proulx et al. (2002), however, found that sexual murderers reported to have more sexually deviant fantasies than non-homicidal sexual offenders. Similarly, Langevin et al. (1988) reported that sexual murderers were found to have more evidence of being aroused by transvestism and sadism, as measured by phallometric assessments, compared to sexual offenders who did not kill.

Consistently, in their study of 48 homicidal sex offenders who killed children and 50 incest offenders, Firestone, Bradford, Greenberg, and Larose (1998) found that child homicidal sexual offenders reported greater preference for descriptions of assaultive acts with children than incest offenders via higher pedophile assault index. No difference was found between these two groups of sexual offenders, however, in

terms of their pedophile index scores. In a follow-up comparative study of 17 extra-familial homicidal and 35 extra-familial non-homicidal child molesters by Firestone, Bradford, Greenberg, Larose, and Curry (1998), significant differences in pedophile assault index scores between these two groups of child molesters were again replicated. Homicidal child molesters were reported to have higher pedophile assault index scores than non-homicidal child molesters. Similarly, pedophile index scores of these two groups of child molesters again failed to yield any significant differences. These significant findings were confirmed in a third comparative study of 27 homicidal child molesters, 189 non-homicidal child molesters, and 47 non-offenders by Firestone, Bradford, Greenberg, and Nunes (2000).

Prior to the offense, sexual murderers were more frequently reported to present a motive of anger or of sex and anger than rapists in Chene and Cusson's (2007) sample of 43 sexual murderers and 148 rapists. Compared to non-homicidal sex offenders, homicidal sex offenders were found to use and/or abuse drugs and alcohol more frequently prior to the offense (Chene & Cusson, 2007; Langevin, 2003). Interestingly, Koch et al. (2011) reported that sexual murderers were more likely to have consumed alcohol at the time of their crime; while non-homicidal sexual offenders were more likely to have abused illegal drugs either prior or during their offense.

At the crime scene, Salfati and Taylor's (2006) sample of rapists (89%) were found to engage in more violent vaginal penetration against their victim than sexual murderers (60%). In contrast, sexual murderers were more likely than rapists to penetrate their victim anally and to insert foreign objects in their victim's body cavity (Salfati & Taylor, 2006). Compared with sexual murderers, rapists were more likely to bring a weapon to the crime scene (43% versus 14%) and to restrict their victim's

action through binding (24% versus 8%) or blindfolding (16% versus 5%; Salfati & Taylor, 2006). Sexual murderers, in contrast, were found to engage in more non-controlled violence (i.e., where the offender engaged in manual violence) and to inflict multiple wounds on their victim when compared with the rapists (Firestone, Bradford, Greenberg, Larose, & Curry, 1998; Langevin, et al., 1988; Salfati & Taylor, 2006).

Table 1 Findings pertaining to the differences between SHOs and non-SHOs

Study (Year)	Country of Study	Number of SHOs	Number of Non-SHOs	Findings Pertaining to Differences between SHOs and Non-SHOs
<i>Offender's Age</i>				
Grubin (1994) ^A	Britain	21	121	SHOs were older than non-SHOs when they committed their index offense.
Salfati & Taylor (2006) ^A	Britain	37	37	
Koch, Berner, Hill, & Briken (2011) ^B	Germany	166	56	Non-SHOs were older than SHOs.
<i>Offender's Intelligence</i>				
Oliver, Beech, Fisher, & Beckett (2007) ^A	Britain	58	112	Although both SHOs and non-SHOs' mean IQ was above average, SHOs have significantly higher estimated IQ than non-SHOs.
Koch, Berner, Hill, & Briken (2011)	Germany	166	56	Non-SHOs were more educated than SHOs.
<i>Offender's Criminal History</i>				
Oliver, Beech, Fisher, & Beckett (2007)	Britain	58	112	Significantly more non-SHOs have committed violent offenses prior to their index offense than SHOs. Yet, SHOs have committed more past sexual offenses than non-SHOs.
Firestone, Bradford, Greenberg, Larose, & Curry (1998) ^C	Canada	17	35	SHOs have committed more violent and sexual offenses prior to their index crime than non-SHOs.

Table 1 (continued)

Study (Year)	Country of Study	Number of SHOs	Number of Non-SHOs	Findings Pertaining to Differences between SHOs and Non-SHOs
<i>Offender's Childhood and Adolescence Development</i>				
Grubin (1994)	Britain	21	121	SHOs have more stable family structure than non-SHOs. Yet, no significant differences were found between SHOs and non-SHOs concerning their sexual and non-sexual victimization.
Langevin, Ben-Aron, Wright, Marchese, & Handy (1988) ^D	Canada	13	13	SHOs have more disturbed relationships with their fathers than non-SHOs.
Firestone, Bradford, Greenberg, & Larose (1998) ^E	Canada	48	50	SHOs were more likely than non-SHOs to be removed from their family before the age of 16.
Proulx, Beaugard, & Nicole (2002) ^A	Canada	40	101	No significant differences were found between SHOs and non-SHOs concerning their family background. Yet, more SHOs to be victims of incest than non-SHOs.
Koch, Berner, Hill, & Briken (2011)	Germany	166	56	Significantly more SHOs to be physically and sexually abused as a child than non-SHOs.
Oliver, Beech, Fisher, & Beckett (2007)	Britain	58	112	Both SHOs and non-SHOs were similarly highly reported to have been physically and sexually abused during childhood.

Table 1 (continued)

Study (Year)	Country of Study	Number of SHOs	Number of Non-SHOs	Findings Pertaining to Differences between SHOs and Non-SHOs
<i>Offender's Childhood, Adolescence, and Adulthood Behavioral Problems</i>				
Grubin (1994)	Britain	21	121	No significant differences in childhood conduct disorder were found between SHOs and non-SHOs. Yet, SHOs reported a higher level of social isolation in childhood and adulthood (e.g., fewer sexual relationships) than non-SHOs.
Proulx, Beaugard, & Nicole (2002)	Canada	40	101	SHOs reported more childhood disciplinary problems than non-SHOs.
Langevin (2003) ^F	Canada	33	714	SHOs reported to have started their criminal career earlier, to have been to reform school, to have been members of criminal gangs, to have set fires, and to have been cruel to animals than non-SHOs.
Langevin, Ben-Aron, Wright, Marchese, & Handy (1988)	Canada	13	13	SHOs were more frequently than non-SHOs to be diagnosed with antisocial personality disorder (APD) and sexual sadism.
Firestone, Bradford, Greenberg, Larose, & Curry (1998)	Canada	17	35	SHOs were more frequently than non-SHOs to be diagnosed with APD, sexual sadism, paraphilias, and psychopathic personality traits.

Table 1 (continued)

Study (Year)	Country of Study	Number of SHOs	Number of Non-SHOs	Findings Pertaining to Differences between SHOs and Non-SHOs
Koch, Berner, Hill, & Briken (2011)	Germany	166	56	SHOs were more frequently than non-SHOs to be diagnosed with schizoid personality disorder and paraphilias (e.g., sexual sadism and fetishism). Yet, non-SHOs were more often than SHOs to be diagnosed with pedophilia. No significant differences were found between SHOs and non-SHOs concerning psychopathic personality.
Milsom, Beech, & Webster (2003) ^B	Britain	19	16	SHOs reported higher levels of grievance towards females in childhood, peer group loneliness in adolescence, and seeing themselves as victim in adulthood than non-SHOs.
<i>Offender's Relationship Status at the Time of the Offense</i>				
Grubin (1994)	Britain	21	121	SHOs were more likely than non-SHOs to live alone at the time of the offense.
Oliver, Beech, Fisher, & Beckett (2007)	Britain	58	112	SHOs reported to have significantly fewer intimate relationship experiences than non-SHOs, specifically have had no relationship at the time of the offense.
Firestone, Bradford, Greenberg, & Larose (1998)	Canada	48	50	
Milsom, Beech, & Webster (2003)	Britain	19	16	SHOs were significantly more likely than non-SHOs to have married at the time of their offense.

Table 1 (continued)

Study (Year)	Country of Study	Number of SHOs	Number of Non-SHOs	Findings Pertaining to Differences between SHOs and Non-SHOs
<i>Offender's Sexual Deviation</i>				
Grubin (1994)	Britain	21	121	SHOs and non-SHOs were equally likely to have an interest in sexual deviation, aggressive pursuits, and a rich fantasy life.
Proulx, Beaugard, & Nicole (2002)	Canada	40	101	SHOs reported to have more sexually deviant fantasies than non-SHOs.
Langevin, Ben-Aron, Wright, Marchese, & Handy (1988)	Canada	13	13	SHOs were more likely to be aroused by transvestism and sadism than non-SHOs.
Firestone, Bradford, Greenberg, & Larose (1998)	Canada	48	50	SHOs reported greater preference for descriptions of assaultive acts with children (pedophile assault index scores) than non-SHOs. Yet, no significant differences were found between SHOs and non-SHOs concerning pedophile index scores.
Firestone, Bradford, Greenberg, Larose, & Curry (1998)	Canada	17	35	
Firestone, Bradford, Greenberg, & Nunes (2000) ^G	Canada	27	189	
<i>Offender's Pre-Crime Characteristics</i>				
Chene & Cusson (2007) ^A	Canada	43	148	SHOs were more frequently reported to present a motive of anger or of sex and anger than non-SHOs.

Table 1 (continued)

Study (Year)	Country of Study	Number of SHOs	Number of Non-SHOs	Findings Pertaining to Differences between SHOs and Non-SHOs
Chene & Cusson (2007)	Canada	43	148	SHOs were more frequently reported to have use and/or abuse drugs and alcohol prior to the offense than non-SHOs.
Langevin (2003)	Canada	33	714	
Koch, Berner, Hill, & Briken (2011)	Germany	166	56	SHOs were more likely to have consumed alcohol at the time of their offense, while non-SHOs were more likely to have abused illegal drugs either prior or during their offense.
<i>Offender's Crime Scene Characteristics</i>				
Salfati & Taylor (2006)	Britain	37	37	Non-SHOs reported to engage more violent vaginal penetration against their victim than SHOs. Yet, SHOs were more likely than non-SHOs to penetrate their victim anally and to insert foreign objects in their victim's body cavity. Non-SHOs were more likely to bring a weapon to the crime scene and to restrict their victim's action through binding or blindfolding than SHOs.
Firestone, Bradford, Greenberg, Larose, & Curry (1998)	Canada	17	35	SHOs reported to engage in more non-controlled violence and to inflict multiple wounds on their victim than non-SHOs.
Langevin, Ben-Aron, Wright, Marchese, & Handy (1988)	Canada	13	13	
Salfati & Taylor (2006)	Britain	37	37	

Table 1 (continued)

Study (Year)	Country of Study	Number of SHOs	Number of Non-SHOs	Findings Pertaining to Differences between SHOs and Non-SHOs
<i>Victim's Characteristics</i>				
Chene & Cusson (2007)	Canada	43	148	Strangers who were older were more likely to be targeted by SHOs than non-SHOs.
Firestone, Bradford, Greenberg, Larose, & Curry (1998)	Canada	17	35	
Koch, Berner, Hill, & Briken (2011)	Germany	166	56	
Langevin, Ben-Aron, Wright, Marchese, & Handy (1988)	Canada	13	13	
Oliver, Beech, Fisher, & Beckett (2007)	Britain	58	112	

Notes: A (sexual murderers and rapists), B (homicidal and non-homicidal sexual offenders), C (homicidal and non-homicidal sexual offenders and child molesters), D (sexual killers and non-homicidal sexually aggressive males), E (homicidal sexual offenders and incest offenders), F (sexual killers, non-homicidal sexually aggressive men, non-homicidal sadists, and non-homicidal sexual offenders), and G (extra-familial homicidal and non-homicidal child molesters).

Concluding Remarks of the Chapter

As discussed within this chapter, sexual homicide is a rare event. According to Chan and Heide (2009), sexual homicide accounted for less than 4% of the overall annual homicide rate in the U.S., Canada, and Britain. This low reported annual rate of sexual homicide is likely due to the lack of a standardized definition of this violent offense, and the inconsistency of definition and classification used by the researchers and practitioners in reporting their empirical and clinical studies. Therefore, based on various definitions offered over the years, a revised definition of sexual homicide with intention to accurately classify this violent crime is proposed.

The overall understanding of sexual homicide is still in its infancy stage, let alone the comprehension of the offenders who commit this type of offense. Although there are increasing efforts to distinguish homicidal sexual offenders from non-homicidal sexual offenders, limited studies have attempted to offer theoretical conceptual accounts of the etiology of sexual murder. To date, only a handful of scholars have offered a glimpse into the underlying factors of why and how an individual is becoming a sexual murderer. The following chapter will discuss four widely cited theoretical models of sexual homicide.

Chapter Three

Theoretical Models of Sexual Homicide

Many studies on sexual homicide have been published over the years (mid-1980s to 2008). Most of these studies, however, were either descriptive in nature using different samples of sexual murderers or comparative studies of sexual murderers and other types of offenders (Chan & Heide, 2009). Hence, little is known about the underlying theoretical conceptual accounts of the etiology of sexual homicide. To date, only four widely cited theoretical models of sexual homicide have been proposed: (a) the motivational model (Burgess, et al., 1986; Ressler, et al., 1988), (b) the trauma-control model¹ (Hickey, 1997, 2002), (c) the paraphilic model (Arrigo & Purcell, 2001), and (d) the criminal event perspective model (Mieczkowski & Beauregard, 2010). These distinct theoretical models are further discussed in the following sections.

The Motivational Model

In order to comprehend the various socio-psychological factors that influenced sexual murderers to kill, a group of FBI's investigators and scholars have proposed a motivational model for understanding sexually-motivated murder and sadistic violence. Using interview data collected from 36 incarcerated sexual murderers, Burgess, Hartman, Ressler, Douglas, and McCormack (1986) proposed a five-phase motivation model to explain why an offender commits sexual murder(s): (a) ineffective social environment, (b) formative events, (c) critical personal traits and

¹ Although Hickey's (1997, 2002) trauma-control model was initially developed to offer a theoretical explanation for serial murder, this model can also be applied to the theoretical study of sexual homicide, particularly serial sexual homicide.

cognitive mapping process, (d) action toward others and self, and (e) feedback filter.

These five components are posited to be inter-related (see Figure 1).

(a) Ineffective Social Environment

The structure and quality of family and social interaction are pertinent to the child's general development, especially in the manner of which the child perceives his/her family members and their interaction with him/her and with each other. Burgess et al. (1986) asserted that the quality of the children's attachments (also known as "bonding") to their parents as their primary caregivers and to other members of their family is the most important aspect in how these children will relate to and value others in society later in life. Simply put, the early life attachments of these children to their parents are critical in influencing how these children will perceive situations outside of their family. In Burgess et al.'s (1986) study, all of their interviewed sexual murderers either failed to bond with their primary caregivers as children or developed selective or limited methods of bonding with others. These primary caregivers either ignored, rationalized, or normalized various deviant behaviors during the process of developing their children, or supported their children to develop distortions and projections through their own problems (e.g., criminal behavior, substance abuse; Burgess et al., 1986). Thus, these ineffective social bonds helped contribute to these children's negative perception of reality, and most importantly, their cognitive distortions in relation to sexuality.

(b) Formative Events in Childhood and Adolescence

According to Burgess et al. (1986), there are three major types of formative events that can influence or affect the child's development: (a) trauma (e.g., physical or sexual abuse), (b) developmental failure (i.e., failure to attach with his/her adult caregiver), and (c) interpersonal failure (i.e., adult caregiver of the child fails to serve

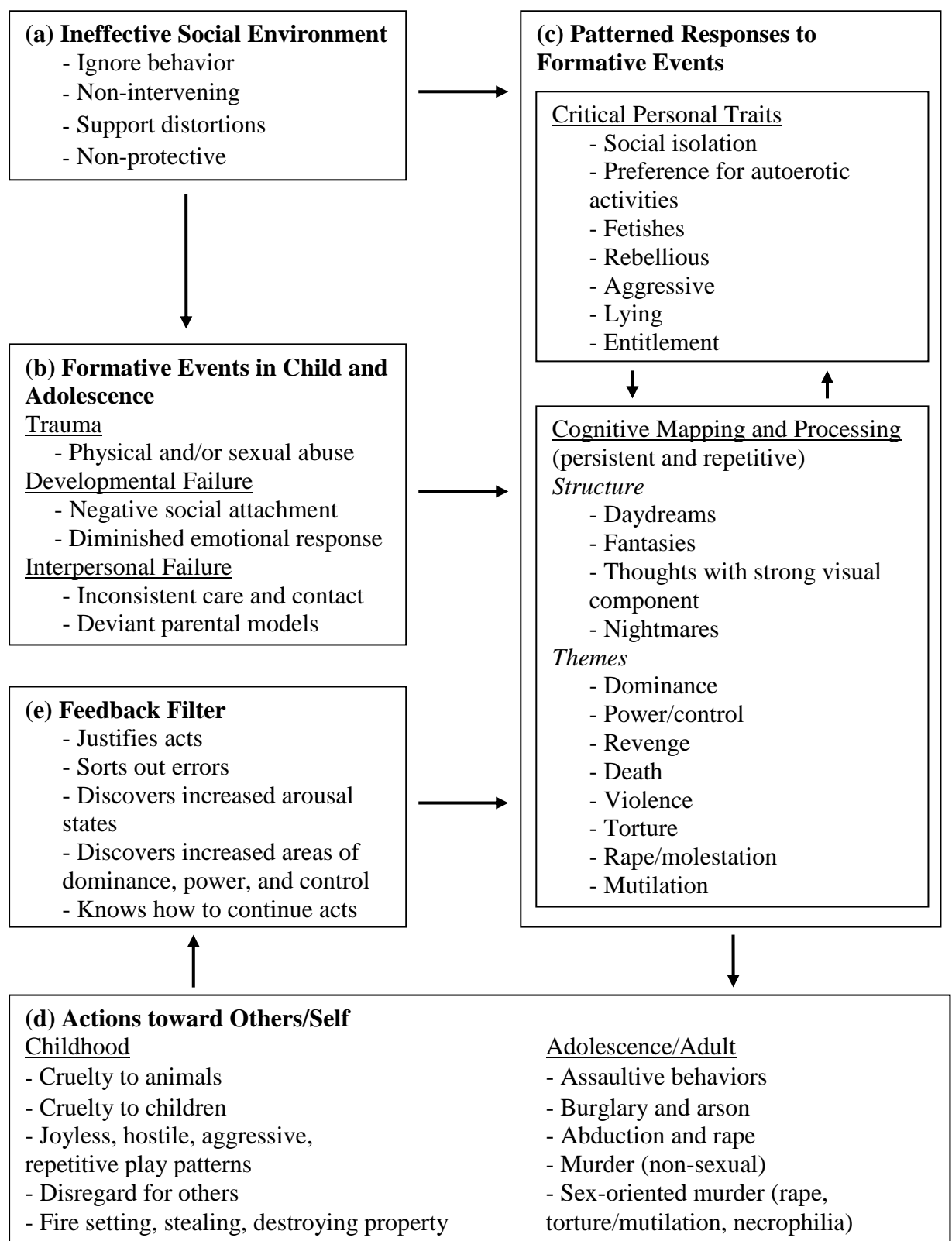


Figure 1 Burgess et al.'s (1986) motivation model of sexual homicide (Burgess, Hartman, Ressler, Douglas, & McCormick, 1986, p. 262; Ressler, Burgess, & Douglas, 1988, p. 70)

as an adequate role model to the child). In terms of the traumatic events experienced by the children, they can either be normative (e.g., illness, death) that occur as a function of routine life, or non-normative events that are not consistent with routine life. The non-normative traumas experienced by Burgess et al.'s (1986) sample of murderers included direct trauma such as physical and/or sexual abuse and indirect trauma like witnessing family violence. In combination with an ineffective social environment, children may feel unprotected and confused about the non-normative events they experience. The assumption, as posited by Burgess et al. (1986) regarding early traumatic events, is that children's memories of frightening and/or upsetting life experiences are likely to shape their developing thought patterns. This type of thinking patterns then can emerge in the form of daydreams and fantasies, which in return influences their tendency to become socially withdrawn into their fantasy world to find comfort. If these children are unsuccessful at resolving their traumatic events, their feelings of hopelessness and helplessness can be reinforced. Daydreaming and fantasy are ways for adolescents to escape the reality in which they lack control. In addition, daydreaming and fantasizing enable adolescents to have complete control over any situation they created or encountered.

Developmental failure also contributes to the formative events of childhood and/or early adolescence. For various reasons, a strained or lack of adequate social attachment with the parents or other primary caregivers is likely to lead to children or adolescents to feel neglected and emotionally deprived. Interpersonal failure is the third contributing factor in this model component, which refers to the failure of the parents or primary caregivers to serve as appropriate role models for the developing children (Burgess, et al., 1986). Examples of negative parental role models to the children include parents with problems of substance abuse and parents who offer a

violent home environment to their children. If the children experience violence at home, “the aggressive acts may become associated with the inappropriate sexual behavior of the adult caretaker” (Burgess, et al., 1986, p. 264).

(c) Patterned Responses to Formative Events

The patterned responses or adaptations to formative events include critical personal traits and cognitive mapping and processing that interact with each other to generate fantasies. Personality traits can be both positive and negative. Positive personality traits such as warmth, trust, and security that help to establish positive relationships with others are consequences of the children’s normal growth and development. As Burgess et al. (1986) contended, “In combination with an effective social environment, the child is allowed to develop competency and autonomy” (p. 264). Negative personality traits, in contrast, are formed as a result of an ineffective social environment which in turns interferes with the children’s formation of pro-social emotional relationships with others. As a result, an inability to approach others in a confident manner is likely and thereby increases the likelihood of social isolation. Increased social isolation encourages a reliance on fantasy as an alternative to pro-social human interaction. Hence, individual personality development may become dependent on fantasy life and its dominant themes, rather than on the pro-social human interaction (Burgess, et al., 1986). In Burgess et al.’s (1986) study, murderers were found to have a sense of social isolation, cynical views of others and society, preferences for autoerotic activities and fetishes, rebelliousness, aggression, chronic lying, and a sense of entitlement. Their sense of social isolation, coupled with deep-seated anger, may limit their normal sexual development based on caring, pleasure, and companionship. As a result, these individuals can only relate to others through their fantasy life, whereby their “fantasy becomes the primary source of emotional

arousal and that emotion is a confused mixture of sex and aggression” (Burgess et al., 1986, p. 265).

Cognitive mapping is the second key component that informs the patterned responses of children that usually stemmed from their formative events. In simple terms, cognitive mapping functions as a filtering system that provides for interpretation of new information and generates meaning according to past events (Burgess, et al., 1986). This process can take the form of daydreams, fantasies, nightmares, and thoughts with strong visual elements. Common fantasy themes, as reported by murderers in Burgess et al.’s (1986) sample, included dominance, revenge, violence, rape, molestation, power, control, torture, mutilation, pain infliction on self/others, and death. Their fantasy world is likely to influence and support the murderers’ self-image. The fantasy that offered these murderers stimulation becomes a preferred substitute for their lack of control over their internal and external involvement in reality. Consequently, the preoccupation with the aggressive or sexually deviant fantasy themes, the detailed cognitive activity, and increased kinesthetic arousal state may ultimately lead these individuals to take action (Burgess et al., 1986).

(d) Actions toward Others

Regardless of age, behavioral patterns reflect the private internal world of each individual. Burgess et al., (1986) found that this to be true with their sample of sexual murderers as well. In fact, Burgess et al. (1986) found that the behavioral patterns of their sample of murderers indicated that their “internal worlds were preoccupied with troublesome, joyless thoughts of dominance over others” (p. 266). These thoughts were expressed through a wide range of actions toward others in childhood (e.g., cruelty toward animals, abuse of other children, negative play patterns, disregard for

others, fire setting, stealing, and destroying property). In adolescence and adulthood, their actions became more violent (e.g., assaultive behaviors, burglary, arson, abduction, rape, non-sexual homicide) and finally sexual homicide involving rape, torture, mutilation, and necrophilia (Burgess, et al., 1986).

According to Burgess et al. (1986), a failure to intervene and eradicate early childhood expressions of violence is likely to serve as a catalyst for future abusive behavior. They contended that the early acts of violence are likely to be reinforced if the child or adolescent is not held accountable for his/her antisocial behavior. Burgess et al. (1986) also asserted that impulsive and erratic behavior tends to discourage friendship. The failure to make friends leads to social isolation and interferes with the child or adolescent's inability to develop positive empathy, conflict resolution, and impulse control skills.

(e) Feedback Filter

Burgess et al. (1986) coined the term "feedback filter" to refer to the manner in which an individual reacts to and evaluates his/her action toward him/herself and others, which in turns influences his/her future actions. Through feedback filters, Burgess et al.'s (1986) sample of murderers' earlier actions were justified, errors were sorted out, and corrections were made "to preserve and protect their internal fantasy world and to avoid restrictions from the external environment" (p. 267). Their arousal states of dominance, power, and control via fantasy variations on their violent actions were increased. In addition, an increased knowledge of how to avoid punishment and detection is also evidenced. All this feeds back into their patterned responses and subsequently enhances the details of their fantasy life.

The Trauma-Control Model

The trauma-control model was proposed by Hickey (1997) to offer a theoretical explanation for serial murder. In addition to addressing several aspects identified by Burgess et al. (1986) in their motivational model of sexual homicide, Hickey (1997, 2002) theorized a number of predispositional factors and facilitators that can influence the behavioral patterns of an individual that can result in serial killing. Hickey's (1997) model includes eight key features: (a) predispositional factors, (b) traumatic events, (c) low self-esteem and fantasies, (d) dissociation, (e) trauma reinforcers, (f) facilitators, (g) increasingly violent fantasies, and (h) homicidal behavior (see Figure 2).

(a) Predispositional Factors

According to Hickey (1997), a majority of serial murderers are known to have certain predispositional factors that are biological, psychological, and/or sociological in nature, which can affect or shape their conduct. An example of biological factor is the extra Y chromosome in males, which could possibly contribute to violent behavior. Mental disorders such as personality disorders, conversely, are examples of psychological factors that could produce aggressive and dangerous (i.e., risky) behavior. An illustration of a sociological factor is a dysfunctional home environment, which could influence the prospects of adolescents acquiring negative or antisocial behavior during their formative years of life.

(b) Traumatic Events

Burgess et al. (1986), in their motivational model of sexual homicide, asserted that traumatic events or traumatization that occurs during the formative stage of development are likely to have an adverse effect on the child's emotional growth.

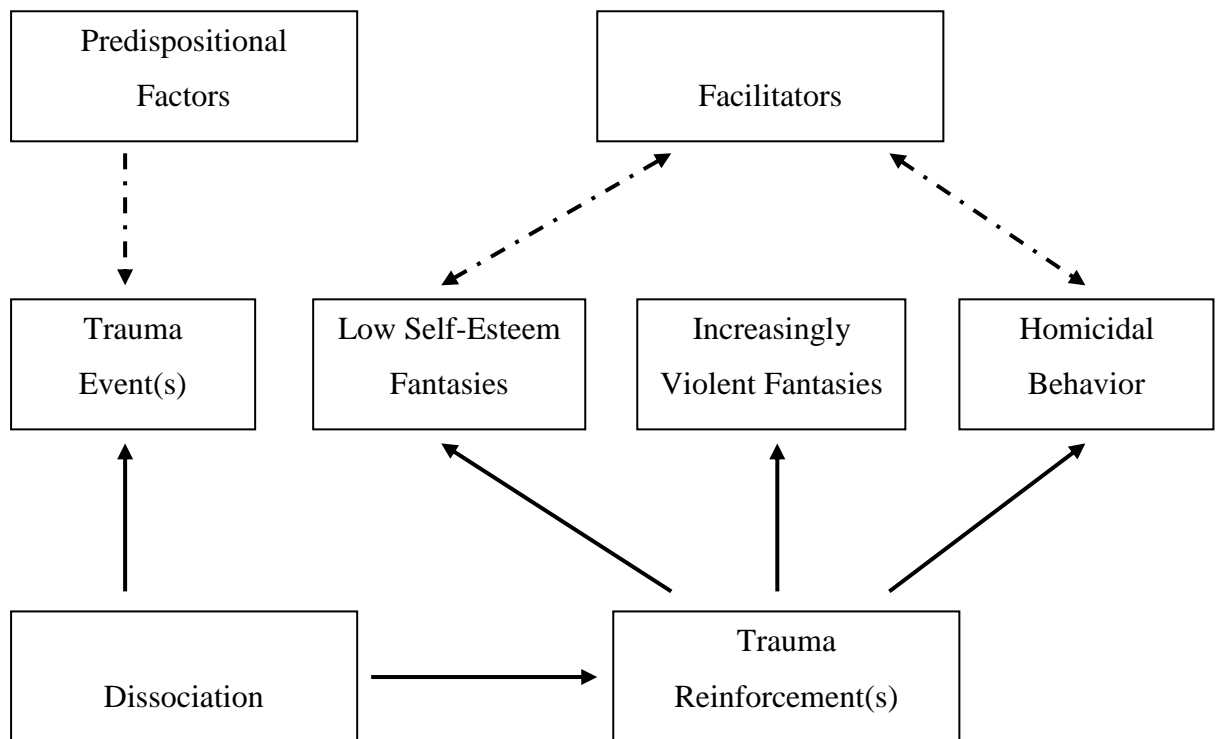


Figure 2 Hickey's (1997) trauma-control model of serial homicide (p. 87)

Hickey (1997, 2002), nonetheless, indicated that such childhood traumatic experiences are more likely to be aggravated by social and environmental issues. Both models theorized by Burgess et al. (1986) and Hickey (1997) acknowledge the debilitating outcomes of adolescent abuse caused by parents or primary caregivers. Hickey (1997) stated that “the child or teen feels a deep sense of anxiety, mistrust, and confusion when psychologically or physically [harmed] by an adult” (p. 87). Being rejected by parents or primary caregivers is the most common manifestation of childhood trauma. According to Hickey (1997), “an unstable, abusive home...[is] one of the major forms of rejection” (p. 87).

(c) Low Self-Esteem and Fantasies

The patterned responses to formative events as addressed in Burgess et al.'s (1986) model are also discussed in Hickey's (1997) model. According to Hickey (1997), adolescents who experienced traumatic events in their early development life are likely to experience inadequacies, self-doubt, low self-esteem, and worthlessness. Because of their poor self-image and depleted confidence, these adolescents are discouraged from initiating and maintaining pro-social relationships with others. Hence, daydreaming and fantasy become alternatives for these socially isolated adolescents.

(d) Dissociation

According to Hickey (1997), children and adolescents who experience physical or psychological trauma in their early development years are less likely to effectively confront and cope with these traumatic experiences. Hence, they may perceive themselves and their immediate surroundings in a distorted manner. As they mature, these distorted perceptions can generate dissociative states of consciousness (Vetter, 1990). Hickey (1997) defined the dissociation process as an "effort to regain the psychological equilibrium taken from [an individual] by people in authority [in which the offender] appear[s] to construct masks, facades, or a veneer of self-confidence and self-control" (p. 88). Generally, serial murderers portray themselves to others as in perfect control over themselves when, in reality, they are morally and socially incompetent. Therefore, under these circumstances, illusion and image become the only reality that sustains them.

Hickey (1997) noted that it is also common for individuals to suppress their traumatic events to the point where they are unable to recall or remember these events. This phenomenon is known as "splitting off" or blocking out of the experience. Tanay

(1976) described this incident, from a serial killing standpoint, as an ego-dystonic episode. The offenders execute the homicide in an altered state of consciousness, whereby they are unaware of their own actions. Danto (1982), conversely, believed when an individual's mind is "overwhelmed and flooded with anxiety" (p. 6), a state of agitation and/or apprehension is likely to develop as a dissociative reaction.

(e) Trauma Reinforcers

According to Hickey (1997), "childhood trauma for serial murderers may serve as a triggering mechanism or reinforcer, resulting in an individual's inability to cope with the stress of certain events, whether they are physical, psychological, or a combination of traumatizations" (p. 87). An example of a triggering factor is a sense of rejection. This sense of rejection is likely to stem from the unrequited displays of affection showered on an intimate partner or the intense and ferocious work-related criticisms from an employer. When these early traumatized individuals experience rejection again in later life, they may internalize the feeling, become immobilized, and unable to constructively cope with this adverse experience. In order to find comfort, they may retreat psychologically into their fantasy world, which often consists of cynical and negative sentiments.

(f) Facilitators

In the course of the trauma-control process, it is common for the offenders to immerse themselves in facilitators (e.g., alcohol, drugs, pornography). Hickey (1997) posited that "alcohol appears to decrease inhibitions and inhibit moral conscience and propriety, whereas pornography fuels growing fantasies of violence (p. 89). From a serial killing perspective, addiction is the first of several stages the offenders encounter with facilitators. To illustrate, in the case of pornography, the offenders are likely to be aroused physiologically and psychologically because of pornography

consumption, which subsequently generates an appetite for such satisfying effects in their daily activities. As a result, these offenders enter the next stage, known as escalation, whereby one's "appetite for more deviant, bizarre, and explicit sexual material is fostered" (Hickey, 1997, p. 89). Ultimately, these offenders become desensitized to the pornographic materials that are graphically sadistic and degrading. In the end, the offenders are likely to act according to these sadistic imageries in which they immersed themselves.

(g) Increasingly Violent Fantasies

As aforementioned, traumatized experiences in early life can adversely affect one's social perception of the world and one's developing sense of self. Serial killers, for instance, are likely to daydream and to indulge into their fantasy world as a way to escape from their socially isolated reality. When coupled with the experience of dissociation, which originated from their trauma reinforcers, and the various facilitators that fuel their (sexually sadistic) fantasies, a synergistic and possible lethal effect are likely to materialize. In the presence of increasingly violent fantasies, this synergistic effect is likely to grow in duration, frequency, and intensity (Hickey, 1997).

(h) Homicidal Behavior

According to Hickey (1997, 2002), the killing experience may generate new images of injurious behavior. Each violent act is an attempt to gratify fully the fantasy of the offenders. If their homicidal act does not resemble the expected outcomes of their fantasy, they are likely to murder again.

The Paraphilic Model

Paraphilias (i.e., sexually aberrant or deviant behaviors), as a behavioral system, commonly function as motivation for sexual murder, particularly lust murder

(i.e., sadistic sexual murder; also known as “erotophonophilia”). Arrigo and Purcell (2001) proposed an integrated theoretical paraphilic schema using both Burgess et al.’s (1986) motivational model and Hickey’s (1997, 2002) trauma-control model, coupled with MacCulloch et al.’s (1983) work on sadistic behavior. In their integrated paraphilic framework, seven key dimensions were proposed: (a) formative development, (b) low self-esteem, (c) early fantasy and paraphilic development, (d) paraphilic process, (e) stressors, (f) behavioral manifestations, and (g) increasingly violent fantasies (see Figure 3).

(a) Formative Development

Arrigo and Purcell’s (2001) initial dimension of the integrative model explains how childhood and early adolescent experiences contribute to the development of paraphilic behaviors. This dimension is a direct integration of Burgess et al.’s (1986) “ineffective social environment” and “formative events” phases of their motivational model, as well as Hickey’s (1997) “predispositional factors” and “trauma events” features of his trauma-control model. Consistent with Burgess et al. (1986) and Hickey’s (1997, 2002) assertion, Arrigo and Purcell (2001) stated that the formative development of an individual has a significant effect in his/her psychosocial adjustment throughout the life course. In their formative development dimension of paraphilic behaviors, two inter-dependent concepts were introduced: (i) predispositional factors and (ii) traumatic events.

(i) Pre-dispositional Factors

Burgess et al.’s (1986) motivational model and Hickey’s (1997, 2002) trauma-control model both recognize that certain predispositional factors are capable of affecting one’s offending behavior. Specifically, Burgess et al. (1986) noted the psycho-sociological influence of childhood dysfunctional family surroundings can

adversely affect the quality of parent-child attachment, which could result in developmental and interpersonal failures in later life. Hickey (1997) also asserted that mental disorders are inherently psychological predispositional factors that could produce antisocial behavior.

In addition, Hickey (1997) posited that biological factors (e.g., the extra Y chromosome syndrome) can also influence offender conduct. Interestingly, research indicates that certain biological factors can influence the development of paraphilic behavior. For instance, Money (1990) argued that all paraphilias, especially sexual sadism are developed “due to a disease in the brain which affects the centers and the pathways that are responsible for sexual arousal, mating behavior, and reproduction of the species” (p. 27). Particularly with sexual sadism, Money (1990) contended that “the brain becomes pathologically activated to transmit messages of attack simultaneously with messages of sexual arousal and mating behavior” (p. 28). Simply put, all paraphilias are rooted from certain predispositional factors (e.g., biological, psychological, sociological) that can, in some circumstances, generate erotically sadistic, aggressive, and even homicidal behavior (Arrigo & Purcell, 2001).

(ii) Traumatic Events

In addition to the influence of predisposition factors on an individual propensity to engage in erotically deviant behaviors, both motivational and trauma-control models also acknowledge the severe effects of traumatic experiences (e.g., physical, sexual, psychological) on childhood and early adolescent development. Studies on paraphilia of lust murder also signify that the early years of psychological adjustment “are crucial to the personality structure and development of these offenders” (Hazelwood & Douglas, 1980, p. 21). Simon (1996) argued that it is uncommon for lust murderers to grow up in a nurturing family environment that is

free from abuse, alcoholism, and drugs (see also Money & Werlas, 1982). Simply put, paraphilic behaviors are likely to originate from largely unresolved or inappropriately addressed childhood or early adolescent traumatic accounts (Arrigo & Purcell, 2001).

(b) Low Self-Esteem

The motivational (Burgess, et al., 1986) and trauma-control (Hickey, 1997) models both acknowledge the inherent negative consequences of traumatic accounts in the child or adolescent's development of positive self-image and the learning of pro-social behavior. Traumatized children and adolescents are at increased risk for developing a deep-seated sense of personal failure and a genuine lack of regard for others, which eventually interfere with their ability to develop positive interpersonal relationship with others. Consequently, daydreaming and fantasy become a substitute for their socially isolated life. Individuals with paraphilias are likely to come from a dysfunctional background (Abel, Becker, Cunningham-Rather, Muttelman, & Rouleau, 1988; Holmes, 1991). Burgess et al. (1986) also noted that negative personality traits are likely to act as catalysts for generating fantasies, which in turn become patterned responses. The anger or rage these individuals experienced as a result of previous trauma and rejection is likely to express in the content of their image making in their fantasy (Arrigo & Purcell, 2001). Coupled with their social isolated life, violent fantasies are likely to form among these angry individuals (Hickey, 1997).

(c) Early Fantasy and Paraphilic Development

Arrigo and Purcell (2001) posited that several factors are likely to occur simultaneously to produce a synergistic effect in the paraphilic development. To illustrate, social isolation arising concomitantly with the early development of

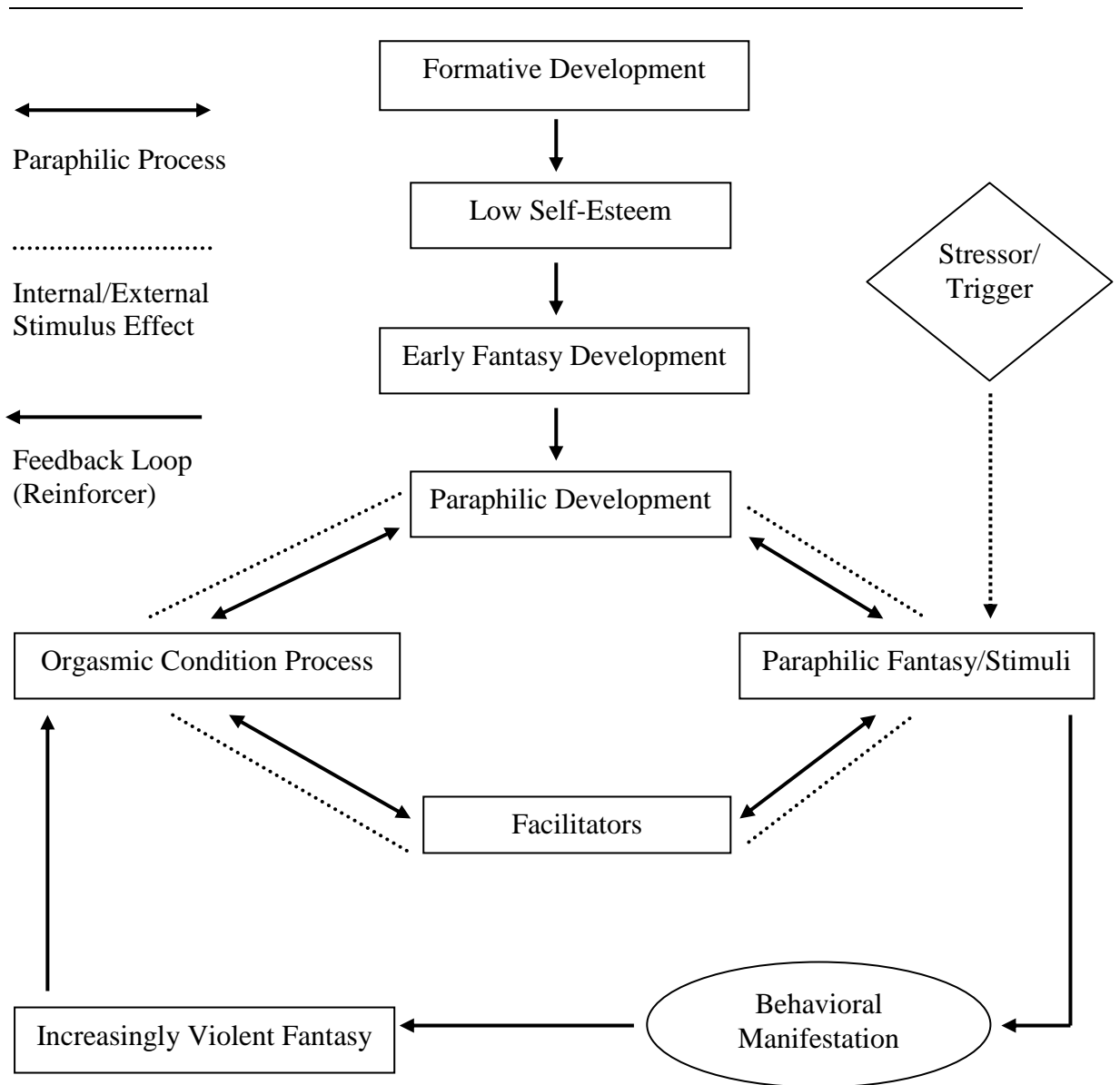


Figure 3 Arrigo and Purcell's (2001) paraphilic model of lust murder (p. 20)

sexualized fantasy may subsequently lead to developing paraphilic behaviors. This process (i.e., paraphilic-oriented sexualized fantasy) may eventually become fixated. According to Arrigo and Purcell (2001), fantasy, compulsive masturbation, facilitators, and paraphilic stimuli (e.g., fetishes, unusual objects, sadistic and erotic rituals) may serve to sustain the paraphilic process.

Burgess et al. (1986) specifically identified personality characteristics such as social isolation, a preference for autoerotic activities, and fetishes, which are indicative of the paraphilic process described by Arrigo and Purcell (2001). Indeed, Ressler et al. (1988) stated that “the internal behaviors most consistently reported over the murderers’ three developmental periods were daydreaming, compulsive masturbation, and isolation” (p. 30). Furthermore, Burgess et al. (1986) found that, in their study of 36 sexual murderers, 83% of those victims of childhood sexual abuse engaged in fetishistic behaviors compared with only 43% of those non-abused murderers. This finding strongly suggests that fetishistic behaviors, as a paraphilic stimulus, are initiated at some point in the context of social isolation, fantasy, and prior sexual abuse. Other researchers (e.g., Hickey, 1997, 2002; Holmes, 1991; Simon, 1996) have also acknowledged the importance of fetishistic behaviors as symbolic links in sexual murderers’ life.

(d) Paraphilic Process

The paraphilic process, as posited by Arrigo and Purcell (2001), is cyclical and consists of three mutually interactive elements: (i) paraphilic stimuli and fantasy, (ii) orgasmic conditioning process, and (iii) facilitators (e.g., alcohol, drug, pornography).

(i) Paraphilic Stimuli and Fantasy

According to Arrigo and Purcell (2001), fantasy is a very influential aspect in facilitating the paraphilic process. Both motivational (Burgess et al., 1986) and trauma-control (Hickey, 1997) models claim that feelings of inadequacies as a result of a lack of social-sexual bonding with others may drive individuals into a world of fantasy and social isolation. Over time, the images of their fantasy may become more violent and erotic, incorporating assorted fetishes, rituals, and/or unusual and sexually charged objects as stimuli for sexual gratification. This contention is further supported

by MacCulloch et al.'s (1983) study of sadistic fantasies of sexual offenders. In their study, MacCulloch et al. (1983) found that most of the sexual offenders who engaged in sadistic fantasies experienced difficulty in both social and sexual relationships at a young age. The feeling of sexual arousal and sadistic fantasies are likely to reinforce each other via classical conditioning, which increases the likelihood of escalation and habituation (Arrigo & Purcell, 2001). Studies have found that lust murderers usually associated sex with aggression in their fantasy systems (e.g., Hazelwood & Douglas, 1980; Liebert, 1985). Common themes included power, domination, exploitation, revenge, molestation, humiliation, and degradation (Simon, 1996).

(ii) Orgasmic Conditioning Process

Compulsive masturbation through fantasizing and rehearsing of paraphilic behavior enables an individual to achieve sexual orgasm. Over time, this sexually deviant conditioning process may become dominant to a point where paraphilic fantasy is the only resort to achieve both erotic arousal and satisfaction (Arrigo & Purcell, 2001). The nature and content of the fantasy may become increasingly violent and sadistic, and the paraphilic behaviors may progress in intensity and frequency.

(iii) Facilitators

In his trauma-control model, Hickey (1997) stated that the use of drugs, alcohol, and pornography are important components in serial murdering. Similarly, Ressler et al. (1988) found that, in their sample of sexual killers, over half of their subjects reported to have interest in pornography, and approximately 81% indicated “interests in fetishism, voyeurism, and masturbation” (p. 25). Other studies also demonstrated the influential role of facilitators in sustaining and contributing to the manifestations of sadistic sexual murder (e.g., Hazelwood & Warren, 1989; Holmes, 1991; Prentky, Burgess, Rokous, Lee, Hartman, & Ressler, 1989; Simon, 1996).

Likewise, Arrigo and Purcell (2001) posited that the use of facilitators is also essential to the paraphilic process through manifestations as addictions for sexually deviant individuals. Paraphilic individuals become firmly embedded in a cycle of addiction, experiencing dependency and craving more of the stimulus for sexual satisfaction. The reliance on drugs, alcohol, and/or pornography may escalate until these paraphilic individuals become desensitized to the facilitators. Ultimately, they may have to act out their depraved and erotically charged deviant sexual fantasies through sexual homicide or lust murder.

(e) Stressors

According to Arrigo and Purcell (2001), triggering factors (e.g., rejection, isolation, ridicule) experienced in childhood and adolescence may function as stressors to constrain or thwart one's capacity to cope adequately with everyday life. These stressors are similar to Hickey's (1997) trauma reinforcers. The stressor activates childhood trauma and regenerates the adverse and vile feelings associated with it within the individual (Ressler, et al., 1988). Depending on the nature and seriousness of these triggering factors, the individual may experience a temporary loss of control. This triggering effect subsequently cycles back into the paraphilic process of behavior by means of a feedback loop, and is sustained by masturbation, facilitators, and fantasy (Arrigo & Purcell, 2001). In extreme circumstances, the response to the stress may manifest itself in sadistic and erotic conduct, including lust murder.

(f) Behavioral Manifestations

If paraphilic individuals are compelled to execute their sexually sadistic fantasy, their feedback loop has the potential to escalate into behavioral manifestations. Through the enactment of paraphilic fantasy and stimuli, these

individuals are attempted to gratify, complete, and reify their illusions. Each time the behavior is inaugurated, an exhilarating rush of carnal satisfaction and an increased need for stimulation are likely to be experienced by these paraphilic individuals. This behavior is likely to function as a reinforcer and cycles back into the fantasy system. Both motivational (Burgess, et al., 1986) and trauma-control (Hickey, 1997) models depict this similar process from the perspective of sexual and serial homicides.

(g) Increasingly Violent Fantasies

As the fantasies become increasingly violent in nature, the paraphilic stimuli also progress in intensity, frequency, and duration. The need for constant violent arousal is part of the paraphilic feedback loop and sequences in the process accordingly (Arrigo & Purcell, 2001). Similarly, in their motivational model, Burgess et al. (1986) introduced two components that account for increasingly violent imagery: actions toward others and the feedback filter. Burgess et al. (1986) indicated that when the actions-toward-others factor happens “in adolescence and adulthood, the murderers’ [conduct] becomes more violent: assaultive behaviors, burglary, arson, abduction, rape, non-sexual murder, and finally sexual murder involving rape, torture, mutilation, and necrophilia” (p. 266). Subsequently, feelings of dominance, power, control, and an increased arousal state all sequence back into the offenders’ “patterned responses and enhance the details of the fantasy life” through the feedback filter component (Burgess, et al., 1986; p. 267). Consistently, Hickey (1997) argued that an increasingly violent fantasy component also plays an important part in serial murdering.

The Criminal Event Perspective Model

Criminal events are distinct from criminal acts (Sacco & Kennedy, 1996).

Acts are examples of behavior, while events entail the context of the behavior

(Mieczkowski & Beauregard, 2010). To illustrate, sexual penetrations (e.g., vaginal, oral, anal) are acts, while sexual assault is an event that may consist of different types of sexual penetrations. Using a criminal event perspective (CEP), Mieczkowski and Beauregard (2010) proposed a model to explain what characteristics are associated with the homicidal outcome of a sexual assault. CEP simply refers to a technique used to organize ideas and data (Meier, Kennedy, & Sacco, 2001) to design explanatory models of crime that emphasize the significance of interactions (Anderson & Meier, 2004). There are three key domains of criminal events in Mieczkowski and Beauregard's (2010) model: (a) victim characteristics, (b) situational characteristics, and (c) crime characteristics.

(a) Victim Characteristics

In examining the victim characteristics, Mieczkowski and Beauregard (2010) found that victims who aged 14 and below, came from a non-criminogenic environment, and were strangers to the offenders posed the highest probability to be murdered during a sexual assault. Interestingly, Mieczkowski and Beauregard (2010) found that the three highest ratio combinations include victims who came from non-criminogenic environments. They reasoned that victims who came from a criminogenic environment may serve as a protective factor from being killed during a sexual assault. Socialization experiences in a criminogenic environment may have "better equipped [them] to detect early cues regarding the malevolent intentions of the offender or escape the circumstances at an earlier moment" that might otherwise have resulted in a homicidal outcome (Mieczkowski & Beauregard, 2010, p. 354). Alternatively, they may be better trained to handle the circumstances once a sexual assault has begun, in which they may act in a strategic manner to save their lives. Comparatively, victims who are raised in criminogenic environment are better

prepared and more competent to manage the circumstances than victims who are less socialized in a criminogenic environment.

Another noteworthy finding of Mieczkowski and Beauregard's (2010) study is that victims who are children less than 14 years of age and raised in a criminogenic environment are found to be the least likely to be murdered during a sexual assault. Mieczkowski and Beauregard (2010) reasoned that young children are likely to offer no resistance, in which their compliance to the sexual assault may increase their survivability. In addition, child victims who came from a non-criminogenic environment and experiencing an encounter with a stranger are likely to panic and resist, which may lead to a lethal outcome through the offender's escalation of violence as a means to control the circumstances (Mieczkowski & Beauregard, 2010).

(b) Situational Characteristics

Looking at the perspective of situational characteristics, Mieczkowski and Beauregard (2010) found that daytime attack moment is likely to result in lethal outcomes. This is consistent with findings found in Weaver et al.'s (2004) study where the hours of 6:00 a.m. to 8:00 a.m. have a higher proportion of homicidal outcomes. Mieczkowski and Beauregard (2010) reasoned that daylight assault may increase the tendency of the victim to potentially identify the offender, which in turn may cause the offender to murder the victim to evade apprehension. This is also consistent with Beauregard et al.'s (2007) findings of the hunting process of serial sex offenders where strategies used by the offenders are likely to be influenced by different environmental and situational factors.

(c) Crime Characteristics

From the standpoint of crime characteristics, the presence of a weapon is found to be a dominant factor in a sexual assault that will probably end up in the

killing of the victim (Mieczkowski & Beauregard, 2010). This finding is consistent with previous reports that the presence of a weapon makes the killing of the victim easier (Chene & Cusson, 2007; Felson & Messner, 1996). In addition, sexual assaults that involve no intrusive and forced sex with the victim and take more than 30 minutes are found to be more likely to end with a homicide than sexual assaults that do not have these characteristics (Mieczkowski & Beauregard, 2010). Consistent with Beauregard and Proulx (2002), Mieczkowski and Beauregard (2010) reasoned that the killing of the victim may be due to the offender's frustration and anger over his failure to obtain sufficient sexual release or to accomplish a sexual goal. In sum, the combination factors of using a weapon, extended period with the victim, and failure to engage in intrusive sex with the victim or failure to coerce the victim to perform sexual acts on the offender increase the likelihood that a homicidal outcome will result from the sexual assault.

Concluding Remarks of the Chapter

This chapter discusses the four widely cited theoretical models of sexual homicide: (a) the motivational model (Burgess, et al., 1986; Ressler, et al., 1988), (b) the trauma-control model (Hickey, 1997, 2002), (c) the paraphilic model (Arrigo & Purcell, 2001), and (d) the criminal event perspective model (Mieczkowski & Beauregard, 2010). Despite their distinctive effort to theorize the phenomenon of sexual homicide from different theoretical perspectives, these models have neglected to link the different components in their models to the existing criminological and/or psychological theories. In particular, these models fail to explain the processes from either a criminological or psychological theoretical standpoint by which potential offenders become motivated to sexually murder, decide to sexually murder, and act on that desire, intention, and opportunity.

Recently, a comprehensive model of sexual killing from the offending perspective has been proposed in the criminological literature (Chan, et al., 2011). This theoretical model used an integrated theory of social learning and routine activities theories to explain the offending conceptual framework in sexual homicide. In order to understand this newly proposed model of sexual homicide from the offending perspective, the following chapter will comprehensively discuss this theoretical framework.

Chapter Four

A Criminologically-Oriented Integrative Theoretical Model of the Offending Perspective of Sexual Homicide

Two criminological theories, social learning theory and routine activities theory, are reviewed in this chapter. In addition, their application in explaining sexual violence and sex-related offenses is discussed. Limitations of using social learning theory and routine activities theory, independently, to explain the offending perspective of sexual homicide are outlined. Each theoretical model may complement each other via cross-level explanation of the sexual homicide phenomenon. However, in order to fully explain the complete offending perspective of this distinctive, but yet serious violent crime, an integrated theoretical framework is desirable. Consequently, the recently proposed integrated theory of the offending perspective of sexual homicide by Chan, Heide, and Beauregard (2011) is presented below.

Social Learning Theory

For the last four decades, Akers' social learning theory has been one of the dominant criminological theories (Akers & Jensen, 2003, 2006). Social learning theory, initially proposed by Burgess and Akers (1966), is an explicit effort to extend Edwin Sutherland's theory of differential association (Akers & Sellers, 2009). As stated by Akers (2001), "social learning theory retains all of the differential association processes in Sutherland's theory" (p. 194), but with additional considerations. With an emphasis on the behavioral specification of the learning process, this theoretical perspective focuses on violations of social and legal norms with new principles of modern learning theory (Akers, 1985).

The published empirical research on social learning theory is extensive (for review, see Akers, 1998; Akers & Sellers, 2009; Pratt, Cullen, Sellers, Winfree, Madensen, Daigle, et al., 2010). The core themes of Akers' social learning theory, as it is currently conceptualized, are *differential association*, *definitions*, *differential reinforcement or punishment*, and *imitation*. The differential association concept refers to the direct or indirect interaction and/or exposure to different attitudes and behaviors in different social contexts. Family and peers, example of primary groups, tend to be the most vital social groups whereby differential associations have strong influence on the individual's behavioral learning process. As asserted by Akers (1998), the impact of such exposure, nevertheless, varies greatly according to the frequency, duration, intensity, and priority of each type of association. Notwithstanding the tremendous influence primary social groups have on the behavioral learning process, secondary and other reference groups (e.g., school system, colleagues and work groups, mass media, Internet, computer games) can also contribute greatly to the normative definitions in the learning process (Akers, 1997; Hwang & Akers, 2003; Warr, 2002).

Definitions are simply defined as the attitudes, beliefs, values, and norms about certain behavior learned directly or indirectly from particular social groups, typically within intimate primary groups (Akers, 1997; Akers & Jensen, 2006; Batton & Ogle, 2003; Bellair, Roscigno, & Velez, 2003; Sellers, Cochran, & Branch, 2005). Definitions can be revealed in different forms. These attitudes or beliefs can be general (i.e., broadly approving or disapproving of criminal conduct) or specific (i.e., an explicit view of a particular criminal conduct) to a particular act or situation (Akers, 2001). Besides, definitions may also be positive (i.e., favorable view of criminal

behavior), negative (i.e., oppositional to criminal conduct), or even neutralizing (i.e., perceiving criminal conduct as permissible; Pratt, et al., 2010).

Differential reinforcement or punishment is another facet of social learning theory. This element is referred to the net balance of anticipated social and/or nonsocial rewards and costs associated with different types of behavior (Akers, 1997; Krohn, Skinner, Massey, & Akers, 1985; Sellers, et al., 2005). Although reinforcement can be physical (e.g., physiological changes from drug-taking behavior), Akers (2001) argued that the imperative reinforcers are social in nature (e.g., consequences result from the social interaction with one's intimate social group). Social reinforcement involves "not just the direct reactions of others present while an act is performed, but also the whole range of tangible and intangible rewards valued in society and its subgroups (Akers, 1997, p. 55), such as financial rewards, positive facial expression, and verbal approval from significant others. Nonsocial reinforcements are "unconditioned positive and negative effects of physiological and psychological stimuli" (Akers, 1998, p. 71), such as psychophysiological effects of a stimulant. Acts that are reinforced, either positively or negatively, are likely to be repeated, whereas acts that draw punishment are less likely to be repeated.

In addition, criminal behavior can be influenced by the imitation of certain behavior through the observation of role models (Akers, 1997; Bandura, 1977; Donnerstein & Linz, 1995; Krohn, et al., 1985; Sellers, et al., 2005), especially when the behavior is first initiated (Akers, 2001). Important sources of imitation are usually from primary social groups, such as family and peers, whom the individuals admire and with whom they have personal or intimate relationships (Donnerstein & Linz, 1995; Sellers, et al., 2005). Other sources such as the mass media may also be capable of shaping the individual's behavioral orientation, pro-socially or criminally (Akers,

1997). Taken together, the stability of criminal behavior, under the theoretical principles of social learning theory, is, therefore, more likely when an individual is embedded in a social atmosphere where differential association with pro-offending definitions and behavioral patterns is readily available; and most importantly when his/her misconduct is repeatedly reinforced. Of note, in a recent meta-analysis by Pratt et al. (2010), the differential association and definitions measures as specified by social learning theory were consistently found to yield the strongest mean effect sizes. The differential reinforcement and imitation predictors, however, were found to be generally weak across the sample of 133 studies.

Sexual Violence and Sex-Related Offenses: A Social Learning Theory Perspective

From a social learning theoretical standpoint, deviant behavior is argued to be rooted in the familial social interaction, especially the parent-child interaction (Fagan & Wexlers, 1987; McCord, 1991a, 1991b, Patterson, 1975). In addition to witnessing parental aggressive attitudes and/or behaviors, personal experience with family violence (i.e., physical and sexual abuse) may enhance one's tolerance for violence and the propensity to use violence as a coping mechanism (Burgess, Hartman, & McCormack, 1987; Flowers, 2006; Mihalic & Elliott, 1997; Straus, 1990). To illustrate, recent studies found that childhood maltreatment (e.g., physical violence, psychological abuse) and witnessing violence among parents are significant risk factors for future intimate partner violence (e.g., dating violence). These studies lend support to the inter-generational transmission of violence from the social learning perspective (Gover, Park, Tomsich, & Jennings, 2011; Jennings, Park, Tomsich, Govern, & Akers, 2011). Sexual violence, specifically, is argued to be a socially learned behavior related to interpersonal aggression and sexuality as a result of social and cultural traditions (Bandura, 1978; Ellis, 1989). Ellis (1989) contended that sex

role scripts, sexual attitudes, and other pro-sexually deviant cognitions that are associated with physical aggression and sexuality are often mediated by cultural and experiential factors.

For decades, rape and other sexual aggressive behaviors have been widely studied from the social learning perspective (Chan, Heide, & Beauregard, 2011). Social learning theorists assert that sexual aggressive behaviors are typically learned through differential associations with significant others such as family and close peers. To illustrate, individuals learn sexual aggressive behavior through association with sexually aggressive peers and family members who have positive perception of sexual aggressive behaviors. These individuals are likely to have a sexual hostility supportive behavioral model whereby sexually aggressive behavior is regarded as appropriate and is differentially reinforced over other non-sexually aggressive behavior (Boeringer, Shehan, & Akers, 1991; Ellis, 1989; Flowers, 2006).

In addition to differential association, there is some evidence that sexual deviance can be learned through the conditioning effects of differential reinforcement for sexual responses to any stimulus that promotes positive feelings (Benda & DiBlasio, 1994; Ellis, 1989; Harris, Mazerolle, & Knight, 2009; Wilson & Nakajo, 1965). Kinsey, Pomeroy, Martin, and Gebhard (1953) referred to this conditioning process as the “psychologic factors in sexual response.” In their study on dating and acquaintance relationships among college male students, Boeringer et al. (1991) found support for their social learning model of sexual aggression and rape. Sexual deviations are learned responses to possibly accidental experiences with sexually deviant behaviors, which in turn promote positive feelings that can lead to potential escalation and habituation (Laws & Marshall, 2003; Ward, Polaschek, & Beech, 2006).

Furthermore, other reference social groups such as the mass media have also been commonly blamed as an influential imitation medium of social violence. Long-term exposure to sexually explicit materials and/or violent pornographic materials may increase the tolerance for sexually aggressive behavior (Donnerstein, Linz, & Penrod, 1987; Dworkin, 1979; Gray 1982). Violent erotic materials are likely to desensitize individual's reaction to violence (Bandura, 1978), and thus might promote propensity to sexually assault through imitation (Ellis, 1989; Flowers, 2006). Scholars have posited that violent pornographic materials often portray females as sexual objects, which in turn fosters male dominance in society. These materials offer behavioral and ideational support for actual sexual violence (Bandura, 1978; Baron & Straus, 1989; MacKinnon, 1984). Unfortunately, with the technological advancement, pornographic materials can now be easily obtained by anyone with Internet access.

Although limited, conflicting arguments regarding the effects of pornography have been made. The report from the Commission on Obscenity and Pornography (1970) concluded that the consumption of pornographic materials does not necessarily produce any measurable negative effects on sexual behavior and does not lead to the learning of sexually deviant behavior. Likewise, McCormack (1978) found similar conclusions. He avowed, nevertheless, that viewing violent hardcore pornographic depictions does promote aggressive behavior against another individual when anger or hostility against this specific individual is already felt prior to the violent pornography consumption.

In his attempt to emphasize the significance of cognitions in influencing one's behavioral pattern, Ellis (1989) offered four hypotheses of rape from the social learning perspective. First, he argued that rapists would hold more positive attitudes toward rape and violence in general relative to other males. In contrast to the general

male population, rapists would also exhibit more sexual arousal to female depictions of rape and violence. Exposure to violent pornography, on the whole, would enhance male tendencies to commit rape and violent conduct against females. Consumption of sadistic pornography that degrades females, specifically, would further enhance male's attitudes that are conducive to the commission of rape.

Routine Activities Theory

Most of the criminological theories and empirical research developed and conducted in the 1970s primarily focused on the etiological perspective of crime and the offender characteristics. In contrast, Cohen and Felson's (1979) routine activities theory was proffered to explain social change and crime rate trends. As noted by Cohen and Felson (1979), "Unlike many criminological inquiries, we do not examine why individuals or groups are inclined criminally, but rather we take criminal inclination as given and examine the manner in which the spatio-temporal organization of social activities helps people to translate their criminal inclinations into action" (p. 589). Their theoretical model was preceded by Hindelang, Gottfredson, and Garofalo's (1978) lifestyle/exposure theory, as well as the work by Hawley (1950).

Cohen and Felson (1979) argued that the possibility of crime occurring in collectivities is influenced by the convergence in space and time of three key elements in the daily routines of individuals: (a) *a motivated and potential offender*, (b) *an attractive and suitable target*, and (c) *an ineffective or absence of a capable guardian protecting against a violation*. The lack of any one of these elements diminishes the probability of a potential crime (Felson & Cohen, 1980). This theoretical perspective addresses the differential risks for victimization among individuals based on their daily lifestyles. Two central hypotheses have emerged from the routine activities

approach to crime: (a) a criminal-opportunity structure is created from patterns of routine activities and lifestyles through the contact between a motivated offender and a suitable target, and (b) the selection of a specific victim is determined by the offender's subjective value of this particular victim and his/her level of guardianship (Wittebrood & Nieuwbeerta, 2000). Petersilia (2001) further asserted that, from a routine activities perspective, one's risk of victimization "is a function of lifestyle and/or patterns of routine activities" (p. 673). Essentially, according to Spano and Freilich (2009), the routine activities theoretical perspective has evolved to four key tenets: (a) increased guardianship reduces the likelihood of victimization and criminal behavior, (b) more attractive targets are more likely to be victimized, (c) participation in deviant lifestyles increases the likelihood of victimization and criminal behavior (which is embedded in the "attractive target" concept), and (d) greater exposure to potential offenders increases the probability of victimization and criminal offending.

A body of literature on the early years of routine activities theory has focused primarily on the structural-level (macro-level) of analysis. This literature tends to categorize structural opportunity into the three theoretical elements of motivated offenders, suitable targets, and guardianship (Stein, 2010). Over the years, Cohen and Felson's (1979) original macro-based (structural level) theoretical framework has evolved since its theoretical development to not only explains criminal event at the macro-level, but has also been tested using a micro-level approach (e.g., Arnold, Keane, & Baron, 2005; Bernburg & Thorlindsson, 2001; Birkbeck & LaFree, 1993; Casten & Payne, 2008; Felson, 1986; Gaetz, 2004; Holt & Bossler, 2009; Kennedy & Forde, 1990; Lynch, 1987; Marcum, Ricketts, & Higgins, 2010; Miethe & Meier, 1990; Mustaine & Tewksbury, 1999; Sacco, Johnson, & Arnold, 1993; Sampson, 1987; Sampson & Wooldredge, 1987; Sasse, 2005; Schreck & Fisher, 2004; Spano &

Nagy, 2005; Tewksbury & Mustaine, 2000) or a multilevel approach (e.g., Stein, 2010; Tseloni & Farrell, 2002; van Wilsem, de Graff, & Wittebrood, 2003). Studies that focus at the individual-level of analysis are likely to incorporate measures of activities, such as going out for leisure and demographic characteristics that capture lifestyles (Stein, 2010). For instance, the actual routines of individuals indicate that individuals who go to bars, work, or school are at an increased risk of victimization (Arnold, et al., 2005; Kennedy & Forde, 1990). In addition, individuals whose activities take place outside of their home are likely to increase their chance to be exposed to potential offenders, to present themselves as suitable targets, and often to be perceived as lacking capable guardianship (Gaetz, 2004; Messner & Blau, 1987; Spano & Nagy, 2005; Tewksbury & Mustaine, 2000). Cautious interpretation is advised as not all findings of these measures of activities from an individual-level are consistent across all empirical studies. Regardless of this inconsistency, based on the relevant literature, routine activities theory has been supported on both the macro- and micro-levels (Marcum, et al., 2010; Reynald, 2010; Spano & Freilich, 2009).

Undeniably, crime is not a random occurrence in the society (Lunde, 1976). The victim selection process involves a rational decision (Hough, 1987). Offenders typically target victims who meet a set of criteria that holds special significance for them (Bourdreaux, Lord, & Jarvis, 2001; Canter, 1989) and who lack adequate protection at that given moment (Hough, 1987). To a great extent, the vulnerability of becoming a victim is associated with the individual's specific daily activities, lifestyles, and statuses (Mustaine & Tewksbury, 2002; Tewksbury & Mustaine, 2001). Behavior is assumed to be both repetitive and predictable (Cohen & Felson, 1979; Kennedy & Forde, 1990).

Guardianship, from the routine activities perspective, is simply defined as a formal or informal social control mechanism that restricts the availability and accessibility of an attractive target (Cohen & Felson, 1979; Cohen, Kluegel, & Land, 1981). In Felson's (1995) words, a guardian is anyone or anything that "serves by simple presence to prevent crime and by absence to make crime more likely" (p. 53). Not all guardians are aware of their influence in deciding the occurrence of a criminal event. Guardians may engage in guardianship activities unknowingly or unintentionally (Hollis-Peel, Reynald, van Bavel, Elffers, & Welsh, 2011; Spano & Nagy, 2005). It is often the mere presence of an individual that serves to deter the likely offender from committing a crime against a potential target.

Research has further broken down guardianship into three subtypes, which are often referred to as "controllers:" handlers, managers, and guardians (Felson, 1995; Felson & Boba, 2010; Sampson, Eck, & Dunham, 2010; Tillyer & Eck, 2011). Handlers are supervisors of potential offenders who generally have an emotional attachment to the would-be offenders (e.g., parents, schoolteachers, employers), whereas managers are supervisors of potential settings or places for criminal events (e.g., the owners of the places, the owners' representatives at the place; Sampson, et al., 2010). Guardians are described as individuals who keep an eye on the potential target of crime, whether that the target is a person or an object (Felson, 2006). Sampson et al. (2010) indicated that "guardians are highly varied" (p. 39). According to Felson and Boba (2010), these three subtypes are inter-connected in their influence on whether the crime can be completed: "the offender moves away from handlers toward a place without a manager and a target without a guardian" (p. 30).

Taken together, victimization is most likely to occur when individuals are positioned in high-risk situations, in close proximity to motivated offenders, appear to

be attractive targets, and lack a capable guardian (Cohen & Felson, 1979; Felson, 2008). Likewise, individuals who are involved in criminal conducts are at an increased risk of victimization as they increase both their proximity to other motivated offenders and the propensity of retaliation. They also reduce social guardianship by associating with other crime-prone individuals at the same time (Bossler, Holt, & May, 2011; Jensen & Brownfield, 1986; Lauritsen, Laub, & Sampson, 1992; Zhang, Welte, & Wiecxorek, 2001). Therefore, the routine activities approach to crime can account for both victimization and crime because victims frequently report higher levels of criminal behavior than non-victims, and usually share similar demographic characteristics with offenders (Jensen & Brownfield, 1986).

Sex-Related Offenses: A Routine Activities Theory Perspective

Constructs relevant to the routine activities approach have long been heavily examined on a wide variety of violent and property offenses. Among others, sex-related offenses have received tremendous attention, particularly within the last decade (Belknap, 1987; Cass, 2007; De Coster, Estes, & Mueller, 1999; Deslauriers-Varin & Beauregard, 2010; Fox & Sobol, 2000; Mustaine & Tewksbury, 2002; Schwartz & Pitts, 1995; Schwartz, DeKeseredy, Tait, & Alvi, 2001; Sherley, 2005; Tewksbury & Mustaine, 2001; Tewksbury, Mustaine, & Stengel, 2008). Most of these studies utilized a micro-level approach of analysis to examine the individual lifestyle behaviors and routine activities in the determination of victimization risk. The victimization risk or target suitability is regarded as the most tested tenet of the routine activities theory in studies of sex-related offenses, especially in the college population. According to Presley (1997), annual victimization research indicates that one in every 20 college students has reported at least one incident of forced sexual

touching, while one in every 25 college students has reported at least one incident of forced sexual intercourse.

From a routine activities perspective, lifestyle behaviors and statuses (i.e., healthy or unhealthy ways of life) are pertinent to determine the risk of sexual victimization. Of particular note, college students who are on campus are likely to suffer higher victimization risk due to their frequent and close proximity to potential offenders and the absence of capable guardianships (Cass, 2007; Mustaine & Tewksbury, 2002; Sampson & Lauritsen, 1990; Schwartz, DeKeseredy, 1997). Fernandez and Lizotte (1995) found that the number of students enrolled on campus is positively correlated with the reported sexual assault rate on campus. This phenomenon can likely be attributed to the college setting in creating a geographical clustering of potential victims. Additionally, an increased number of leisure activities, especially during nighttime, were found to be significant determinants of sexual assault victimization risks for college females due to their increased chance to be exposed to likely offenders with minimal effective guardianship (Mustaine & Tewksbury, 2002). Female college students who were highly involved in campus life through participation in numerous clubs or organizations involvement had higher levels of exposure to others who may be potential offenders (Mustaine & Tewksbury, 2002) than women who were less involved. For instance, females who involved in fraternity activities (i.e., college Greek membership) were found to have a higher likelihood of being in close proximity to the Greek men who hold attitudes supportive of sexual assault, particularly in settings with alcohol (Boeringer, 1996; Martin & Hummer, 1993).

The college “culture of alcohol” – regular public alcohol consumption and drug use – is also likely to increase the risk of victimization (Abbey, Ross, &

McDuffie, 1996; Felson, 1997; Fisher, Cullen, & Turner, 2000; Mustaine & Tewksbury, 2002; Sampson & Lauritsen, 1990; Schwartz & Pitts, 1995; Schwartz, et al., 2001; Sherley, 2005; Testa & Livingston, 2000; Tewksbury & Mustaine, 2001; Tewksbury, et al., 2008; Vogel & Himelein, 1995). College students who are in a lower state of awareness due to alcohol and/or drug consumption are likely to be perceived by would-be offenders as vulnerable targets. Specifically, while intoxicated, self-protective behaviors would be difficult. In the case of sexual victimization, these intoxicated individuals are perceived as sexually available (Tyler, Hoyt, & Whitbeck, 1998). Alternatively, Mustaine and Tewksbury (1998) found that college students who used extra protective measures (e.g., extra locks on doors, owning a dog) were less likely to be victimized.

Single Theory Explanations of Sexual Homicide

As noted by Chan and colleagues (2011), the tenets of both social learning and routine activities theories can be used independently to explain the occurrence of sexual homicide.² However, similar to other studies that criticized the applicability of a single theoretical model in explaining crime and delinquency (Cohen, 1962; Elliott, Huizinga, & Ageton, 1985; Gluek, 1956; Gluek & Gluek, 1950; Hirschi & Selvin, 1967; Sutherland, 1924; Tittle, 1985, 1989), Chan and colleagues argued that the application of only a sole theory to explain sexual homicide limits the potential to offer a complete depiction of this incident (see Bernard, 1990, 2001; Bernard & Ritti, 1990; Bernard & Snipes, 1996; Gibbs, 1972 for discussion on the limitations of the

² The potential of other mainstream criminological theories such as self-control, social bonding, strain, and social disorganization in explaining the offending perspective of sexual homicide, although not examined in this dissertation, should not be overlooked.

presence of multiple single theories that undermine the role of theory as a way of organizing theoretical ideas to advance research)³.

According to Tittle (1995), the causal processes of crime and delinquency may be more complicated than the explanations offered by a single criminological theory (see also Elliott, 1985). The causes of crime and delinquency are too complex and diverse to fit within a single theoretical perspective, much less a single theory (Bernard & Snipes, 1996). Elliott (1985) asserted that a large number of tests of theories documented small statistical significance with uncertain substantive meaning. Hence, it is not unexpected to find that many of these theories accounted for only a little of the crime and delinquency variance explained (Elliott, 1985; Tittle, 1995).

For decades, scholars posited that an integrative theoretical approach can better elucidate the causation mechanisms of delinquent or criminal conduct by combining different theories at either a single level or different levels (e.g., Agnew, 2003; Elliott, Ageton, & Canter, 1979; Thornberry, 1987). The objective of theory integration is to unify theory into comprehensive explanations having greater explanatory power than constituent theories (Farnworth, 1989). Integrated theories generally involve only a single-level (micro-level or macro-level) explanation of crime and delinquency. Nevertheless, cross-level integration to offer explanations that

³ Proponents for theoretical integration argue that this method reduces the number of theories and offers a more powerful explanation of crime and delinquency. There are scholars (e.g., Hirschi, 1979, 1989; Short, 1979) who believe combining two or more theories; however, is either an undesirable goal or a formidable task (Bernard & Snipes, 1996). Hirschi (1979), for example, argued that most theories are contradictory in nature and their assumptions are incompatible. Theories can only be integrated if they are basically arguing the same thing. Integration may ultimately misrepresent individual theories (Hirschi, 1989).

incorporate both micro- (individual process) and macro-level (social structural process) of social influences in crime and delinquency is not uncommon (Akers, 1968, 1973, 1992, 1998; Bernard & Snipes, 1996; Elliott, 1985; Groves & Lynch, 1990; Hagan, 1989; Pearson & Weiner, 1985; Reiss, 1986; Sampson, 1985; Short, 1979, 1985, 1989; Sutherland, 1939, 1947; Tittle, 1985).

With regard to theoretical integration, social learning theory is one of the widely used theories to integrate with or to incorporate into other theoretical concepts or propositions for more comprehensive crime and delinquency explanations (Verill, 2005). Over the years, there have been numerous attempts to integrate other theoretical elements with the social learning theoretical concepts. For instance, these include integrated elements from such theories as social learning and control theories (Akers & Lee, 1999; Krohn, 1986; Thornberry, 1987); social learning, control, and labeling theories (Braithwaite, 1989); social learning, control, and rational choice theories (Tittle, 1995); and social learning, control, and strain theories (Akers & Cochran, 1985; Elliott, Huizinga, & Ageton, 1985; Hoffman, 2003).

In addition, some scholars claim that the concepts of social learning theory overlap with several other theories, and that these alternative theories' concepts and propositions are special cases of the social learning concepts. Examples of such theories are control, self-control, deterrence, labeling, anomie or strain, normative conflict, economic, rational choice, routine activities, neutralization, and relative deprivation theories (Akers, 1973, 1977, 1985, 1989, 1990, 1998; Pearson & Weiner, 1985). Interesting to note that in most integrated theories that incorporated social learning concepts, social learning constructs typically yielded the strongest effect (Conger, 1976; Elliott et al., 1985; Johnson, Marcos, & Bahr, 1987; Lanza-Kaduce & Klug, 1986; Lewis, Sims, & Shannon, 1989; Marcos, Bahr, & Johnson, 1986;

Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994; White & LaGrange, 1987; see also Kaplan, Martin, & Robbins, 1984; Michaels & Miethe, 1989).

In light of the support for theoretical integration aforementioned, Chan et al. (2011) adopted an integrative theoretical approach by combining all factors explicated in both social learning and routine activities theories to explain the offending perspective of sexual homicide. Chan et al. (2011) asserted that the use of an integrative approach to comprehend the sexual homicide offending phenomenon is likely to explain more offending variance than each of the theories alone (see Barak, 1998; Hirschi, 1989). Prior to a discussion of Chan et al.'s (2011) integrative model, a review of the existing literature on sexual homicide and related topics using the tenets of social learning and routine activities theories, respectively is highlighted below.

Explanations of Sexual Homicide from the Social Learning Perspective

Consistent with the extant literature on the behavioral learning process of sexual offenders, SHOs have been consistently found to grow up in abusive domestic environments. Studies indicated that SHOs usually either suffered from childhood or adolescence physical and/or sexual abuse by their parents and/or primary caregivers, or witnessed such incidents (Beauregard, Stone, Proulx, & Michaud, 2008; Burgess, Hartman, Ressler, Douglas, & McCormack, 1986; Chan & Heide, 2009; Cicchetti & Lynch, 1995; Dent & Jowitt, 2003; Heide, Beauregard, & Myers, 2009; Hickey, 2002; Langevin, Ben-Aron, Wright, Marchese, & Handy, 1988; Lussier, Beauregard, Proulx, & Nicole, 2005; Meloy, 2000; Myers, 2004; Myers, Burgess, & Nelson, 1998; Ressler, Burgess, & Douglas, 1988; Ressler, Burgess, Douglas, Hartman, & D'Agostino, 1986; Ressler, Burgess, Hartman, Douglas, & McCormack, 1986; Stone, 2001).

Accordingly, this unhealthy parent-child relationship often leads to insecure parent-child attachment (Cicchetti & Lynch, 1995; Hickey, 2002; Meloy, Gacono, & Kenney,

1994). Similarly, studies of stalkers – offenders whose common behaviors share similarities with sexual killers – also reported that early childhood trauma associated with parent-child insecure attachment, parental rejection, and domestic violence is commonly found among those who stalk their victims (Bartholomew, 1990; Kienlen, Birmingham, Solberg, O'Regan, & Meloy, 1997; Main, 1996; Meloy, 1996, 1997; Spitzberg & Cupach, 2003).

Generally parents of violent offenders who were involved in deviant sexual and homicidal conduct often had histories of violent behavior, alcohol and/or drug abuse, and psychiatric and sexual problems (Burgess, et al., 1986; Dent & Jowitt, 2003; Ressler, et al., 1988; Stone, 2001). Particularly, inadequate sexual behavior of parents or other caretakers has largely been linked with aggressive acts of abused and psychologically unhealthy children who experienced or witnessed domestic violence (Burgess, et al., 1986) through *differential associations*. Burgess and colleagues (1986) confirmed that most of the deviant sexual attitudes (or *definitions* from the social learning theoretical perspective) in their sample of 36 sexual murderers were initially introduced through modeling by either their parents or primary caregivers during childhood. The literature is consistent that the percentages of sexual killers who experienced childhood or adolescence physical and/or sexual abuse and other types of family violence were very high, ranging from 86% to 94% (Ressler, Burgess, Hartman, et al., 1986; Myers, 2004; Myers, et al., 1998). According to Ressler et al. (1986), the physical and/or sexual victimization experienced at home is strongly correlated with the development of sexual deviations or traits of psychosexual disorders. Examples of such sexual deviations are deviant and sadistic fantasy (Dietz, Hazelwood, & Warren, 1990; Eth & Pynoos, 1985; Jackson, Lee, Pattison, & Ward, 2002) and paraphilic behavior (Arrigo & Purcell, 2001; Hickey, 2002; Stone, 2001).

Based on the literature, SHOs who indulge in deviant fantasies are more likely to premeditate their offense. In most cases, the primary motives of SHOs for their sexual perpetration include obtaining sadistic psychological gratification or sexual euphoria via their expression of power and/or anger as a need to dominate, punish, control, humiliate, degrade, and torture their victims (Chan & Heide, 2009; Cook & Hinman, 1999; Hazelwood & Warren, 2000; Hickey, 2002; Langevin, et al., 1988; McNamara & Morton, 2004; Meloy, 2000; Myers, Eggleston, & Smoak, 2003; Myers, Husted, Safarik, & O'Toole, 2006; Ressler, Burgess, Hartman, et al., 1986; Salfati, James, & Ferguson, 2008). From the *differential reinforcement* viewpoint, positive reinforcement results from the acting out of deviant sexual fantasies, which culminates in sexual orgasm. This operant conditioning process increases behavioral habituation and escalation, which, in turn, lead to the repetitive behavior of sexual killing.

It is noteworthy that the experience of abuse and development of deviant sexual fantasies during childhood or adolescence are congruent with the attachment model of the development of sexual deviance (Marshall, 1993; Ward, Hudson, Marshall, & Siegert, 1995). According to Marshall (1993), attachment refers to parent-child bonding that provides the necessary security and confidence for a child to explore his/her social world. The experience of negative childhood disturbances such as physical and/or sexual abuse may thwart the development of a secure parent-child attachment (Cicchetti & Lynch, 1995; Heide & Solomon, 2006, 2009). Consequently, psychosocial deficits such as low self-esteem and lack of essential social skills to establish a healthy relationship with peers may develop (Marshall, Hudson, & Hodkinson, 1993).

As a result of the difficulty relating to peers, individuals seek alternative ways to fulfill emotional and sexual needs that do not challenge these psychosocial deficits. Among others, sexually assaultive behavior seems appealing because it requires little self-confidence and social skills and can offer the illusion of intimacy without fear of being rejected (Marshall & Eccles, 1993; see e.g., Bushman, Baumeister, Thomaes, Ryu, Begeer, & West, 2009; Diamantopoulou, Rydell, & Henricsson, 2008 for discussions whereby both low and high self-esteem can be related to aggressive behavior). According to Law and Marshall (1990), this behavior can be “learned” through a social learning process by being exposed to, or being a victim of, sexual abuse. Deviant sexual fantasies can be paired with orgasm to create a conditioning process, and these scripted sexual deviant actions can then be used during masturbatory activities for sexual gratification (Abel & Blanchard, 1974; McGuire, Carlisle, & Young, 1965).

Research has also indicated that alcohol is a disinhibiting factor in sexual assault (Barbaree, Marshall, Yates, & Lightfoot, 1983; Marshall & Barbaree, 1990). Based on their state-disinhibition model, Barbaree and Marshall (1991) posited that situational and contextual factors (i.e., consumption of alcohol, viewing of pornography) may enhance sexual aggressors’ rape arousal, which thus facilitate sexual assaultive actions. These circumstantial constructs may influence the occurrence of a sexual assault through the disruption of stimulus inhibition. Put differently, situational constructs are able to temporarily disrupt one’s level of self-control over sexual and aggressive propensities and accentuate the risk of a sexual assault. Consistent with the state-disinhibition model, a number of recent sexual offender studies have also found a positive relationship between the use of alcohol

and the level of force exerted by the offender, as well as the level of injury inflicted on the victim (Beauregard, Lussier, & Proulx, 2005; Ouimet, Guay, & Proulx, 2000).

In terms of the *imitation* tenet from the social learning standpoint, sexually aggressive parents or primary caregivers are the key role models for their children in shaping their sexually deviant attitudes and behavioral patterns into future sex killings. Additionally, sadistic pornography is likely to have an impact on those who sexually assault and murder. Studies reported a high percentage of SHOs (ranging from 39% to 81%), both sadistic and nonsadistic SHOs, collected and consumed violent pornographic materials (Brittain, 1970; Grubin, 1994; Langevin, 2003; Ressler, Burgess, Hartman, et al., 1986). These high percentages thus indicate the devastating impact of imitating the sadistic acts depicted in violent pornography by sexual killers.

Broadly speaking, the developmental risk factors discussed in this section from the social learning standpoint are not limited to sexual murderers. According to Heide (1992, 1999, 2003), family dysfunction and parental pathology are also frequently reported in studies examining violent offenders and nonsexual murderers. Even more notably, homicidal and non-homicidal sex offenders, in general, share many characteristics with respect to poor parenting. In a Canadian comparative study of 101 sexual aggressors and 40 SHOs, for example, no significant differences between the two groups were found in the exposure of deviant and antisocial models of attitudes and behaviors (Proulx, Beauregard, Cusson, & Nicole, 2007). More than half of the offenders in each group were reported to have been exposed to psychological violence and abusive alcohol consumption prior to age 18. Besides, approximately half of the offenders in both groups had experienced physical violence as juveniles.

Even though both homicidal and non-homicidal sex offenders do not present diametrically opposed developmental trajectories, it is logical to assume that they can be distinguished from one another on the basis of the degree of their developmental disturbance severity (Nicole & Proulx, 2007). A question remains: Why did some of the offenders in the Canadian study murder, whereas others did not? It seems that the social learning perspective of criminal behavior is able to offer part of the answer. And might routine activities theory also help to explain the differences between lethal and non-lethal outcomes committed by sex offenders?

Explanations of Sexual Homicide from the Routine Activities Perspective

Most of the routine activities theoretical studies on sex-related offenses have focused on the victimization risks; no study has attempted to examine the offending process from this theoretical perspective (Chan, et al., 2011). This is partly because routine activities theory has traditionally been viewed as a “victimization” theory. However, Chan et al. (2011) argued that this theoretical model is versatile and can be used to explain offending behavior, as well as victimization. It can be used to elucidate both why certain victims are selected and also why certain offenders will target certain victims at particular places and time (Graney & Arrigo, 2002). Put differently, routine activities theory can be useful in understanding both the offender and victim perspectives.

It is imperative to note that the routine activities model assumes a motivated offender without further explanation offered on how one learns to become a motivated offender. For decades, researchers who examined the sexual fantasy of SHOs believed that sexual fantasy plays a vital role in the motivation to kill in many sexual murders (e.g., Britain, 1970; Chan & Heide, 2009; Grubin, 1994; Prentky, Burgess, Rokous, Lee, Hartman, Ressler, et al., 1989). The routine activities point of view does not

address the development of sexual fantasy mainly because it is beyond the scope of this theoretical framework.

Broadly speaking, sexual fantasies of sexual murderers usually involve repetitive acts of sexual violence (Burgess, et al., 1986; Warren, Hazelwood, & Dietz, 1996), which primarily serve to fulfill or alleviate sexual frustration (Langevin, Lang, & Curnoe, 1998). For sexual murderers, sexual fantasy is a frequent resource for sexual arousal. Studies have found that many SHOs who are *motivated* to sexually assault and murder their victims fulfill their deviant sexual fantasies through highly planned sex killings (Burgess, et al., 1986; Langevin, 2003; Warren, et al., 1996) once their inhibitions against executing their sexual fantasies no longer exist (e.g., techniques of neutralization; Prentky, et al., 1989).

Fantasies are apt to strengthen over time and, as they do, the urge to fulfill them in reality becomes more likely and driven (Hill, Habermann, Berner, & Briken, 2007; Prentky, et al., 1989; MacCulloch, Snowden, Wood, & Mills, 1983). Findings have suggested that the acting out of deviant sexual fantasies is probably due to the locating of an outlet for unexpressed emotional states, such as humiliation, rage, and suffering (Myers, et al., 2006; Proulx, McKibben, & Lusignan, 1996). The acting out of deviant sexual fantasies is likely to happen after an extended period of emotional retreat into a fantasy world. This retreat results in emotional loneliness and social isolation due to the lack of healthy intimate heterosexual relationships (Arrigo & Purcell, 2001; Grubin, 1994; Harbot & Mokros, 2001; Marshall, 1989; Ressler, et al., 1988).

According to the second tenet of *target suitability and attractiveness*, an offense is less likely to occur if there is no suitable target for the motivated offender. In sexual homicide, sexually motivated offenders often initiate their “hunt” for

suitable targets (Amir, 1971), who satisfy the “goodness of fit” with their deviant sexual fantasies (Meloy, 2000). Often times, these motivated offenders create a “mental map” of neighborhoods when they spot potentially suitable targets (Rossmo, 1999). Engaging in stalking and/or voyeuristic behavior during their hunt for suitable targets is a vital component in mental mapping among sexual killers.

Aside from repetitively assessing their would-be targets’ accessibility and vulnerability in the course of their daily routines (Boudreaux, et al., 2001), the search for a perpetration opportunity in the absence of detection and deterrence is also another important aspect in their sex killings for sexually motivated murderers. In their study, Chan and Heide (2008) found that children and elderly victims, among four types of victims (children, adolescents, adults, and elderly victims), appear to be the most vulnerable targets because of their less advantaged physical build or make-up and physical strength against their perpetrator. Elderly female victims, especially those who are widows, are more likely to live alone and away from any immediate capable guardian. Therefore, this living arrangement has increased their risk of becoming suitable targets (Safarik, Jarvis, & Nussbaum, 2002). Sex killers of children, on the other hand, are likely to prey on their victims in locations where would-be targets gather (e.g., schools, playgrounds, convenience stores, shopping centers). In most situations, these motivated offenders patiently wait for an opportunity for abduction when their targets’ *guardianship is weak or reduced* (i.e., parents or school teachers walk away and leave the children alone for a short moment; Beauregard, et al., 2008; Beauregard, Proulx, & St-Yves, 2007).

Nevertheless, both children and elderly victims may also be perceived as the least vulnerable targets according to the routine activities theoretical standpoint. Due to the nature of these victims’ age and common lifestyle, children and elderly

individuals are less likely than average adults to be exposed to would-be perpetrators during night time because these individuals are less likely to leave their homes (Chan, et al., 2011). Rather, adolescent and adult males and females who routinely go out at night and those who frequent bars or nightclubs would appear to be at greater risk than children and elderly individuals to be victimized.

Limitations of Single Theory Explanations of Sexual Homicide

The routine activities theoretical perspective of criminal behavior is able to explicate the dynamics of the offending process of sexual murderers. Simply put, routine activities theory focuses on the situational opportunity created from the structural relationships of different social groups. The primary emphasis of this theoretical model is placed on the situational opportunity for a motivated offender to come into contact with a suitable target in the absence of a capable guardian or guardianship.

From the sexual homicide study viewpoint, this theoretical framework, nonetheless, limits itself to the situational constructs that fails to address the important issues from an individual basis (micro level). No proposition is given in this theoretical model to elucidate how an individual becomes motivated to commit a sexual offense and to murder (Chan, et al., 2011). According to Chan and colleagues (2011), the applicability of routine activities theory in explaining the offending perspective of sexual homicide can be strengthened by combining it with another more micro-based theory, which could account for the missing piece of the puzzle.

In this sense, social learning theory has a great potential to fill in the gap by offering justification to the core element of “motivated offender” proposition in the routine activities theory. The social learning perspective is capable of predicting the type of behavioral learning atmosphere that is conducive to crime commission.

Besides, this theory is also able to answer as to why one individual might become more likely than another to commit a sexual murder in the presence of certain conditions, particularly towards a vulnerable target in an unprotected surrounding (Chan, et al., 2011).

Social learning theory by itself, yet, is incapable of predicting under what circumstances the sexually deviant individuals will or will not commit a sexual homicide. Correspondingly, the routine activities perspective is able to overcome this deficiency by explicating the situational opportunity piece of the puzzle. To illustrate, the routine activities model is useful in clarifying the propensity that a sexual homicide will be committed by a motivated offender upon weighing of the pros and cons of the opportunities to offend (Chan, et al., 2011). In view of that, opportunities to commit an offense by a motivated offender on an attractive target in the absence of an effective guardian or guardianship are likely to yield higher rewards than costs. Conversely, in the absence of a suitable target or in the presence of a capable guardian or guardianship, commission of an offense even by a motivated offender is probably going to result in higher costs than rewards.

Chan et al.'s Integrated Theory of the Offending Perspective of Sexual Homicide

With extensive support from the existing literature on sexual homicide and sex-related offenses, Chan and colleagues (2011) proposed an arguably first integrated criminological theory of the offending perspective of sexual homicide by applying the tenets of both social learning and routine activities theories. According to Chan et al. (2011), the individual-level view of the sexual murderers is elucidated by the social learning principles, while the situational-level view of the offending process is complemented by the routine activities propositions to provide a better offending model in understanding sexual homicide. Simply put, this theoretical framework is

proposed to explain the processes whereby an individual becomes motivated to sexually murder, decides to sexually murder, and acts on that desire, intention, and opportunity.

According to this integrative model, a psychologically unhealthy development during childhood and adolescence plays a vital role in shaping a future road to murder, both sexually and non-sexually (Chan, et al., 2011). More importantly, a large majority of SHOs are reported to grow up in a dysfunctional home environment. Childhood and adolescence experiences of physical and/or sexual abuse or of witnessing domestic violence are common within this sexual predator population. Through direct and/or indirect associations with individuals with whom these individuals shared close and intimate relationships since childhood, they have developed a strong learning process of deviant behavior. During an extended period of time through frequent and intense exposure to various deviant and aggressive attitudes, these pro-offending values and attitudes are embedded into their minds and became part of their own belief system. Attitudes and behaviors conducive to sexual offending are typically learned via two primary ways: (a) through interaction with primary social groups and (b) through emulation of primary role models' behavior. Remarkably, parents and primary caregivers are potentially the important sources of role modeling for these individuals in terms of sexually deviant behaviors and attitudes, especially during childhood and adolescence. Interestingly, based on the literature, most of the sexual murderers' parents have criminal backgrounds and/or previous sexual violence experiences (Chan, et al., 2011).

In addition to the direct behavioral imitation during childhood and adolescence from those in these individuals' primary social groups, reference groups such as the media also have tremendous influence to them. Among others, consumption of violent

(and sadistic) pornographic materials is found to be a factor in sex killings, especially prior to the offense (Chan, et al., 2011). Based on the literature, it is noteworthy that a large number of SHOs have admitted to having great interest in violent (and sadistic) pornography, which appeared as a manner to in part compensate for their emotional loneliness and social isolation rooted in their domestically abusive environment. To illustrate, as these individuals are suffering from violence at home during childhood and adolescence years, they are likely to retreat into their own deviant sexual fantasy world to achieve some degree of control and mood regulation. These probable outcomes of deviant sexual fantasies are likely to function as positive reinforcers, which in turn encourage them to return to their fantasy world for pleasure.

However, once the mere indulgence in deviant sexual fantasies is insufficient to produce expected sexual euphoria, these individuals begin to seek alternatives. The acting out of their deviant sexual fantasies is one of the best methods for these individuals to achieve anticipated outcomes to satisfy their psychological gratification. Prior to their perpetration, a set of criteria in search for their suitable targets is likely to be developed. During their hunt for suitable and attractive targets, these offenders may mentally map their targeted neighborhood by way of their stalking and voyeuristic behavior to maximize the probabilities of capturing and abducting their targeted victims without failure. These offenders are waiting for the opportunity to perpetrate against their targets when the guardianship of the immediate surroundings is weak or absent.

The mental mapping associated with the search for suitable targets is typically carried out via the routine activities of the offender. Commonly, the offender is constantly on the lookout for potential targets as he goes to and from work and as he engages in leisure activities. The probability of a victim being targeted and ultimately

being captured increases when the offender's routine activities intersect with this potential victim. Here is a scenario provided by Chan et al. (2011):

An individual drinks to quell social anxiety that he feels because of negative childhood experiences. Drinking helps him to feel more powerful, to interact more easily with women, and to feel more sexual. If this individual regularly frequent bars because he is a regular drinker, he is more likely to select a victim at a bar. Many scenarios are possible. Perhaps, the encounter starts off as flirting and the woman eventually leaves the bar with the offender to go to a quieter, more secluded area "to talk." The man wants sex; the woman does not. The man becomes aggressive in his pursuit of sex. The violence escalates. Whether intended from the onset of the exchange or not, the man kills the woman (p. 239).

Once their targets are captured, if the offenders are so motivated, various paraphilic and ritualistic behaviors (e.g., necrophilia, genitalia mutilation) may be performed on their victims prior and/or after the killing in order to achieve maximum sexual gratification. Most of these paraphilic and ritualistic behaviors, in conjunction with their deviant sexual fantasies, are repetitive behaviors that reinforce reoffending unless these offenders are stopped by legal authorities (Arrigo & Purcell, 2001; Holmes & Holmes, 2001).

The Present Study: Understanding of the Offending Perspective of Sexual Homicide using an Integrative Explanation

The integrated model proposed by Chan and colleagues (2011) is preliminary. Their theoretical framework was primarily developed using the findings from empirical studies on sexual homicide. The present study primarily aimed to examine the four individual-level concepts of social learning theory and the three structural-level propositions of routine activities theory. The present study contributed to the extant sexual homicide literature in several ways. This study distinguished itself from previous published studies, which mostly investigated the offending perspective of sexual homicide from largely an atheoretical standpoint. Studies in the past mainly

tested and validated the practicality of the suggested offending models, mostly offender typologies for use in investigation purposes as discussed in the previous chapter. The present study was designed to be an arguably first offending model in sexual homicide with a dual-purpose: (1) to offer a comprehensive understanding of the offending perspective in sexual homicide from a criminological perspective, and (2) to provide a tested offending model for further empirical verification that may ultimately be of pragmatic use in police investigations and preventive measures.

A Proposed Alternative Integrative Theoretical Model

Recent empirical studies in sexual homicide, mostly examined by Beauregard and colleagues, have demonstrated that pre-crime precipitating factors, especially within the 48 hours prior to the offense, influence sexual offenders, including homicidal sexual offenders, to commit a sexual offense (e.g., Beauregard & Proulx, 2002, 2007; Beauregard, Proulx, et al., 2007; Beauregard, Stone, et al., 2008; Mieczkowski & Beauregard, 2010). These pre-crime precipitators, similar to the criminal event perspective as proposed by Mieczkowski and Beauregard (2010), include drug and/or alcohol consumption, pornography consumption, indulgence in deviant sexual fantasies, conflicts related to interpersonal relationships, and sexual problems. Hence, besides the theoretical model proposed by Chan et al. (2011), this study also was conceptualized to test another sexual homicide offending model with the inclusion of pre-crime precipitating factors. Specifically, the effects of pre-crime precipitators will be tested for their influences on a motivated offender in carrying out his hunt for a suitable target and subsequent opportunity to execute his sexual killing plan in the absence of a capable guardian and/or guardianship. Simply put, pre-crime precipitators are perceived to have an effect in making the offender become “motivated” to commit sexual homicide.

Hypotheses

This study examined the effects of social learning (individual-level) and routine activities (situational-level) elements on the offending process in sexual homicide. Drawing on the above discussion, despite the lack of conclusive findings, three key hypotheses of the present study were proposed:

1. Homicidal sex offenders who grew up in an abusive domestic environment (i.e., experienced physical and/or sexual abuse by their parents and/or primary caregivers or witnessed domestic violence) are more likely to be *differentially associated*, directly or indirectly, with sexually deviant *definitions* (attitudes, beliefs, values, and norms), which later influence their behavioral learning process than non-homicidal sex offenders with similar background.
2. Homicidal sex offenders' long-embedded sexually deviant *definitions* since adolescence (i.e., learned through behavioral conditioning of *differential reinforcement or punishment* for sexual responses to any stimulus that promotes positive feelings and *imitation* of inappropriate and culturally prohibited sexual role models) are more likely to subsequently increase their likelihood of becoming *motivated offenders* conducive to committing a sexual offense than non-homicidal sex offenders with similar background.
3. Homicidal sex offenders who are motivated to commit a sexual offense are more likely to perpetrate in the presence of an *attractive and suitable target*, which is coupled with *the absence of an effective and capable guardian or guardianship* in the immediate surroundings to protect against a violation than non-homicidal sex offenders.

As mentioned above and displayed in Figure 1, Point (A) reflects the principal social learning theoretical concepts that sexually deviant behavior is expected to be

learned through differential association, definitions, differential reinforcement or punishment, and imitation (Akers, 1985, 2001), which explain how an individual becomes motivated to commit sexual offense, especially sexual homicide as posited by Chan et al. (2011). Point (B) signifies the theoretical assumptions set forth in the routine activities theory (Cohen & Felson, 1979; Felson, 2008), whereby the probability of offense occurring on collectivities is strongly influenced by the convergence in space and time of a motivated offender, an attractive and suitable target, and in the absence of a capable guardian.

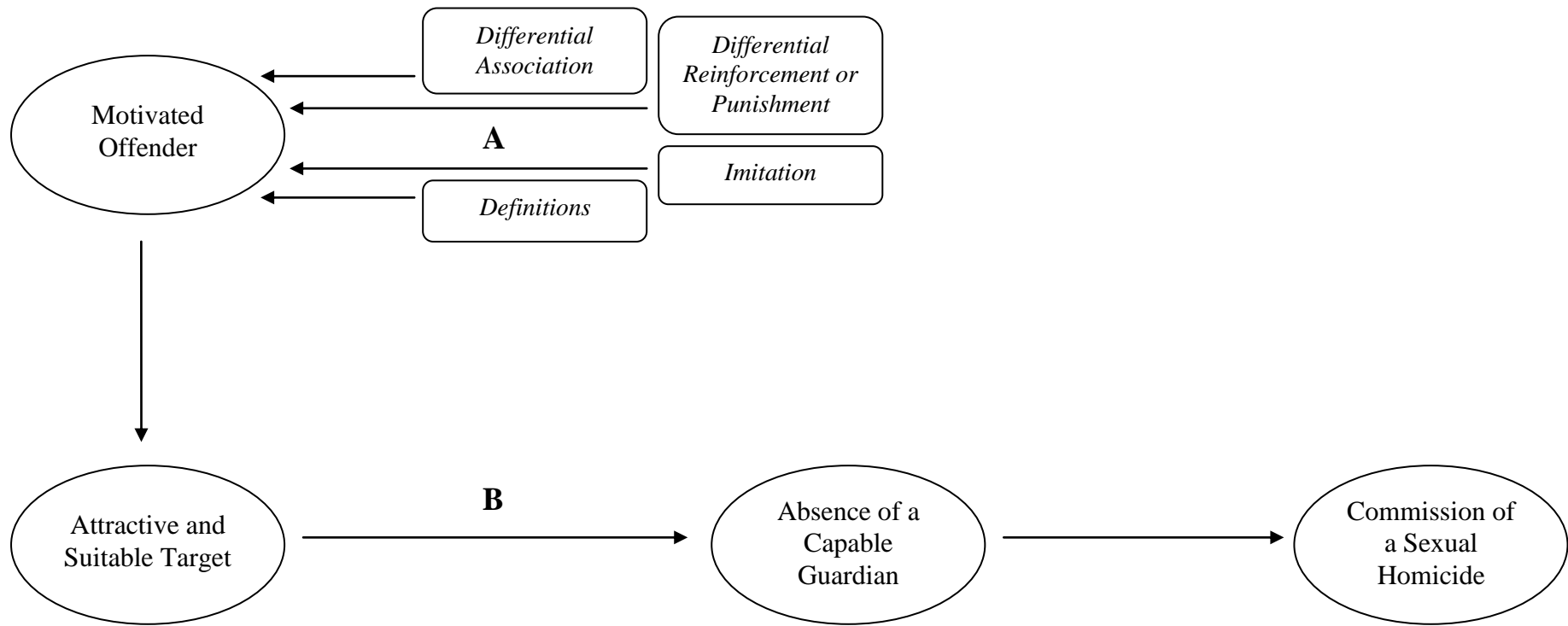


Figure 4 Social Learning-Routine Activities Integrative Model of the Offending Process in Sexual Homicide

A Test of the Proposed Alternative Integrative Theoretical Model

Besides the examination of Chan et al.'s (2011) theoretical model, this study also aimed to test the proposed alternative integrative model with the inclusion of pre-crime precipitating factors as a potential motivating effect for the offender to commit sexual homicide. This alternative model is presented in Figure 2. In addition to Chan et al.'s (2011) proposed integrative model, Point (B) indicates the potential effect of pre-crime precipitating factors have on the motivated offender in hunting for an attractive and suitable target for sex killing commission (Beauregard & Proulx, 2007; Beauregard, Proulx, et al., 2007; Beauregard, Stone, et al., 2008; Mieczkowski & Beauregard, 2010). Despite the lack of conclusive comparative findings in the existing literature, a directional hypothesis was set forth in the present study:

4. Pre-crime precipitating factors are more likely to accelerate the motivation of homicidal sex offenders than non-homicidal sex offenders to commit a sexual offense.

The following chapter describes the research design and methodology used to examine the suitability of the integrative model theorized by Chan et al. (2011) and a proposed alternative model, for explaining the offending process of sexual homicide.

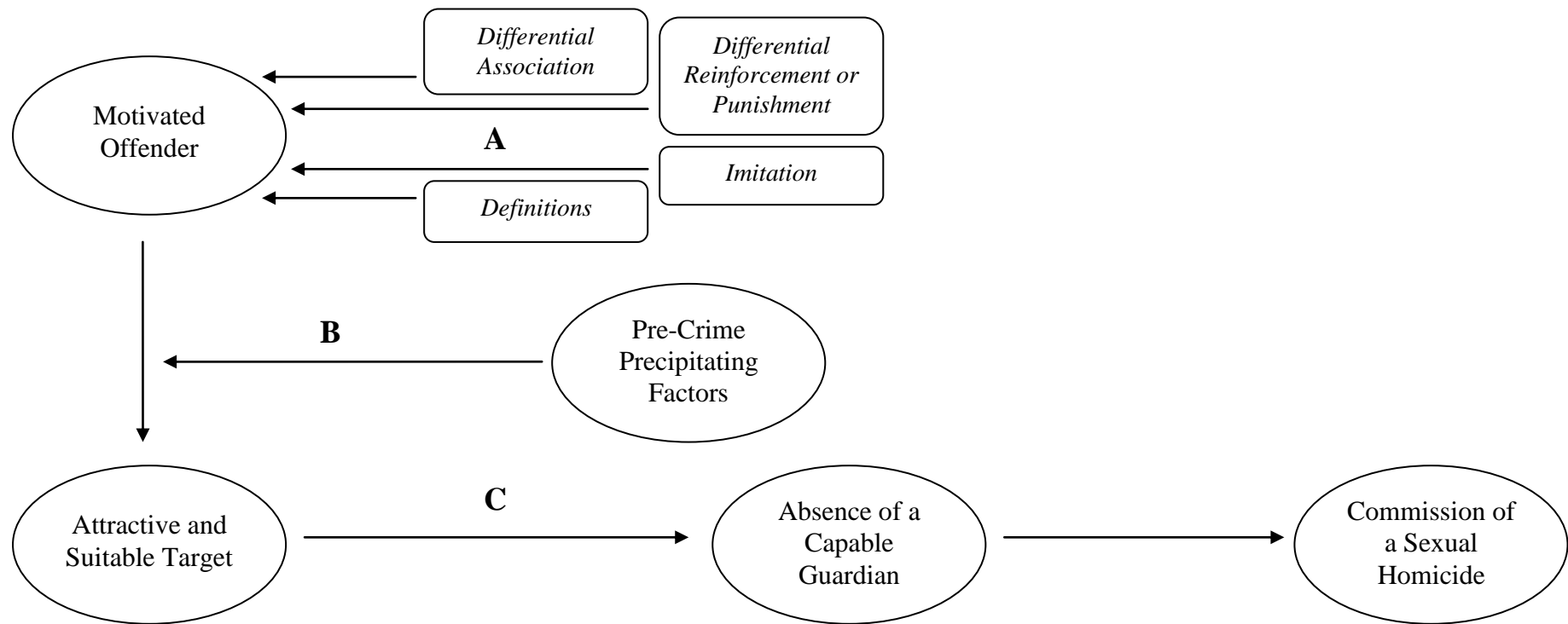


Figure 5 A Proposed Alternative Social Learning-Routine Activities Integrative Model of the Offending Process in Sexual Homicide

Chapter Five

Methods

The aim of this chapter was to present a method of examining the suitability of the proposed integrative model theorized by Chan, Heide, and Beauregard (2011). In addition, this study was designed to explore the effects of pre-crime precipitating factors in further motivating the offender to commit sexual homicide and to search for a suitable and attractive target. The present study used a dataset of homicidal and non-homicidal sex offenders who victimized adult females collected by a group of Canadian researchers (e.g., Beauregard & Field, 2008; Beauregard & Proulx, 2002, 2007; Beauregard, Proulx, et al., 2007; Beauregard, Stone, et al., 2008; Mieczkowski & Beauregard, 2010). Most importantly, this dataset was selected because it contained both individual- (social learning theory) and situational-level (routine activities theory) variables that were required in testing Chan et al.'s (2011) theoretical model.

Study Sample and Data Collection Procedures

Subjects

This study proposed a secondary analysis of the data on 230 sex offenders of females (55 homicidal and 175 non-homicidal sex offenders). These offenders were incarcerated in a maximum correctional institution operated by the Correctional Service of Canada in the province of Quebec, Canada, between 1995 and 2005 (e.g., Beauregard & Field, 2008; Beauregard & Proulx, 2002, 2007; Beauregard, Proulx, et al., 2007; Beauregard, Stone, et al., 2008; Mieczkowski & Beauregard, 2010). These homicidal sex offenders (HSOs) were all murderers (i.e., no attempted murder were included), while non-homicidal sex offenders (NHSOs) were primarily sexual

aggressors of women. For the purpose of this study, only sex offenders who committed a murder were categorized as homicidal sex offenders.

In order to qualify for this research project (e.g., Beauregard & Field, 2008; Beauregard & Proulx, 2002, 2007; Beauregard, Proulx, et al., 2007; Beauregard, Stone, et al., 2008; Mieczkowski & Beauregard, 2010), subjects who were convicted of a homicidal sexual offense had to meet at least one of the six criteria of the sexual homicide definition offered by Ressler et al. (1988): (a) victim's attire or lack of attire, (b) exposure of the sexual parts of the victim's body, (c) sexual positioning of the victim's body, (d) insertion of foreign objects into the victim's body cavities, (e) evidence of sexual intercourse (oral, anal, vaginal), and (f) evidence of substitute sexual activity, interest, or sadistic fantasy. All subjects (homicidal and non-homicidal) were males and their convicted offense was non-serial in nature. Non-homicidal sex offenders were convicted of sexual assaults or sex-related crimes other than sexual homicide.

Subjects who were identified for their suitability were contacted by the researchers following institutional approval. Their informed consent for their participation in the research project was obtained⁴. In order to reduce the potential response distortion of exaggeration (e.g., drug and/or alcohol use prior the offense) or minimization (e.g., consumption of pornography prior to the offense) of certain behaviors related to the offense, subjects were promised complete confidentiality and a guarantee was given that their information would only be used for research purposes and could not be used against them by the Correctional Service of Canada (Beauregard & Proulx, 2002; Mieczkowski & Beauregard, 2010).

⁴ The response rate for the research project conducted by the original research team was 93%.

Procedures Used by the Original Research Team

Prior to the semi-structured interview, consenting subjects' institutional records were reviewed. These institutional records contain results of the subjects' psychological and psychiatric evaluation reports, and specialized tests (e.g., psychometric and phallometric assessments); disciplinary reports; information on programs participated in while incarcerated; criminal record; and court transcripts (Beauregard, Proulx, et al., 2007). Police reports provided by all police agencies were also reviewed to aid in the reconstruction of the offense; some reports contained the surviving victim's statement. Autopsy reports and crime scene photographic materials provided by the homicide unit of the Montreal Urban Community Police Service (now the City of Montreal Police Service), the major crime unit of the Sûreté du Québec, and the homicide unit of the City of Quebec Police Service, were also consulted (Beauregard, Proulx, et al., 2007). These reviews allowed the researchers to corroborate the information given by the subjects during their semi-structured interview.

A semi-structured interview was conducted in a closed room with each subject for a period between three to five hours, and the subject was encouraged to talk freely. Occasionally, some interviews lasted for more than five hours because the subjects wished to talk about topics that were not part of the interview protocol (Beauregard, Proulx, et al., 2007). According to Mieczkowski and Beauregard (2010), a semi-structured interview was selected over other data collection methods because it allows the subjects to converse freely and at length using their own terminology and concepts. In addition, it provides the researcher the opportunity to foster a relationship of trust and confidence with the subjects in a considerably informal and non-threatening manner (Bennett & Wright, 1984).

During the interview, the Computerized Questionnaire for Sexual Aggressors (CQSA; Proulx, St-Yves, & McKibben, 1994) was used to gather information on different aspects of the subject's life and criminal activities, such as correctional information; pre-crime, crime-, and post-crime factors; attitudes regarding the offense, apprehension, victimology, developmental factors, and psychopathological diagnostics. Each of the subjects was interviewed by two male criminologists on the following topics: emotions (e.g., affects before, during, and after the offense), attitudes toward their offenses (e.g., admit all acts committed, negative consequences for victim, responsibility), disinhibitors (e.g., deviant sexual fantasies; alcohol, drugs, and pornography consumption), relationship difficulties (e.g., loneliness, separation, familial problems), occupational problems (e.g., compulsive work, loss of employment), crime phase constructs (e.g., crime scene variables, acts committed while committing the offense), and victim's characteristics.

In case of a discrepancy found between the official and self-report data, official records were relied upon due to their legitimacy and socially unbiased information. Inter-rater reliability was measured jointly by two raters (interviewers) on the basis of 16 randomly selected interviews with consultation of official records. Ratings were performed independently following the interviews, which were completed by one rater in the presence of the other. The mean kappa obtained was .87, indicating a very strong inter-rater agreement (Beauregard & Field, 2008; Beauregard, Proulx, et al., 2007; Mieczkowski & Beauregard, 2010).

Measures

Questions selected to be examined in this study as measures for: (a) *a motivated offender*, (b) *an attractive and suitable target*, (c) *an absence of a capable*

guardian, and (d) *pre-crime precipitating factors* are extracted from the original study.

The observed indicators for each measure were assessed using a scale-format.

Scale 1: A Motivated Offender (0-19 points)

Research indicates that sexual murderers' deviant sexual and violent behavioral pattern and attitudes are learned, in part, from observations of parental aggressive attitudes and behavior, and their personal experience with family violence (i.e., physical and sexual abuse; Beauregard, Stone, et al., 2008; Heide, Beauregard, & Myers, 2009). In most cases, parents of sexual murderers were reported to have criminal backgrounds or past experiences in sexual violence (Chan, et al., 2011). In addition, behaviors of close family members, such as siblings' past violent sexual and non-sexual criminal history, may also have an influence on the behaviors of the sexual murderers. These familial violent and sexual victimization experiences, in turn, might encourage sexual killers to learn to use violence (sexual and/or non-sexual deviance) as their coping mechanism to promote positive feelings (Burgess, Hartman, & McCormack, 1987; Flowers, 2006; Ellis, 1989).

Because of their experience of familial exposure to violence and sexual (and/or non-sexual) deviance since childhood, SHOs are likely to indulge in deviant sexual fantasies and to consume violent (and sadistic) pornography as ways to compensate for their social isolation and emotional loneliness, which further strengthen their sexually deviant behavior and attitudes (Dietz, Hazelwood, & Warren, 1990; Jackson, Lee, Pattison, & Ward, 2002). When the mere indulgence in deviant sexual fantasies is insufficient to produce expected sexual euphoria, studies reported that sexual killers are motivated to seek suitable target(s) to act out their deviant sexual fantasies in a set of planned actions to satiate their psychological gratification (Chan, et al., 2011; Hill, Habermann, Berner, & Briken, 2007). Ressler et al. (1988)

asserted that it is the SHOs' deviant sexual fantasies that motivate them to sexually murder. Taken together, sexual murderers' violent and deviant sexual behavioral learning since childhood or adolescence in a familial environment might play an important role in shaping their subsequent motivation to commit sexual violence, including sexual homicide.

However, several comparative studies of HSOs and NHSOs (e.g., Oliver et al., 2007; Proulx, et al., 2002) found that no significant differences were noted pertaining to their dysfunctional family background. Specifically, both types of sex offenders were similarly likely to have been physically and sexually abused during childhood. Despite these findings, it seemed to be premature to offer any conclusion at this stage based on the limited empirical studies into this topic area. Nonetheless, as hypothesized in this study, it was expected that deviant domestic influences played a more critical role in motivating homicidal sex offenders than their non-homicidal counterparts to commit a sexual offense.

The observed indicators of the motivated offender latent variable⁵ were based on responses to 16 questions, asking each subject questions regarding his exposure to inappropriate model(s) of sexually deviant and violent behavior at home during childhood and adolescence, victim of family violence, consumption of pornographic materials, and sexually deviant behaviors and attitudes. Of particular note, the specific elements of social learning theory (i.e., differential association, definitions, differential reinforcement, and imitation) were not readily available in the data. Instead, there were a variety of familial factors that may reasonably represent the different aspects of social learning theory. To reiterate, these 16 observed indicators

⁵ A latent variable is referred to as an unobservable or immeasurable concept that helps to explain the association among two or more observed constructs (Bollen, 2002).

as a measure of a *motivated offender* were not used to explicitly assess the elements of social learning theory. There were five subscales of measuring this latent variable:

Subscale 1.1: Parental or Familial Aggressive and Deviant Sexual Behaviors and Attitudes (0-5 points)

- (a) "Before 18 years old, the offender has been exposed to inappropriate models of psychological violence at home."
- (b) "Before 18 years old, the offender has been exposed to inappropriate models of physical violence at home."
- (c) "Before 18 years old, the offender has been exposed to inappropriate models of sexual promiscuity at home."
- (d) "Before 18 years old, the offender has been exposed to inappropriate models of pedophilic (i.e., erotic interest in pre-pubescent children) or hebephilic (i.e., erotic interest in pubescent children) sexual abuse at home."
- (e) "Before 18 years old, the offender has been exposed to inappropriate models of sexual attack on adult women at home."

Subscale 1.2: Parental or Sibling Past Sexual and Non-Sexual Criminal Background (0-4 points)

- (f) "One or several person(s) in the offender's close family (parents or siblings) had one or several sentence(s) for violent and non-sexual offense(s)."
- (g) "One or several person(s) in the offender's close family (parents or siblings) had one or several sentence(s) for non-violent and non-sexual offense(s)."
- (h) "One or several person(s) in the offender's close family (parents or siblings) had one or several sentence(s) for sexual offense(s) with contact(s)."
- (i) "One or several person(s) in the offender's close family (parents or siblings) had one or several sentence(s) for sexual offense(s) without contact but including sexual nuisance(s)."

Subscale 1.3: Victim of Family Violence (0-6 points)

- (j) "Before 18 years old, the offender has been a victim of psychological violence at home."
- (k) "Before 18 years old, the offender has been a victim of physical violence at home."
- (l) "Before 18 years old, the offender has been a victim of sexual assault(s) and/or sexual contact(s) at home."

Subscale 1.4: Personal Consumption of Pornography (0-1 point)

- (m) “The offender consumed pornographic movies and magazines that started at least a year prior to the index offense.”

Subscale 1.5: Personal Sexually Deviant Behaviors and Attitudes (0-3 points)

- (n) “The offender indulged in deviant sexual fantasies that started at least a year prior to the index offense.”
(o) “The offender engaged in compulsive masturbation.”
(p) “The offender engaged in sexual paraphilia (e.g., coprophilia, fetishism, partialism, masochism, sexual sadism, transvestism, urophilia, zoophilia).”

No was coded “0” and yes was coded “1” for subscale 1.1, subscale 1.2, subscale 1.4, and subscale 1.5; and no was coded “0” and yes was coded “2” for subscale 1.3 to demonstrate the severity of personal experience as a victim of traumatic events as a motivating factor to commit a sexual offense. The *motivated offender* latent variable measured in a scale format (0-19 points) with more points indicated greater motivation for the offender to commit a sexual offense.

Scale 2: An Attractive and Suitable Target (0-5 points)

As shown in Figure 1, the *attractive and suitable target* latent variable was specified from four observed indicators regarding the homicidal and non-homicidal sex offenders’ perception of the attractiveness and suitability of the target. A targeted victim usually meets a set of distinct criteria that hold special significance for the particular sex killer (Bourdreaux, Lord, & Jarvis, 2001; Canter 1989). Therefore, it was hypothesized that homicidal sex offenders are more likely than their non-homicidal counterparts to hunt for an attractive and suitable target.

The first question, which was based on a dichotomous response format (no was coded “0” and yes was coded “1”), was: (a) “The victim had one or several distinctive characteristics the offender looked for.” The other two questions were: (b) “The physical attraction to the victim at time of the offense,” and (c) “The attraction

to the victim's personality at time of the offense." For the purpose of this study to create a consistent categorical response format for questions measuring the attractive and suitable target latent variable and to classify the level of offender's interest in the victim, the latter two questions that were initially based on a continuous scale from 0 (no interest) to 10 points (extreme interest) were re-coded into three ordinal levels. These three levels were: no or low level of interest (scored 0 to 3 points) was coded "0," moderate level of interest (scored 4 to 7 points) was coded "1," and high level of interest (scored 8 to 10 points) was coded "2." Similarly, the *attractive and suitable target* latent variable was measured in a scale-format with possible point ranges from 0 to 5 points, with more points indicating greater attractiveness and suitability of a target to the offender.

Scale 3: An Absence of a Capable Guardian or Guardianship (0-3 points)

According to Cohen and Felson (1979), a guardian or guardianship is basically referred to as an individual social control mechanism, formal or informal, that limits the availability and accessibility of an attractive target. Essentially, a capable guardian is someone who is watching and could detect untoward behaviors, which is likely to deter the potential offender from committing a criminal act (Felson, 1995). However, Felson (1995, 2006, 2010) revisited the guardianship concept in his later work and defined the role of a guardian as an individual who "keeps an eye on the potential *target* of crime... [that potentially] includes anybody passing by, or anybody assigned to look after people or property... [that] usually refers to ordinary citizens, not police or private guards" (in 2006, p. 80, emphasis in original work). In Felson's (2010) latest work, he defined guardianship as "someone whose mere presence serves as a gentle reminder that someone is looking" (p. 28) or those who engage in natural

surveillance, including “ordinary citizens going about their daily lives but providing by their presence some degree of security” (p. 37).

However, recent development has expanded the operationalization of the guardianship concept into self-protective behaviors and measures (Mustaine & Tewksbury, 1998; Tewksbury & Mustaine, 2003; Wilcox, Madensen, & Tillyer, 2003). Self-protective and personal protective behaviors measure target hardening (i.e., efforts attempted to make the target difficult to be targeted). These protective measures aim to decrease the suitability of the target for crime by making changes to the targets to make them less attractive to the potential offender (Hollis-Peel, et al., 2011). Recent studies found that alcohol and drug use, especially during the time of the attack, lower the likelihood of using self-protective guardianship behaviors or measures, which thus increase the likelihood of victimization (e.g., Mustaine & Tewksbury, 1998; Schwartz, DeKeseredy, Tait, & Alvi, 2001; Spano & Freilich, 2009; Tewksbury & Mustaine, 2003).

According to Cohen et al. (1981), individuals who live alone are likely to be perceived by offenders as a more suitable target and lack capable guardians. Hindelang et al. (1978) also posited that individuals who live alone are more likely than individuals who live with someone else to spend their free time involved in recreational activities away from home, which increase their exposure to motivated offenders and victimization risk. In addition, formal or informal social control measures (e.g., security devices, self-protective behaviors) or guardians (e.g., police, informal guardians [handlers, manager, and target-guardians]) are capable of disrupting, directly or indirectly, the offending behavior and conduct of the offender (Hollis-Peel, et al., 2011; Sampson, et al., 2010). Simply put, a lack of a capable

guardian/guardianship decreases the likelihood of an offender being arrested or disrupted during the offense.

Hence, the observed indicators of an ineffective guardian/guardianship were based on responses to three questions, as indicative of the failure of self-protective behavior as a result of alcohol and/or drug consumption, negative consequences of living alone, and the absence of a capable guardian/guardianship to intervene or to stop the occurrence of the offense. This latent variable was measured using a scale-format with possible point ranges from 0 to 3 points, with more points indicating low effectiveness of a guardian/guardianship in the immediate surroundings. As hypothesized in this study, the victim of homicidal sex offenders is more likely to be targeted in the absence of effective guardian/guardianship than the victim of their non-homicidal counterparts. Based on the individual level, these three questions were:

- (a) "The victim was alcoholic or a drug addict at the time of the attack."
- (b) "At the time of the attack, the victim was living alone."
- (c) "Did the offender have probabilities to be arrested or intervened when the offense occurred?"

No was coded "0" and yes was coded "1" for the first two questions, whereas no was coded "1" and yes was coded "0" for the final question.

Scale 4: Pre-Crime Precipitating Factors (0-7 points)

As a revised model to better understand the offending perspective of SHOs, the observed indicators of pre-crime precipitating dynamics were based on responses to seven questions. These factors were not included in the original Chan et al.'s (2011) integrated theoretical framework of social learning and routine activities theories. Generally speaking, pre-crime precipitating factors refer to the events that occur prior to the crime and accelerate the offender's decision to commit a crime. Research supports that pre-crime precipitators, especially 48 hours prior to the commission of

the offense, have an accelerating effect in sexual offenses. For instance, studies found that drug and alcohol are disinhibiting factors in sexual assault (Barbaree, Marshall, Yates, & Lightfoot, 1983; Marshall & Barbaree, 1990), particularly before the crime (Beauregard & Proulx, 2002, 2007; Mieczkowski & Beauregard, 2010). Drug consumption is found to be much higher among homicidal sex offenders than non-homicidal sex offenders of adult women (Beauregard, Proulx, et al., 2007). However, Koch et al. (2011) found that non-homicidal sex offenders are more likely than their homicidal counterparts to have abused illegal drugs prior to their offense. The disinhibitory role of drug and alcohol consumption prior to the offense in both homicidal and non-homicidal sex offenders is possibly due to the attempt to justify their acts.

Similarly, the consumption of pornographic materials and indulgence in deviant sexual fantasies prior to the offense are evidenced in the completion of sexual assault, especially among those who sexually killed (Beauregard & Proulx, 2002, 2007). The immediacy to act out their deviant sexual fantasies to gratify their psychological urges is perhaps an accelerating factor for sexual murderers to commit their offense moments after their fantasies' indulgence. In the 48 hours preceding the crime, most SHOs are also found to have experienced significantly more problematic issues related to their interpersonal relationships (e.g., loneliness, idleness, separation, and marital difficulties) and sexual problems (Beauregard, Proulx, et al., 2007; Beauregard, Stone, et al., 2008). Unfortunately, no comparative studies have been attempted to test the differences between homicidal and non-homicidal sex offenders for the effect of pre-crime precipitators during the immediate period (i.e., 48 hours, 24 hours) prior to the offense in accelerating their motivation to commit sexual offense. Essentially, precipitating factors, especially within 48 hours prior to crime, are

disinhibitors that favor sexual offenses (Proulx, McKibben, & Lusignan, 1996). But because killing is more extreme than sex offending alone, it was hypothesized that the effect of pre-crime precipitating factors would be higher for homicidal sex offenders than their non-homicidal counterparts.

The seven questions measuring the *pre-crime precipitating factors* latent variable were measured using a scale-format (0-7 points) with more points indicating more pre-crime precipitators. These questions, on a dichotomous response format (no was coded “0” and yes was coded “1”), asking each subject on his pre-crime precipitating factors were:

- (a) “Alcohol consumption within the hours before the offense.”
- (b) “Drug consumption within the hours before the offense.”
- (c) “Use of pornographic material within the hours before the offense.”
- (d) “Occurrence of deviant sexual fantasies featuring or regarding the victim within 48 hours before the sexual offense.”
- (e) “Occurrence of deviant sexual fantasies (scenarios excluding the victim) within 48 hours before the sexual offense.”
- (f) “One or several relational/interpersonal problem(s) occurred within 48 hours before the sexual offense.”
- (g) “One or several accelerating/precipitating sexual problem(s) occurred within 48 hours before the sexual offense.”

Commission of a Sexual Homicide

The observed indicator – *commission of a sexual homicide* – was dichotomous (no was coded “0” and yes was coded “1”) with official information (e.g., institutional records, pre-sentence report, tribunal files, police reports, and professional evaluations) documenting whether the subjects have committed “a murder with sexual nature” (this term was coined in the original study to refer to the nature of a murder that consisted of sexual elements). Simply put, a sexual assault or other sex-related crime that resulted in the death of the victim was referred to as a sexual homicide. In this study, an attempted murder upon or after the sexual assault by the offender, which

resulted in the survival of the victim was not counted as a commission of a sexual homicide.

Analytic Strategy

In addition to outlining the descriptive statistics of the sample subjects on a number of demographic characteristics, chi-square analyses were also performed in this study to explore the differences between homicidal and non-homicidal sex offenders on different theoretical measures' observed indicators. Significance of the chi-square models was set at the .05 level. In light of the small sample size and exploratory nature of this study, the decision was made to note findings that suggested a tendency towards significance in cases where the probability of the event occurring was between greater than .05 and less than .10. Given the nominal nature of the variables, measures of association (Phi and Cramer's *V*) were used to analyze significant findings for *meaningful* patterns. Using Cohen's standards for chi-square effect size interpretation, a value of .20 and below was regarded as weak, between .21 and .79 as moderate, and .80 and above was considered as strong effect size (Cohen, 1988, 1992; Gravetter & Wallnau, 2008).

The logistic regression approach was used to examine the two different sexual homicide offending theoretical models as presented in Figure 1 and Figure 2: (a) Chan et al.'s (2011) original integrative model (without pre-crime precipitators) and (b) a proposed alternative model (with pre-crime precipitators). Using the present data, these tests were conducted to explore which theoretical model (with or without the addition of pre-crime factors) better explained the offending perspective of sexual homicide. Based on the observed indicators, scales and subscales were generated for each of the four measures (i.e., *a motivated offender, an attractive and suitable target, an absence of a capable guardian or guardianship, and pre-crime precipitating*

factors). Reliability analyses were computed to examine the internal consistency of these scale and subscales. Essentially, two different testing models were designed to test each theoretical model, with one model consisting of five subscales of the *motivated offender* measure whereas another model combined all the observed indicators into a single scale of a motivated offender. In total, four testing models were tested in this study.

Due to the dichotomous nature of the dependent/outcome variable, logistic regression statistical approach was used in this study as the key method of analysis, as opposed to ordinary least square (OLS) regression techniques. According to Mertler and Vannatta (2005), the basic concepts fundamental to multiple regression analysis are similar for the logistic regression analysis, although “the meaning of the resultant regression equation is considerably different” for these two analytical techniques (p. 313). Additionally, logistic regression was selected over OLS regression as several key assumptions of OLS regression are violated because the dichotomous nature of the outcome variable in this study. Of particular note, multiple regression models assume that: (1) a linear relationship between the independent and outcome variables exists in the model, (2) the data are measured at the interval or ratio level, and (3) the error terms are independent, normally distributed, and have constant variance across the independent variables (Bachman & Paternoster, 2004).

Another distinction between the two statistical approaches is that linear relationships between the independent and outcome variables are assumed in the OLS regression approach, whereas the logistic regression approach allows for a more flexible type of sigmoidal relationships between the independent and outcome variables. Further, as opposed to OLS regression equations that use the total weighted and actual values of the predictor variables by way to estimate the values of the

outcome variables, logistic regression equations are based on probabilities, odds, and log-odds in outcome variable value estimation. According to Mertler and Vannatta (2005), “probabilities are simply the number of outcomes of a specific type [that are] expressed as a proportion of the total number of possible outcomes” (p. 317).

Probabilities estimated in logistic regression are limited to a ranged of 0 to 1, as opposed to the continuous values that may fall below 0 or above 1 for independent variables in the linear probability models. Clearly, the assumptions of multiple regression models are violated with binary dependent variable as the distribution and standard deviation of this outcome variable produce a sigmoidal response (Agresti & Finlay, 1997).

Although the probabilities generated using the logistic regression technique may not be greater than 1, odds can be larger than a value of 1. According to Mertler and Vannatta (2005), odds are referred to as a chance of an event occurring and divided by the chance of an event not occurring, as expressed by the following

formula:

$$\text{Odds} = \frac{p(X_1)}{1 - p(X_1)}$$

In this formula, $p(X_1)$ is the chance of the event happening and $1 - p(X_1)$ is the chance of an event not happening. In order to interpret the relative difference between the category of interest and the reference category, odds ratios (OR) in the logistic regression model [Exp(B)] are used explain these odds. To further illustrate, the OR of 1.0 is interpreted as the exact same odds or probabilities for the events representing both the category of interest and reference category to occur. The OR value above 1.0 demonstrates higher odds or probabilities that the event representing the category of interest will happen, while the OR value under 1.0 means that the event of interest is less likely to happen.

It is noteworthy that logistic regression is eventually based upon the logit or log-odds, which are defined as the natural logarithm of the odds (Mertler & Vannatta, 2005). Simply put, a change in the natural logarithm of the odds of the outcome variable is associated with a one-unit increase in the independent variable (Miller, 2005). However, in order to facilitate easier comprehension, ORs were used in this study to interpret the logistic regression findings. Specifically, percentages were used to explicate the ORs in this study ($OR - 1 \times 100\%$).

Summary of the Purpose of the Present Study

Over the years, most of the studies that focus on the offending perspective of sexual homicide employed a pragmatic approach in understanding the differential offending patterns of sexual murderers by generating different SHO profiles. Theory-based sexual homicide offending pattern is lacking. In addition, given the rarity of this crime, limited availability of reliable data has hindered the application of advanced quantitative methodologies to aid in a more rigorous understanding of the sexual homicide offending dynamics.

Drawing upon key concepts and propositions of two criminological theories (social learning and routine activities theories), Chan and colleagues (2011) integrated these theories in an attempt to provide a more comprehensive understanding of the offending dynamics in sexual homicide. Chan et al.'s (2011) proposed theoretical model is among the first to analyze the offending pattern of SHOs from a criminological standpoint. However, this newly proposed criminological theory of sexual homicide offending dynamics has yet to be validated. Thus, this present study aimed to test Chan et al.'s (2011) proposed integrated theory of the offending perspective of sexual homicide, which attempted to explain the offending dynamics from both individual and situational levels. Additionally, pre-crime precipitating

factors were also tested to explore the potential effect of these factors in further motivating the offender to commit sexual homicide, in an attempt to better explain the offending perspective of sexual homicide. The next chapter presents a step-by-step discussion of the results of the analytic process outlined in this chapter.

Chapter Six

Results

In this chapter, different statistical analyses were conducted on the data. First, the demographic characteristics (i.e., age, ethnic origin, and marital status of the offenders, and age and ethnic origin of the victims) of the sample were presented, with statistical differences between homicidal and non-homicidal sex offenders noted where applicable. Next, chi-square analyses were performed to explore the differences between homicidal and non-homicidal sex offenders on the observed indicators of different measures in this study. Based on the theoretical models suggested by Chan et al. (2011) and the proposed alternative model of this study, the descriptive statistics of different measures (scales and subscales) that comprised the relevant observed indicators were generated⁶. Mean differences between homicidal and non-homicidal sex offenders on different scales and subscales were also examined. Finally, logistic regression was employed to explore the different theoretical constructs, as described

⁶ For the measure of *a motivated offenders*, five subscales with a total of 16 items (a possible maximum score of 19 points) were created: (1) *parental or familial aggressive and deviant sexual behaviors and attitudes* (five items with five possible maximum points), (2) *parental or sibling past sexual and non-sexual criminal background* (four items with four possible maximum points), (3) *personal experience with family violence* (three items with six possible maximum points), (4) *personal consumption of pornography* (one item with one possible maximum point), and (5) *personal sexually deviant behaviors and attitudes* (three items with three possible maximum points). *The attractive and suitable target* scale was measured with three items with a possible maximum score of five points, while the scale of *an absence of a capable guardian or guardianship* was assessed with three items with a possible maximum score of three points. Lastly, the scale of *pre-crime precipitating factors* was assessed with seven items with a possible maximum score of seven points.

in Chan et al. (2011) and the proposed alternative models, in predicting the lethal outcome of a sexual offense. Four different regression models were computed with *the motivated offender* measure being examined in two methods (five-subscale model and a single-scale model) for both theoretical frameworks. Step-wise logistic regressions were employed in both theoretical models to examine the proposed offending pathways of homicidal sex offenders (see Figure 4 and Figure 5).

Demographic Characteristics of the Sample

Table 2 presents the demographic characteristics of non-serial homicidal ($N = 55$) and non-homicidal ($N = 175$) sex offenders of female adult victims examined in this study. In general, sex offenders average aged 34.35 years ($SD = 9.29$) when they were first incarcerated for their index offense, with 77% of them aged between 18 and 40 years. When this sample was further explored in terms of their sexual offense lethality, no significant age difference was found between homicidal ($M = 32.96$, $SD = 8.45$) and non-homicidal sex offenders ($M = 34.75$, $SD = 9.50$).

In this study, a large majority of sex offenders were Whites (86%). When comparing between homicidal and non-homicidal sex offenders, nearly 93% of sex offenders who killed were Whites, whereas only 84% of their non-homicidal counterparts were Whites. A chi-square analysis found that this difference had a tendency towards significance ($\chi^2[2] = 5.09$, Cramer's $V = .15$, $p = .09$). When the ethnic origins of the sex offenders were divided into white or non-white categories, no significant difference between homicidal and non-homicidal sex offenders was found.

In terms of these sex offenders' marital status, approximately 68% of them were single, separated, divorced, or widowed at the time of their offense. Of this overall figure, interestingly, more homicidal sex offenders were reported to have no intimate partner compared with non-homicidal sex offenders (76% versus 65%), and

this difference was statistically significant ($\chi^2[3] = 8.32$, Cramer's $V = .19$, $p < .05$). However, when the sex offenders' marital status was divided into single or non-single categories, no statistical difference was found between the two types of sex offenders.

Of the total of 230 sex offenders, 114 were convicted of a sexual assault with the remaining 116 were found guilty of a minor sexual offense that included a sexual nuisance (e.g., indecent action, illegal acts regarding obscene material, exhibitionism, and frotteurism). For those who were convicted of a sexual assault, 24% of the sex offenders committed their offense with a weapon. More non-homicidal than homicidal sex offenders were admitted to engaging in some form of premeditation (unstructured or structured premeditation) prior to the attack (68% versus 56%). However, this difference was not significant. In this study, significantly more non-homicidal sex offenders admitted to having performed sexual penetration (oral, vaginal, and anal) against their victims than homicidal sex offenders (76.6% versus 58.2%; $t = -2.33$, $p < .05$). Interestingly, significantly more homicidal sex offenders were found to have mutilated the sexual body part of their victim than non-homicidal sex offenders (18.2% versus 3.4%, $t = 3.68$, $p < .001$).

Pertaining to the victims of sex offenders examined in this study, nearly 73% of them aged between 18 and 40 years when the offense occurred ($M = 30.30$, $SD = 13.70$). This victim portrait, in terms of the victim's age, was relatively similar for both homicidal and non-homicidal sex offenders who killed adult female victims. Victims of non-homicidal sex offenders were younger on average ($M = 29.54$, $SD = 13.67$) compared with the victims of their homicidal counterparts ($M = 32.74$, $SD = 13.63$). Nonetheless, this difference was not statistically significant. In terms of the victim's ethnic background, a large portion of the overall victims (90%) identified in this study were Whites (93% homicidal sex offenders' victims were Whites and 90%

of non-homicidal sex offenders' victims were Whites). No statistically significant difference was found for the victim's ethnic origin for both types of sex offenders. Similarly, no significant difference was found between homicidal and non-homicidal sex offenders in their ethnic background when they were grouped in either white or non-white categories.

Table 2 Sample demographic characteristics of non-serial homicidal and non-homicidal sexual offenders of female adult victims

Variables	All Sample		Non-serial HSOs of Female Adult Victims (Sexual Murderers)		Non- serial Non-HSOs of Female Adult Victims	
	# of Cases (<i>N</i> = 230)	Percentage (100%)	# of Cases (<i>N</i> = 55)	Percentage (100%)	# of Cases (<i>N</i> = 175)	Percentage (100%)
Types of Sexual Offenders	<i>(N</i> = 230)					
Homicidal sex offenders	55	23.9%				
Non-homicidal sex offenders	175	76.1%				
Offender's Age (when first incarcerated)	<i>(N</i> = 226)		<i>(N</i> = 51)		<i>(N</i> = 175)	
18 to 40 years	175	77.4%	44	86.3%	131	74.9%
41 to 60 years	48	21.2%	6	11.8%	42	24.0%
61 years and above	3	1.3%	1	2.0%	2	1.1%
	<i>M</i> = 34.35, <i>SD</i> = 9.29		<i>M</i> = 32.96, <i>SD</i> = 8.45		<i>M</i> = 34.75, <i>SD</i> = 9.50	
Offender's Ethnic Origin (Multi-group)	<i>(N</i> = 230)		<i>(N</i> = 55)		<i>(N</i> = 175)	
White	198	86.1%	51	92.7%	147	84.0%
Black	15	6.5%	4	7.3%	15	8.6%
Others (e.g., Hispanic, Arab, Native American)	17	7.4%	-	-	13	7.4%
Offender's Ethnic Origin (White/Non-white)	<i>(N</i> = 230)		<i>(N</i> = 55)		<i>(N</i> = 175)	
White	198	86.1%	51	92.7%	147	84.0%
Non-white	32	13.9%	4	7.3%	28	16.0%
Offender's Marital Status (Multi-group)	<i>(N</i> = 229)		<i>(N</i> = 54)		<i>(N</i> = 175)	
Single	122	53.3%	36	66.7%	86	49.1%
Unmarried partnership	60	26.2%	8	14.7%	52	29.7%
Married	14	6.1%	5	9.3%	9	5.2%
Separated/divorced/widow	33	14.4%	5	9.3%	28	16.0%

Table 2 (continued)

Variables	All Sample		Non-serial HSOs of Female Adult Victims (Sexual Murderers)		Non-serial Non-HSOs of Female Adult Victims	
	# of Cases (<i>N</i> = 230)	Percentage (100%)	# of Cases (<i>N</i> = 55)	Percentage (100%)	# of Cases (<i>N</i> = 175)	Percentage (100%)
Offender's Marital Status (Single/Non-single)	<i>N</i> = 229		<i>N</i> = 54		<i>N</i> = 175	
Single	155	67.7%	41	76.0%	114	65.1%
Non-single	74	32.3%	13	24.0%	61	34.9%
Victim's Age (when the offense occurred)	<i>N</i> = 227		<i>N</i> = 54		<i>N</i> = 173	
17 years and under	18	7.9%	3	5.6%	15	8.7%
18 to 40 years	165	72.7%	39	72.2%	126	72.8%
41 to 60 years	37	16.3%	9	16.7%	28	16.2%
61 years and above	7	3.1%	3	5.6%	4	2.3%
	<i>M</i> = 30.30, <i>SD</i> = 13.70		<i>M</i> = 32.74, <i>SD</i> = 13.63		<i>M</i> = 29.54, <i>SD</i> = 13.67	
Victim's Ethnic Origin (Multi-group)	<i>N</i> = 228		<i>N</i> = 55		<i>N</i> = 173	
White	206	90.4%	51	92.7%	155	89.6%
Black	7	3.1%	1	1.8%	6	3.5%
Others (e.g., Hispanic, Arab, Native American)	15	6.6%	3	5.5%	12	6.9%
Victim's Ethnic Origin (White/Non-white)	<i>N</i> = 228		<i>N</i> = 55		<i>N</i> = 173	
White	206	90.4%	51	92.7%	155	89.6%
Non-white	22	9.6%	4	7.3%	18	10.4%

Chi-Square Analyses of Scales' Observed Indicators

In this study, four different measures/independent variables (i.e., *a motivated offender, an attractive and suitable target, an absence of a capable guardian or guardianship, and pre-crime precipitating factors*) were examined. Each of these independent variables was assessed using a scale-format, which consisted of a number of observed indicators. For the measure of *a motivated offender*, five subscales (i.e., *parental or familial aggressive and deviant sexual behavior and attitudes, parental or sibling past sexual and nonsexual criminal background, victim of family violence, personal consumption of pornography, and personal sexually deviant behaviors and attitudes*) were created with different numbers of observed indicators for each subscale. Chi-square analyses were performed to explore the differences between homicidal and non-homicidal sex offenders in these observed indicators of different measures. Only findings with significant differences between the two types of sex offenders are discussed in this section, whereby non-significant findings are presented in Appendices (see Appendix A to Appendix H). Overall, although several significant chi-square analyses were found, the effect size of these chi-square models was rather weak (ranged from .13 to .24).

Among all 16 observed indicators measuring *a motivated offender*, only two observed indicators were found to be significantly different for homicidal and non-homicidal sex offenders (see Table 3). Both of these items measured *personal sexually deviant behaviors and attitudes*. A chi-square analysis revealed that significantly more homicidal sex offenders reported indulging in deviant sexual fantasies that started at least a year prior to their index offense than non-homicidal sex offenders (42% versus 25%; $\chi^2[1] = 5.14$, $\Phi = .15$, $p < .05$). Similarly, more sex

offenders who killed admitted to have engaged in paraphilia than those who did not kill (22% versus 5%; $\chi^2[1] = 12.98$, Phi = .24, $p < .001$).

Table 3 Offender type by sex offenders' sexually deviant behaviors and attitudes

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Indulgence in deviant sexual fantasies			
No	31	127	158
Row %	19.6%	80.4%	100.0%
Column %	58.5%	74.7%	70.9%
Yes	22	43	65
Row %	33.8%	66.2%	100.0%
Column %	41.5%	25.3%	29.1%
Total	53	170	223
Row %	23.8%	76.2%	100.0%
$\chi^2(1) = 5.14$, Phi = .15, $p < .05$			
Paraphilia			
No	40	164	204
Row %	19.6%	80.4%	100.0%
Column %	78.4%	94.8%	91.1%
Yes	11	9	20
Row %	55.0%	45.0%	100.0%
Column %	21.6%	5.2%	8.9%
Total	51	173	224
Row %	22.8%	77.2%	100.0%
$\chi^2(1) = 12.98$, Phi = .24, $p < .001$			

Pertaining to the measure of *an absence of a capable guardian or guardianship*, one observed indicator of the four appeared to differ between homicidal

and non-homicidal sex offenders, although it did not reach statistical significance (see Table 4). Victims of homicidal sex offenders had a greater tendency to live alone at the time of the attack than victims of non-homicidal sex offenders (35% versus 22%; $\chi^2[1] = 3.03$, Phi = .13, $p = .08$).

Table 4 Offender type by an absence of a capable guardian or guardianship at the time of the attack

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Victim was living alone at the time of the attack			
No	28	121	149
Row %	18.8%	81.2%	100.0%
Column %	65.1%	78.1%	75.3%
Yes	15	34	49
Row %	30.6%	69.4%	100.0%
Column %	34.9%	21.9%	24.7%
Total	43	155	198
Row %	21.7%	78.3%	100.0%

$\chi^2(1) = 3.03$, Phi = .13, $p = .08$

Among the seven pre-crime precipitating factors, two observed indicators were found to differ significantly between sex offenders who killed and those who did not kill (see Table 5). More homicidal sex offenders than their non-homicidal counterparts were intoxicated by alcohol within the hours before their offense (80% versus 61%; $\chi^2[1] = 6.60$, Phi = .17, $p < .01$). In addition, more homicidal sex offenders admitted to engaging in deviant sexual fantasies that did not involve their

victim within 48 hours before their sexual offense compared with non-homicidal sex offenders (31% versus 18%), and this difference was statistically significant ($\chi^2[1] = 4.00$, Phi = .14, $p < .05$).

Table 5 Offender type by sex offenders' pre-crime precipitating factors

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Alcohol consumption within the hours before the offense			
No	11	68	79
Row %	13.9%	86.1%	100.0%
Column %	20.0%	38.9%	34.3%
Yes	44	107	151
Row %	29.1%	70.9%	100.0%
Column %	80.0%	61.1%	65.7%
Total	55	175	230
Row %	23.9%	76.1%	100.0%

$\chi^2(1) = 6.60$, Phi = .17, $p < .01$

Deviant sexual fantasies (victim excluded) within 48 hours before the offense

No	36	138	174
Row %	20.7%	79.3%	100.0%
Column %	69.2%	82.1%	79.1%
Yes	16	30	46
Row %	34.8%	65.2%	100.0%
Column %	30.8%	17.9%	20.9%
Total	52	168	220
Row %	23.6%	76.4%	100.0%

$\chi^2(1) = 4.00$, Phi = .14, $p < .05$

Descriptive Statistics on Different Theoretical Components

As aforementioned, the theoretical components of Chan et al.'s (2011) model and the proposed alternative model were tested in measures that consisted of relevant observed indicators. Prior to any statistical analyses of different measures, reliability analyses were conducted on the different measurement scales and subscales to examine their internal consistencies (see Table 6). For the measure of the *motivated offender*, five subscales were created. The Cronbach's α for the *victim of family violence* subscale (three items) was .65, which was approaching the .70 acceptable level (see Cronbach, 1951; Nunnally, 1978). Similarly, a Cronbach's alpha of .60 was yielded for the five items of the *parental or familial aggressive and deviant sexual behavior and attitudes* subscale. The subscales of the *personal sexually deviant behaviors and attitudes* (three items) and the *parental or sibling past sexual and non-sexual criminal background* (four items) only reached the alpha coefficients of .53 and .44, respectively.

Most of the scales used in this study had low internal consistencies. Of particular note, low internal consistency may be due to highly skewed distributions of included items as this reduces "the size of the correlation between items and therefore also the alpha" (Straus & Kantor, 2005, p. 25). Additionally, the alpha coefficient is "dependent not only on the magnitude of the correlations among items, but also on the number of items" (Streiner & Norman, 1989, p. 64). Many of the subscales used in this analysis consisted of less than four items, which likely influenced the alpha coefficients. No Cronbach's alpha was computed for the single-item *personal consumption of pornography subscale*. Overall, the motivated offender scale yielded an internal consistency estimate of .72 (16 items), which was above the acceptable level.

For the internal consistency of the *attractive and suitable target scale*, an alpha coefficient of .57 was yielded for this three-item scale. Unexpectedly, the internal consistency estimate of only .11 was found for the scale of *an absence of a capable guardian or guardianship* (three items). Although the alpha coefficient of this scale was low, items included in this scale in examining the domain of interest were supported by the existing literature. Therefore, these items were retained. The limitation of this scale, partly due to the issue of data availability, will be discussed in the section of the limitations of this study.

Finally, the seven-item scale measuring the *pre-crime precipitating factors* yielded a Cronbach's α of .39. Similarly, items included in this scale were selected mainly because of the support from the current literature. Besides the internal consistency estimates computed out of the total sample, Table 5 also presents the alpha coefficients of homicidal and non-homicidal sex offenders found in different scales and subscales.

Subsequently, descriptive statistics (e.g., means and standard deviations) of these different measures were computed for both homicidal and non-homicidal sex offenders. Table 6 presents the mean differences between these two types of sex offenders in different measurement scales and subscales. Although homicidal sex offenders ($M = 5.00, SD = 3.59$), in general, were found to be more motivated to commit a sexual offense than non-homicidal sex offenders ($M = 4.57, SD = 3.33$), this difference (based on the combined 16 items with a possible maximum score of 19 points) was not statistically significant. When the measure of *a motivated offender* was assessed in five different subscales, only one subscale was found to yield a significant difference between sex offenders who killed and those who did not kill. Homicidal sex offenders ($M = .94, SD = 1.01$) were reported to have significantly

more sexually deviant behaviors and attitudes (a possible maximum score of three points) compared with non-homicidal sex offenders ($M = .54$, $SD = .79$; $t = 2.70$, $p < .01$).

In contrast to Chan et al.'s (2011) theoretical proposition, non-homicidal sex offenders' ($M = 2.15$, $SD = 1.45$) victim selection was found to be significantly more selective in terms of the victim's attractiveness and suitability (with a possible maximum score of five points) compared with their homicidal counterparts ($M = 1.33$, $SD = 1.49$; $t = 3.58$, $p < .01$). However, in terms of the measure of *an absence of a capable guardian or guardianship* (with a possible maximum score of three points), homicidal sex offenders ($M = 1.18$, $SD = .98$) yielded a higher mean score than non-homicidal sex offenders ($M = .90$, $SD = .75$), and the direction of this finding was consistent with Chan et al.'s (2011) theoretical proposition. In other words, the sexual offense committed by homicidal sex offenders was found to be significantly more likely to have been successfully completed without being arrested or intervened by others compared with their non-homicidal counterparts. This difference was significant ($t = -2.23$, $p < .05$).

Finally, the mean difference of pre-crime precipitating factors between homicidal and non-homicidal sex offenders in their motivation to commit a sexual offense was examined. As a whole, sex offenders who killed ($M = 2.38$, $SD = 1.24$) yielded a significantly higher mean score than those who did not kill ($M = 2.06$, $SD = 1.38$) in terms of their pre-crime precipitators. However, this difference was not significant at conventional levels, but did approach significance ($t = 1.62$, $p = .09$).

Table 6 Means and standard deviations for the observed variables of homicidal and non-homicidal sex offenders ($N = 230$)

Variables	Homicidal Sex		Non-homicidal Sex		<i>t</i> value
	Offender ($N = 55$)		Offender ($N = 175$)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Cronbach's $\alpha = .60$ (.70 for homicidal and .56 for non-homicidal sex offenders)					
Motivated offender (subscale 1): Parental and familial aggressive and deviant sexual behaviors and attitudes (5 items; 0-5 points)	0.91	1.16	0.97	1.01	-0.33
Cronbach's $\alpha = .44$ (.52 for homicidal and .41 for non-homicidal sex offenders)					
Motivated offender (subscale 2): Parental or sibling past sexual and nonsexual criminal background (4 items; 0-4 points)	0.60	0.58	0.64	0.84	0.27
Cronbach's $\alpha = .65$ (.72 for homicidal and .62 for non-homicidal sex offenders)					
Motivated offender (subscale 3): Victim of family violence (3 items; 0-6 points)	1.85	2.03	1.76	1.88	0.31
Motivated offender (subscale 4): Personal consumption of pornography (1 item; 0-1 point)	0.78	0.42	0.69	0.47	1.33
Cronbach's $\alpha = .53$ (.59 for homicidal and .48 for non-homicidal sex offenders)					
Motivated offender (subscale 5): Personal sexually deviant behaviors and attitudes (3 items; 0-3 points)	0.94 **	1.01	0.54	0.79	2.70

Table 6 (continued)

Variables	Homicidal Sex		Non-homicidal Sex		<i>t</i> value
	Offender (<i>N</i> = 55)		Offender (<i>N</i> = 175)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Cronbach's α = .72 (.76 for homicidal and .71 for non-homicidal sex offenders)					
Motivated offender (overall scale; 16 items; 0-19 points)	5.00	3.59	4.57	3.22	-0.79
Cronbach's α = .57 (.74 for homicidal and .52 for non-homicidal sex offenders)					
Attractive and suitable target (overall scale; 3 items; 0-5 points)	1.33	1.49	2.15 **	1.45	3.58
Cronbach's α = .11 (.40 for homicidal and -.16 for non-homicidal sex offenders)					
An absence of a capable guardian or guardianship (overall scale; 3 items; 0-3 points)	1.18 *	0.98	0.90	0.75	-2.23
Cronbach's α = .39 (.33 for homicidal and .40 for non-homicidal sex offenders)					
Pre-crime precipitators (overall scale; 7 items; 0-7 points)	2.38 ^a	1.24	2.06	1.38	1.62

* $p < .05$, ** $p < .01$

Note: ^a $p = .09$

Multivariate Analyses of Chan, Heide, and Beauregard's Theoretical Model

A series of logistic regression techniques were employed to explore the various theoretical constructs, as described in Chan et al.'s (2011) model, in predicting the lethal outcome of a sexual offense. The types of sex offender served as the binary outcome variable (e.g., 0 = non-homicidal sex offender, 1= homicidal sex offender). Two separate theoretical models were estimated whereby the construct of the *motivated offender* was first analyzed in five dimensions and subsequently examined in a single construct. Step-wise logistic regressions were examined based on the theoretical proposition of Chan et al.'s model. Simply put, the step-wise approach was selected over the enter approach because it permits the test of the effect of each predictor variable on the dependent variable in the order as outlined in Chan et al.'s offending model. In this study, adjusted odds ratios were computed, $\exp(B) - 1 \times 100 =$ adjusted odds ratio, to report the percentage change in odds for statistically significant effects. In this study, percentages were used to explicate the ORs ($OR - 1 \times 100\%$).

Surprisingly, only one dimension of the *motivated offender* measure – *personal sexually deviant behaviors and attitudes* – was found to be a significant predictor in Model II ($\chi^2 = 16.94, p < .01$) and Model III ($\chi^2 = 23.65, p < .001$) in the Chan et al.'s model, (see Table 7; the overall model of Model I was not significant). When the sex offender possessed sexually deviant behaviors and attitudes, the odds of the offender murdering his victim increased by 55% in Model II when the construct of *an attractive and suitable target* was entered into the model. Unexpectedly, the effect of the *attractive and suitable target* construct in predicting the lethal outcome of a sexual offense was incompatible with Chan et al.'s (2011) theoretical proposition.

Every one-unit increase in target attractiveness and suitability resulted in the odds of being murdered decreasing by 29%.

Model III presents the empirical test of the complete theoretical model as proffered by Chan et al. (2011). When the sex offender possessed sexually deviant behaviors and attitudes, the odds of the offender murdering his victim was found to increase by 77%. In addition, the odds of the offender killing his victim increased by 73% when his sex offense was committed in the absence of a capable guardian or guardianship. However, inconsistent with Chan et al.'s (2011) theoretical proposition, every one-unit increase in target attractiveness and suitability resulted in the odds of the victim being killed decreasing by 27%.

In the second theoretical model, the measure of *a motivated offender* was assessed in a single construct (see Table 8). Only Model II ($\chi^2 = 13.64, p < .001$) and Model III ($\chi^2 = 17.58, p < .001$) were found to be significant. Overall, the effect of the *motivated offender* construct was found not to be statistically significant for predicting the lethal outcome of a sexual offense in all models. Unexpectedly, every one-unit increase in target attractiveness and suitability resulted in the odds of the victim being murdered decreasing by 33% in both Model II and Model III. The *absence of a capable guardian or guardianship* construct was entered into Model III, and the results indicated that the odds of the offender murdering his victim when no interference occurred from a third party increased by 48%.

The receiver operating characteristics (ROC) curve was used to examine the diagnostic value of the two different models, with one model tested with five *motivated offender* subscales and another with a single (combined) *motivated offender* scale. Results indicated the area under the curve (AUC) values of 0.53 for Model I, 0.46 for Model II, and 0.49 for Model III (see Table 7 and Table 8). Although Model I

yielded the highest AUC value compared with AUC values in Model II and Model III, an area of approximately 0.50 represents chance, with no accuracy in prediction or discrimination (Kleinbaum & Klein, 2010).

Table 7 Logistic regressions of Chan, Heide, and Beauregard's theoretical model (a five-subscale *Motivated Offender* model)

Predictor variable	Model I			Model II			Model III		
	B	SE	Odds ratio	B	SE	Odds ratio	B	SE	Odds ratio
Parental aggressiveness ^a	-0.12	0.22	0.88	-0.12	0.22	0.88	-0.12	0.23	0.89
Parental criminal history ^b	0.03	0.21	1.03	0.05	0.21	1.06	0.04	0.22	1.04
Family violence ^c	-0.01	0.12	0.99	-0.02	0.12	0.99	-0.02	0.12	0.98
Pornography ^d	0.27	0.40	1.30	0.20	0.41	1.22	0.16	0.41	1.18
Sexually deviant behavior ^e	0.46	0.18	1.59 **	0.44	0.19	1.55 *	0.57	0.21	1.77 **
Attractive target				-0.34	0.12	0.71 **	-0.31	0.12	0.73 **
Absence of a guardian							0.55	0.22	1.73 **
Constant	-1.63	0.37	0.20	-0.93	0.43	0.40	-1.61	0.52	0.20
-2 log likelihood		230.70			218.63			211.92	
Model chi-square		8.59			16.94 **			23.65 ***	
Hosmer-Lemeshow test		$\chi^2(8) = 6.16, p = 0.63$			$\chi^2(8) = 2.70, p = 0.95$			$\chi^2(8) = 9.61, p = 0.29$	
Nagelkerke R ²		0.06			0.11			0.16	
N		222			215			215	
AUC		0.53			0.46			0.49	

Note: ^a motivated offender subscale 1, ^b motivated offender subscale 2, ^c motivated offender subscale 3, ^d motivated offender subscale 4, and ^e motivated offender subscale 5. AUC = area under the curve. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 8 Logistic regressions of Chan, Heide, and Beauregard's theoretical model (a single-scale *Motivated Offender* model)

Predictor variable	Model I			Model II			Model III		
	B	SE	Odds ratio	B	SE	Odds ratio	B	SE	Odds ratio
Motivated offender	0.04	0.05	1.04	0.03	0.05	1.03	0.04	0.05	1.04
Attractive target				-0.41	0.12	0.67 ***	-0.39	0.12	0.67 ***
Absence of a guardian							0.39	0.20	1.48 *
Constant	-1.34	0.27	0.26	-0.54	0.34	0.58	-1.00	0.42	0.37
-2 log likelihood		252.37			234.36			230.42	
Model chi-square		0.67			13.64 ***			17.58 ***	
Hosmer-Lemeshow test		$\chi^2(8) = 13.96, p = 0.08$			$\chi^2(8) = 18.74, p = 0.02$			$\chi^2(8) = 12.35, p = 0.14$	
Nagelkerke R ²		0.01			0.09			0.11	
N		230			221			221	
AUC		0.53			0.46			0.49	

Note: AUC = area under the curve.

* $p < .05$, ** $p < .01$, *** $p < .001$

Theoretical Model

Similar to the empirical tests of the Chan et al.'s (2011) theoretical model described in the previous section, the effect of the proposed alternative theoretical propositions with the inclusion of pre-crime precipitating factors was investigated in predicting the lethal outcome of a sexual offense. Step-wise logistic regressions were used to examine two separate theoretical models, with one assessing the five dimensions of the *motivated offender* measure and the second model examining the combined measure of the *motivated offender* in a single construct. In this proposed alternative theoretical model, the construct of *pre-crime precipitators* was entered into the theoretical models with the rationale that pre-crime precipitators will have a motivating effect for the offender in committing a sexual offense against an attractive and suitable target in the absence of a capable guardian or guardianship.

In general, only two out of four theoretical models were statistically significant ($\chi^2 = 17.48, p < .05$ for Model III and $\chi^2 = 23.93, p < .01$ for Model IV; the overall models for Model I and Model II were not significant; see Table 9). Overall, when the construct of *pre-crime precipitators* was entered into the models (Model III and Model IV), the *sexually deviant behaviors and attitudes* construct was the only dimension measuring the *motivated offender* that yielded statistically significant findings. A one-unit increase in sexually deviant behaviors and attitudes, the odds of the offender murdering his victim was found to increase by 48% in Model III. Unexpectedly, the construct of *pre-crime precipitators* failed to yield any statistically significant findings in all of the models. In the presence of the *pre-crime precipitators* construct in Model III, the construct of an *attractive and suitable target* was found to

be inconsistent with the theoretical proposition. Every one-unit increase in target attractiveness and suitability resulted in the odds of being killed decreasing by 29%.

Model IV provides the empirical test of the complete proposed alternative theoretical model. The odds of a sexual offense resulting in a lethal outcome increased by 71% each when the sex offender possessed sexually deviant behaviors and attitudes and his offense was committed without any third party interference, respectively. Inconsistent with the theoretical proposition, every one-unit increase in target attractiveness and suitability resulted in the odds of being murdered decreasing by 27%.

Table 10 presents the second proposed alternative theoretical model with the measure of *a motivated offender* being measured in a single construct. Only Model III ($\chi^2 = 15.93, p < .001$) and Model IV ($\chi^2 = 19.71, p < .001$) were found to be statistically significant. The construct of *pre-crime precipitators* was found to have a tendency towards significance in both Model III ($p = .08$) and Model IV ($p = .09$). In contrast, every one-unit increase in target attractiveness and suitability resulted in the odds of being murdered decreasing by 34%.

With the exception of the *motivated offender* and *pre-crime precipitators* construct, all other constructs described in the proposed alternative theoretical model, as tested in Model IV, were found to be statistically significant for predicting the lethal outcome of a sexual offense. To illustrate, the odds of a sexual offense resulting in the killing of the victim increased by 47% when the offender's offense was committed in the absence of a capable guardian or guardianship. In contrast to the proposed alternative theoretical proposition, every one-unit increase in target attractiveness and suitability resulted in the odds of being killed decreasing by 34%.

In testing the proposed alternative theoretical model of Chan et al. (2011), the AUC values of 0.49 for Model III, and 0.52 for Model IV were obtained (see Table 9 and Table 10). These AUC values indicated that both models were equally likely to be no different than chance.

Table 9 Logistic regressions of the proposed alternative Chan, Heide, and Beauregard's theoretical model (a five-subscale *Motivated Offender* model)

Predictor variable	Model I			Model II			Model III			Model IV		
	B	SE	Odds ratio	B	SE	Odds ratio	B	SE	Odds ratio	B	SE	Odds ratio
Parental aggressiveness ^a	-0.12	0.22	0.88	-0.12	0.22	0.89	-0.13	0.22	0.88	-0.12	0.23	0.89
Parental criminal history ^b	0.26	0.21	1.03	0.01	0.21	1.00	0.25	0.22	1.03	0.01	0.22	1.01
Family violence ^c	-0.01	0.12	0.99	-0.01	0.12	1.00	-0.01	0.12	0.99	-0.01	0.12	0.99
Pornography ^d	0.27	0.40	1.30	0.24	0.40	1.27	0.16	0.41	1.18	0.13	0.42	1.14
Sexually deviant behavior ^e	0.46	0.18	1.59 **	0.43	0.19	1.54 *	0.39	0.20	1.48 *	0.54	0.21	1.71 **
Pre-crime precipitators				0.08	0.13	1.08	0.10	0.13	1.10	0.07	0.14	1.08
Attractive target							-0.35	0.12	0.71 **	-0.32	0.12	0.73 **
Absence of a guardian										0.54	0.22	1.71 **
Constant	-1.63	0.37	0.20	-1.75	0.42	0.17	-1.06	0.47	0.35	-1.69	0.55	0.19
-2 log likelihood		230.70			230.35			218.09			211.65	
Model chi-square		8.59			8.94			17.48 *			23.93 **	
Hosmer-Lemeshow test		$\chi^2(8) = 13.96, p = 0.08$			$\chi^2(8) = 4.71, p = 0.79$			$\chi^2(8) = 7.78, p = 0.46$			$\chi^2(8) = 17.71, p = 0.02$	
Nagelkerke R ²		0.06			0.06			0.08			0.16	
N		222			222			215			215	
AUC		0.53			0.55			0.49			0.52	

Note: ^a motivated offender subscale 1, ^b motivated offender subscale 2, ^c motivated offender subscale 3, ^d motivated offender subscale 4, and ^e motivated offender subscale 5. AUC = area under the curve. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 10 Logistic regressions of the proposed alternative Chan, Heide, and Beauregard's theoretical model (a single-scale *Motivated Offender* model)

Predictor variable	Model I			Model II			Model III			Model IV		
	B	SE	Odds ratio	B	SE	Odds ratio	B	SE	Odds ratio	B	SE	Odds ratio
Motivated offender	0.04	0.05	1.04	0.02	0.05	1.03	0.01	0.05	1.01	0.02	0.05	1.02
Pre-crime precipitators				0.16	0.12	1.17	0.19	0.12	1.21 ^a	0.19	0.13	1.20 ^b
Attractive target							-0.42	0.12	0.66 ***	-0.41	0.12	0.66 ***
Absence of a guardian										0.38	0.20	1.47 *
Constant	-1.34	0.27	0.26	-1.63	0.35	0.20	-0.85	0.40	0.43	-1.30	0.47	0.27 **
-2 log likelihood		252.37			250.45			232.07			228.29	
Model chi-square		0.67			2.58			15.93 ***			19.71 ***	
Hosmer-Lemeshow test		$\chi^2(8) = 13.96, p = 0.08$			$\chi^2(8) = 15.59, p = 0.05$			$\chi^2(8) = 9.16, p = 0.33$			$\chi^2(8) = 8.64, p = 0.37$	
Nagelkerke R ²		0.01			0.02			0.10			0.13	
N		230			230			221			221	
AUC		0.53			0.55			0.49			0.52	

Note: AUC = area under the curve. ^a $p = .08$, ^b $p = .09$

* $p < .05$, ** $p < .01$, *** $p < .001$

Chapter Seven

Discussion

Summary of the Study

Ever since the screening of the blockbuster movie of “The silence of the lambs” and the like in late 1980s and early 1990s, the public interest on and media portrayal of sexual homicide cases has been high. Regardless of its substantial public attention to this type of violent offense, sexual homicide remains an understudied research area primarily due to its rarity. To date, less than 50 empirically-based works on sexual homicide have been published. Hence, it is not surprising that many of the research topics on sexual homicide remain to be unexplored.

The focal point of this study was the offending process in sexual homicide. More specifically, the purpose of the present study was to examine the theoretical model of Chan, Heide, and Beauregard (2011) in explaining the offending process of sexual homicide offenders using the integrated approach of social learning theory and routine activities theory. To further enhance the explanatory power of Chan, et al.’s (2011) model, a revised framework was proposed with the inclusion of pre-crime precipitating factors during the offending process that was supported by recent findings in sexual homicide studies. This study has at least two merits worth mentioning.

Prior to Chan et al.’s (2011) theoretical model of sexual homicide offending process, no effort had been made to offer a criminological theoretical framework in understanding the offending process in sexual homicide. The present study was the first to empirically test their theoretical model. Secondly, despite the fact that the present study was a secondary analysis of an existing data collected with a Canadian

sample, the depth of information on pre-crime, crime, post-crime, victimology, and the offender's psychological, sociological, and developmental background in the data were able to permit the analysis of all theoretical constructs in Chan et al.'s (2011) model. Most importantly, few data sets currently exist that offer such richness of data on sexual homicide cases. To illustrate, although a number of recently published studies on sexual homicide offenders used a nationally represented sample of sexual homicide offenders (e.g., Chan & Frei, in press; Chan & Heide, 2008; Chan, et al., 2010; Myers & Chan, 2012; Myers, et al., 2010), these data were nevertheless limited to basic offender, victim, and incident-related information. Therefore, this study is potentially an important contribution to the existing body of research in sexual homicide.

The present study specifically tested four theoretically-based and inter-related hypotheses that framed both Chan et al.'s (2011) framework and the proposed alternative Chan et al.'s model. The first three hypotheses were based on Chan et al.'s model. First, relative to non-homicidal sex offenders with similar background, homicidal sex offenders who grew up in an abusive environment were expected to, directly or indirectly, be exposed to or learn (to be *differentially associated* with) sexually deviant attitudes, beliefs, values, and norms (deviant *definitions*), which influence their later behavioral learning process. Second, in response to their long-embedded sexually deviant attitudes, beliefs, values, and norms learned through behavioral conditioning (of *differential reinforcement or punishment and imitation*) since adolescence, it was anticipated that these factors would affect homicidal sex offenders more so than their non-homicidal counterparts with similar backgrounds, in increasing their propensity to commit a sexual offense. This theorized pathway predicted the shaping of *a motivated offender* to commit a sexual offense. Third, it

was expected that homicidal sex offenders would be more likely than their non-homicidal counterparts to commit a sexual offense against *an attractive and suitable target* in the absence of *an effective and capable guardian or guardianship* in the immediate crime scene surroundings. Lastly, in the proposed alternative model, the fourth hypothesis was set forth to better explain the offending process in sexual homicide. Because killing is more extreme, the effect of *pre-crime precipitating factors* in committing a sexual offense was anticipated to have a more influential impact on homicidal sex offenders than non-homicidal sex offenders.

General Overview of the Findings

The primary goal of this study was to empirically test two criminological theoretical frameworks in explaining the offending process in sexual homicide: (1) Chan et al.'s (2011) integrated model of social learning theory and routine activities theory, and (2) the proposed alternative model of Chan et al.'s (2011) framework. Using non-serial homicidal ($N = 55$) and non-homicidal ($N = 175$) sex offenders who victimized females, the present study examined four step-wise logistic regression models to determine the different theoretical constructs (i.e., a motivated offender [measured in a five-subscale model and a single-scale model], an attractive and suitable target, an absence of a capable guardian or guardianship, and pre-crime precipitating factors) in the prediction of the lethal outcome of a sexual offense. While the primary focus of this study was to determine if the theoretical model proposed by Chan et al. (2011) was able to explain the offending process in sexual homicide (see Figure 4), a comparison was made with the proposed alternative model that included the theoretical construct of pre-crime precipitating factors (see Figure 5).

To facilitate easier comprehension of key findings found in this study, key findings are organized in two sections. First, univariate and bivariate analytical

findings are presented in the following orders: (1) significant differences in demographic characteristics between homicidal and non-homicidal sex offenders, (2) significant differences between both types of sex offenders in observed indicators of different theoretical constructs, and (3) significant mean differences between both types of sex offenders in different theoretical scales and subscales that were constructed based on relevant observed indicators. Subsequently, significant findings found in four different step-wise logistic regression models in predicting the lethal outcome of a sexual offense are outlined.

Homicidal ($M = 32.96$) and non-homicidal ($M = 34.75$) sex offenders were not significantly different in age. However, more homicidal sex offenders were Whites than their non-homicidal counterparts (93% versus 84%), and this difference had a tendency towards significance ($p = .09$). In supporting the previous findings (e.g., Firestone, et al., 1998b; Grubin, 1994; Milsom, et al., 2003; Oliver, et al., 2007), significantly more homicidal (76%) than non-homicidal (65%) sex offenders were without any intimate partner (i.e., married or unmarried partnership) at the time of their offense. Although significantly fewer homicidal sex offenders admitted to having sexually penetrated (oral, vaginal, and anal) their victims (58% versus 77%) than their non-homicidal counterparts, they nevertheless were more likely to report having engaged in mutilation of their victim's sexual body parts than those sex offenders who did not kill (18% versus 3%).

Pertaining to the psychological characteristics of homicidal and non-homicidal sex offenders, sex offenders who kill were reported to indulge significantly more in deviant sexual fantasies that started at least a year prior to their sex offense than their non-homicidal counterparts (42% versus 25%). This finding was consistent with those reported in previous studies (e.g., Langevin, et al., 1988; Proulx, et al., 2002). On a

similar note, significantly more sexual murderers were also found to have engaged in at least one paraphilia (e.g., coprophilia, fetishism, partialism, masochism, sexual sadism, tranvestism, urophilia, and zoophilia) when compared with sex offenders who did not kill (22% versus 5%). This finding was consistent with previous findings whereby sexual killers were particularly more likely than non-homicidal sex offenders to be diagnosed with sexual sadism and fetishism (Firestone, et al., 1998b; Koch, et al., 2011; Langevin, et al., 1988).

Of particular note, more homicide victims of sexual murderers were found to be staying alone at the time of the attack compared with victims of sex offenders who did not murder (35% versus 22%), and this difference had a tendency towards significance ($p = .08$). This finding was novel as no studies in the past have tested for such difference. In terms of pre-crime precipitators, significantly more sex offenders who killed (80%) than those who did not kill (61%) were intoxicated by alcohol within the hours prior to their sex offense. Previous studies also reported a similar trend where homicidal sex offenders used and/or abused alcohol and/or drugs more frequently than their non-homicidal counterparts (Chene & Cusson, 2007; Koch, et al., 2011; Langevin, 2003). Importantly, this study was the first to find that significantly more sexual murderers (31%) than non-homicidal sex offenders (18%) engaged in deviant sexual fantasies within 48 hours prior to their sex offense, which featured scenarios that excluded their eventual victim.

Different measurement scales and subscales were constructed based on 29 observed indicators. Although no significant mean difference was found between homicidal and non-homicidal sex offenders in their overall propensity to becoming a *motivated offender* to commit a sexual offense, sex offenders who killed were having significantly more *sexually deviant behaviors and attitudes* than those who did not kill

(0.94 versus 0.54 out of 3 possible points). Additionally, sexual murderers were also found to have a significantly higher probability than non-homicidal sex offenders to commit their sexual offense in *the absence of a capable guardian or guardianship* (1.18 versus 0.90 out of 3 possible points). Homicidal sex offenders were also reported to have higher scores of *pre-crime precipitators* than their non-homicidal counterparts (2.38 versus 2.06 out of 7 possible points). Although this last finding was not statistically significant ($p < .05$), it was nevertheless approaching this statistical mark ($p = .09$). In contrast to the expected offending pattern as theorized by Chan et al. (2011), however, non-homicidal sex offenders were significantly more likely than homicidal sex offenders to perpetrate against a victim whom they perceived as *attractive and suitable* (2.15 versus 1.33 out of 5 possible points).

In order to examine the theoretical pathway of sexual homicide offending process as outlined in Chan et al. (2011) and the proposed alternative models, step-wise logistic regression technique was used. As aforementioned, the measure of *a motivated offender* was assessed in two ways: a five-subscale model and a single-scale model. When the motivated offender was measured in a five-subscale model, somewhat similar effects were yielded for models with (i.e., proposed alternative model) and without (i.e., Chan et al.'s model) the inclusion of *pre-crime precipitators*. As one of the sub-measures of the *motivated offender*, the odds of the offender killing his victim increased by 77% in model without *pre-crime precipitators* when the sex offender possessed *sexually deviant behaviors and attitudes*. However, the odds reduced to 71% when the construct of *pre-crime precipitators* was included into the model. Supported by previous findings (e.g., Firestone, et al., 1998a, 1998b, 2000; Koch, et al., 2011; Langevin, et al., 1988; Proulx, et al., 2002), sexual murderers were

found to have more sexually deviant behaviors and attitudes (e.g., paraphilias, deviant sexual fantasies) than their non-homicidal counterparts.

When the offense was committed in the *absence of any capable guardian or guardianship*, the odds of a sexual offense resulting in a lethal outcome increased by 73%. But, the odds dropped to 71% when the *pre-crime precipitators* construct was entered into the model. Interestingly, with and without *pre-crime precipitators*, the odds of the victim being murdered decreased by 27% when the victim was deemed as an *attractive and suitable target*. These findings were novel in the literature. It is important to note that the inclusion of *pre-crime precipitators* into the offending model failed to yield any significant effect to the odds of the offender's victim being murdered. Simply put, the inclusion of *pre-crime precipitators* construct into the model failed to enhance the theoretical model in explaining the offending process of sexual homicide using the five-subscale *motivated offender* model.

Besides the five-subscale model, a single-scale model in testing the *motivated offender* measure was performed. When the measure of *motivated offender* was assessed in a single-scale model, no significant effect was found in models with and without the construct of *pre-crime precipitators*. In the model without *pre-crime precipitators*, the odds of the offender murdering his victim increased by 48% when the offense was committed *without the presence of any capable guardian or guardianship*. However, the odds of killing his victim was only slightly reduced to 47% in model with the inclusion of the *pre-crime precipitators* construct as the offender's motivation accelerator. Similar to the findings previously discussed in both models (with and without the *pre-crime precipitators* construct) using the five-subscale *motivated offender* measure, the odds of the offender not killing the victim whom he regarded as attractive and suitable increased by 49% in the model without

the pre-crime precipitators construct. However, the odds increased to 52% when *pre-crime precipitators* were considered as factors that further motivated the offender to commit a sexual offense.

As proposed in the alternative model of Chan et al.'s (2011) framework, the construct of *pre-crime precipitators* only yielded a tendency towards significance ($p = .09$) in motivating the offender to commit a sexual homicide when tested in the model. Even when this construct was tested independently without any other constructs, significant finding was not obtained ($p = .11$). To compare with previous findings (e.g., Chene & Cusson, 2007; Koch, et al., 2011; Langevin, 2003) where homicidal sex offenders were reported to have more *pre-crime precipitators* (e.g., use and/or abuse drugs and alcohol prior and/or at the time of the offense) than non-homicidal sex offenders, this study failed to find a significant difference between these two types of sex offenders. The insignificant *pre-crime precipitators* results found in this study could possibly be due to the limited number of observed indicators in measuring this construct. For instance, although the offender's angry feelings were argued to be a predisposing factor in several studies (e.g., Beauregard & Proulx, 2002, 2007; Beauregard, Proulx, et al., 2007; Beauregard, Stone, et al., 2008; Mieczkowski & Beauregard, 2010), this pre-crime factor was not included as one of the observed indicators of *pre-crime precipitators* construct in this study. Clearly, more research is warranted.

Of interest, additional regression analyses were performed by removing female victims aged 17 years and below, which resulted in the sample of 209 offenders with valid cases on victim's age (51 HSOs and 158 NHSOs). These additional analyses were conducted to investigate if a different offending trend would be found among offenders who victimized only adult females. It is noteworthy that

findings in this sample of offenders who victimized adult females remained the same as found in the originally designed study (230 valid cases of homicidal and non-homicidal sex offenders who perpetrate females of all ages).

Overall, findings in this study indicate that the theoretical constructs measuring SLT were found to be better supported than the propositions of RAT. Nevertheless, both Chan et al.'s (2011) theoretical framework and the proposed alternative model were not empirically well-supported in this study. Two reasons are possible. First, the measures of theoretical constructs in this study may have a critical impact on the findings. It is possible that the observed indicators selected to test the different theoretical constructs were not good measures of the proposed theoretical propositions. This is not unexpected given that the dataset used in this study was not initially collected for the purpose of this research.

Another possible reason is that both theoretical models are not good at explaining the offending process of sexual homicide. Of particular note, the *attractive and suitable target* proposition of RAT was found in this study to be not a good theoretical proposition in predicting the lethal outcome of a sexual offense. Clearly, sexual homicide is a rare event. Furthermore, each individual is unique in their personality and behavioral manifestation. Therefore, it may be difficult to theoretically explain the behavioral patterns of such distinctive offending behavior. Specifically, both theoretical models fail to incorporate other determining factors that are difficult to measure, particularly with the data set used in this study, such as the offender's psychopathological factors (e.g., personality disorder, sexual sadism, paraphilias, and psychopathy). As such, in this study, it is not unreasonable to generate findings that were inconsistent with previous findings, especially with regard to the effect of pre-crime precipitating factors in explaining the offender's motivation

to commit a sexual murder. As an alternative, an offender's typology with distinctive criminal profiles may be a better way to comprehend the offending process and behavior of sexual murderers. As evidenced, different offender typologies, both clinically and empirically, were developed over the years as ways to better explain the different types of sexual murderers.

Implications of the Findings

Although the findings presented in this study failed to confirm the theoretical predictions as outlined in both Chan et al.'s (2011) framework and the proposed alternative model, these results contribute to the literature in two key areas: (1) theoretical implications and (2) implications for crime preventive measures and offender profiling. Clearly, this empirical research was designed to substantively advance our knowledge in understanding the offending process in sexual homicide. As such, empirical findings of this study could provide scholars, researchers, and law enforcement agents with insights into the phenomenon of sexual homicide offending. Specifically, findings of this study may prove valuable by assisting law enforcement in developing persons of interest in their investigation efforts.

Notably, the most direct implication of this study was the empirical testing of Chan et al.'s (2011) integrated criminological theory of sexual homicide offending. Although this theoretical model was marginally supported by the findings of this study, this study nevertheless paved the path for future informative research using Chan et al.'s model. Further empirical investigations of this theoretical model with different methodological and statistical strategies are warranted. To illustrate, data collection methods should be tailored to the purpose of the study with measures for specific theoretical constructs developed. Additionally, statistical strategies that are used specifically for theory testing or development should be adopted. More

elaboration on suggestions for future research is discussed in the following section. Taken together, further comparative research can be conducted to assess whether Chan et al.'s model or the proposed alternative model is substantially explains the offending process of SHOs.

Besides contributing to the existing sexual homicide literature from the theoretical standpoint, findings of this study appear to have practical implications, especially from the perspective of crime prevention and offender profiling. Taken as a whole, consistent with Chan et al.'s theoretical propositions, findings of this study suggest that the sex offender's sexually deviant behaviors and attitudes as a motivating factor, and the presence/absence of a capable guardian or guardianship at the immediate crime surroundings are significant critical factors in deciding the survival rate of the victim.

Specifically from the perspective of offender profiling, if the victim of a sexual offense is found to be dead, the likelihood is significantly high that the murderer is someone who possesses sexually deviant behaviors and attitudes, and likely engages in deviant sexual fantasies, paraphilias, and compulsive masturbation. The odds range from 71% to 77% at a time (approximately four out of five cases). Of particular note, the predicting effect of deviant sexual fantasies depends not only on the frequency of such behavior, but also on the degree of severity or deviance of these sexual fantasies. Nonetheless, more research is needed to further distinguish the differences in type and frequency of sexual fantasies between homicidal and non-homicidal sex offenders. Drawing from this finding, sexual homicides can be potentially prevented from the outset. In order to attempt to lessen the occurrence of sexual homicides and sex offenses, crime preventive measures should be undertaken as early as possible in at risk populations. As reflected in this study, sexually deviant

behaviors and attitudes were found to be a significant predictor of a sexual offense resulting in a lethal outcome. Thus, sexually deviant behaviors and attitudes should be discouraged at the domestic level whereby such behaviors and attitudes can be learned via differential associations and/or imitations, as tested in this study, within a family setting.

As supported by previous studies, healthy parent-child bonding and secure attachment from birth are crucial in shaping positive and constructive behavioral and attitude patterns toward sex and avoidance of violence (Chan & Chui, 2012; Chui & Chan, 2011a, 2011b, 2012; Heide & Solomon, 2006). Programs and activities designed to prepare individuals to become good parents and caregivers, such as parenting classes, support groups for parents and caregivers, and child development and parenting courses in high schools are called for (Heide, 1999). Findings of this study addressed the importance of healthy parent-child relationship in preventing the involvement of offspring in delinquent conduct, which includes sexually deviant acts that may result in a lethal outcome. With healthy and pro-social behavioral and attitude patterns embedded since early childhood, the probabilities of learning deviant behavior and adopting negative attitudes, particularly sexual in nature (e.g., indulgence in deviant sexual fantasies, engage in paraphilias, consumption of pornography, and compulsive masturbation), from other influential individuals such as close friends and intimate partners later in life, would likely be greatly diminished.

At the individual level, sexual offenses, both homicidal and non-homicidal, can be prevented through self-protective measures. In this study, results indicated that the likelihood that the victim of a sexual offense would be killed significantly increased when the victim was being victimized in the absence of an effective self-guardianship or a capable guardian. Certainly, this finding addressed the importance

of appropriate self-guardianship in avoiding a sexual offense to end with a lethal outcome. For instance, extra measures of self-protection (e.g., installing extra locks on entrance doors, owning a dog, having an alarm monitoring system) if living alone are likely to reduce the likelihood to be victimized (Mustaine & Tewksbury, 1998). Additionally, alcohol and/or drug use or abuse has been found to be related to a lower probability of using self-protective measures (Tewksbury & Mustaine, 2003). Most importantly, intoxicated individuals are perceived to be more vulnerable (i.e., more susceptible to be controlled by the offender by way to sexually offend the victim) than those who are not intoxicated (Abbey, 1987, 1991; George, Gournic, & McAfee, 1988; Mustaine & Tewksbury, 2002). Hence, individuals would be wise to curtail using alcohol or drugs, particularly to excess, in outdoor surroundings especially when not accompanied by trusted individuals.

Taken as a whole, this study has clearly offered an important implication for practice in the area of sex offender notification policy. Recent studies (Hill, Habermann, Klussman, Berner, & Briken, 2008; Myers, et al., 2010) have also shown that the recidivism rates (violent recidivism, sexual or non-sexual) of sex offenders who killed were substantially higher than non-homicidal sex offenders in general, especially those who have committed their first sexual homicide as adolescents or young adults. Certainly, more efforts should be done to reduce the re-offending risk of homicidal sex offenders. One such effort is to enhance the sex offender notification system by allocating more monitoring resources if sex offenders who previously have killed their victims are going to be released.

Limitations and Future Research Directions

Sexual homicides are rare events. Even in the country where violent offenses are rampant, sexual homicide only accounted for about 0.6% of 597,351 homicide

arrestees in the U.S. for the 30 years period (1976 to 2005; Chan, et al., 2010). In view of the rarity of this offense, much remains to be studied in the study of sexual homicide. To date, fewer than 50 empirical studies have been published on topics related to sexual homicide (Chan & Heide, 2009).

Although this study furthered our understanding of offenders and victims of sexual homicide and the offense itself, findings in this study should be interpreted cautiously given the shortcomings of the data. First, the sample of this study comprised a total of 230 valid cases of homicidal and non-homicidal sex offenses of females. Although this sample was arguably a representative sample of the population of male homicidal and non-homicidal sex offenders incarcerated in the province of Quebec, Canada for the period of 1995 to 2005⁷ who sexually offended against females, the size of the sample might have prevented some findings from reaching the significance level. In addition, the unequal number of valid cases of homicidal ($N = 55$) and non-homicidal ($N = 175$) sex offenders in this study might have had an effect on the findings in this study. This variation in the sample sizes might have prevented some differences from reaching statistical significance. Future studies should consider recruiting a sizeable sample with equal number of homicidal and non-homicidal sex offenders in order to increase the likelihood of convincing and robust findings.

Another noteworthy point is that this sample of 230 cases consisted of homicidal and non-homicidal sex offenders who both sexually assaulted and committed only a minor sexual offense. This study included cases of sexual assaults and other minor sexual offenses to increase the sample sizes of both groups of sex offenders. Perhaps, the

⁷ The sample of non-homicidal sex offenders in this study was noted to represent 85% of sexual murderers convicted and imprisoned in correctional institutions in the Quebec region of Canada (Beauregard, et al., 2008).

results might have been different if the samples of homicidal and non-homicidal sex offenders were limited to those who sexually assaulted their victim. Therefore, future research should consider re-examining both theoretical models by controlling for the types of sexual offense committed by homicidal and non-homicidal sex offenders.

As evidenced in this study, it is possible to argue that these models are merely not good theoretical models to distinguish the offending process of homicidal from non-homicidal sex offenders. Thus, because of the less supported univariate and bivariate findings in differentiating these two offender samples, the analytic strategies used in this study restricted the range and sophistication of multivariate statistical analyses that could be performed. For future research, other comparison groups such as non-sexual homicide offenders can be used as another comparison sample to further test the suitability of both Chan et al.'s theoretical framework and the proposed alternative model in explaining the offending perspective of sexual homicide. Additionally, if significant findings are found in univariate and bivariate analyses in future studies, more advanced statistical analytic strategies might be possible. More advanced techniques might produce findings with greater depth. Among other possible advanced analytic strategies, the structural equation modeling (SEM) approach is an option to be considered. Broadly speaking, SEM is a statistical modeling approach that is functional for theory testing or development (Asparouhov & Muthén, 2008; Kline, 2005). According to Garson (2009) and Kline (2005), SEM can be utilized to test or develop a theoretical model in several manners: (1) in a strictly confirmatory manner with one model proposed and tested, (2) in an exploratory way by examining alternative models with several theoretical models being examined and compared to determine the best-fitting model, or (3) in a developing model approach with a preliminary model tested and subsequent

modifications to be made to improve the model fit. Simply put, the SEM approach is able to measure if the hypothesized model will adequately project the actual observed relationship pattern in the data (see Kline, 2005).

Secondly, the data collection methodology adopted by the original research team has some limitations. As noted by the original research team, the external validity of findings generated with its data, especially on non-homicidal sex offenders, was questionable (Beauregard & Proulx, 2007; Beauregard, Deslauriers-Varin, & St-Yves, 2010; Beauregard, Rossmo, & Proulx, 2007; Beauregard, et al., 2007, 2008; Deslauriers-Varin & Beauregard, 2010). These data only sampled incarcerated sex offenders who were charged and convicted. Sex offenders, both homicidal and non-homicidal, such as those who were initially apprehended by the police but later released or acquitted by the court, were not part of the sample of this study. In addition, it is likely that the offending patterns of homicidal and non-homicidal sex offenders who have avoided detection are different from those who have been detained. It is hypothesized that the former are likely more sophisticated in their offending patterns and able to avoid being apprehended (Beauregard, Rebocho, & Rossmo, 2010; Beauregard, et al., 2007). Replication with other samples of SHOs and NSHOs is desirable. The generalizability of the findings produced with this Canadian data to sex offenders in other countries is unknown. If possible, future studies should include both incarcerated and non-incarcerated sex offenders of both types so that the findings produced are capable of generalizing to the entire population of SHOs and NSHOs. Non-incarcerated sex offenders such as those who are arrested and/or charged but not convicted might be considered for inclusion in future studies. Additionally, comparative research of sex offenders from different countries is desirable.

In addition, the data collection methodology used by the original research team consisted of both official data and self-reported responses. For information with no official records, retrospective self-report methods were used (Beauregard & Lecler, 2007; Beauregard, et al., 2007; Deslauriers-Varin & Beauregard, 2010). This type of data collection method may suffer from retrospective distortion, both intentional and unintentional, even if adequate interviewing techniques are used to enhance the level of details (Polascheck, Hudson, Ward, & Siegert, 2001). Of particular note, the responses provided by the sex offenders only reflected their perception of the offense. To safeguard against this concern, self-reported information used in future research should be compared with the official data (e.g., police reports) when they are available. In the case of discrepancy, information from the official data should be prioritized, as it was in the data set developed by the Canadian researchers and used in the current study (see also Deslauriers-Varin & Beauregard, 2010).

Another possible drawback of the data collection method was the restriction of responses to dummy-coded options. This method has clearly restricted the variability of the sample's responses. Consequently, it is not surprising to obtain low alpha coefficients of the theoretical measures in this study. For future research, the subject's responses should not be restricted to dummy-coded options. Instead, more variability of responses should be considered in order to capture a wide-range of possible responses from the subjects.

Most importantly, this study performed a secondary analysis of data collected on both incarcerated homicidal and non-homicidal sex offenders by a group of Canadian researchers. Thus, the variable selection for constructs included in the current study was limited by the availability of variables in the dataset. For example, there was a lack of data measuring *the absence of a capable guardian or guardianship*.

No information is available in the dataset to permit analyses at the structural level of this theoretical proposition (e.g., environmental conditions, geographical locations, and formal or informal social control mechanisms). Consequently, only constructs at the individual level of this theoretical proposition (i.e., self-guardianship measures) were assessed. Therefore, it is not surprising to find that the internal consistency of *the absence of a capable guardian or guardianship* measure was low. Nevertheless, previous studies acknowledged the importance of self-protective measures in preventing individuals from becoming victims of violent offenses, especially crimes that are sexual in nature (e.g., Mustaine & Tewksbury, 1998, 2002; Schwartz & Pitts, 1995; Schwartz, et al., 2001; Tewksbury & Mustaine, 2001, 2003).

Future research should ideally focus on first-hand data collection on the sample population of interest (i.e., homicidal and non-homicidal sex offenders) by targeting specific data required to comprehensively examine both theoretical models (i.e., Chan et al.'s model and the proposed alternative framework) discussed in this study. Particularly, the responses regarding the structural level of *the absence of a capable guardian or guardianship* measure should be obtained. If such findings support Chan et al.'s theoretical propositions, practical implications, specifically crime preventive measures, would not only be limited at the individual level as demonstrated in the present study. For instance, the enhanced ecological guardianships and human guardians such as the increasing of formal (e.g., actively monitored closed-circuit televisions [CCTVs] and police surveillance cameras) and informal (e.g., neighborhood watch groups, urban citizen patrols, and security guards) social control mechanisms (Hollis-Peel, et al., 2011; Smallbone, Marshall, & Wortley, 2008) may effectively discourage potential sex offenders from executing their offending plan in these highly guarded surroundings.

Additionally, social control efforts to curtail sexual offenses, and sexual homicides in particular, should not be only limited to the physical world. Guardianship in cyberspace is clearly an area worth paying extra attention. Even though the data are anecdotal, cases of SHOs hunting for victims through online chats or forums have been reported (Chan, et al., 2011). The utility of the cyber world by potential sex killers in searching for their prey should not be overlooked. Online guardians in the form of law enforcement and regulatory agencies, website personnel, and netizens (i.e., individuals who frequently surf the Internet) are needed to reduce the probabilities that a motivated offender will troll the virtual world for his next prey. Therefore, with the use of first-hand data, future research should not be limited to the individual level, but also exploring the structural level of the guardianship measure as theorized by Chan and colleagues (2011).

Taken together, although the theoretical propositions of both Chan et al.'s model and the proposed revised framework are partially supported by the findings produced in this study, different results may be generated from a more fine-tuned test of the models. The inclusion of more precise variables would answer more convincingly whether the Chan et al.'s theoretical model is able to explain the offending process of sexual homicide with data collected specifically for this purpose. In addition, particularly relevant to the present study, further empirical examination might help to determine whether Chan et al.'s theoretical model or the proposed alternative framework produces a stronger and more comprehensive criminological theory of the sexual homicide offending process.

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Appendices

Appendix A Chi-square analysis of the offender type by sex offenders' parental or familial aggressive and deviant sexual behaviors and attitudes

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Exposed to inappropriate models of psychological violence at home before 18 years old			
No	32	92	124
Row %	25.8%	74.2%	100.0%
Column %	58.2%	52.6%	53.9%
Yes	23	83	106
Row %	21.7%	78.3%	100.0%
Column %	41.8%	47.4%	46.1%
Total	55	175	230
Row %	23.9%	76.1%	100.0%
$\chi^2(1) = .53, \text{Phi} = .05, p > .05$			
Exposed to inappropriate models of physical violence at home before 18 years old			
No	34	100	134
Row %	25.4%	74.6%	100.0%
Column %	61.8%	57.1%	58.3%
Yes	21	9	20
Row %	21.9%	78.1%	100.0%
Column %	38.2%	42.9%	41.7%
Total	55	175	230
Row %	23.9%	76.1%	100.0%
$\chi^2(1) = .38, \text{Phi} = .04, p > .05$			
Exposed to inappropriate models of sexual promiscuity at home before 18 years old			
No	51	167	218
Row %	23.4%	76.6%	100.0%
Column %	92.7%	95.4%	94.8%
Yes	4	8	12
Row %	33.3%	66.7%	100.0%
Column %	7.3%	4.6%	5.2%
Total	55	175	230
Row %	23.9%	76.1%	100.0%
$\chi^2(1) = .62, \text{Phi} = .05, p > .05$			

Appendix A (continued)

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Exposed to inappropriate models of pedophilic or hebephilic sexual abuse at home before 18 years old			
No	53	173	226
Row %	23.5%	76.5%	100.0%
Column %	96.4%	98.9%	98.3%
Yes	2	2	4
Row %	50.0%	50.0%	100.0%
Column %	3.6%	1.1%	1.7%
Total	55	175	230
Row %	23.9%	76.1%	100.0%

$\chi^2(1) = 1.52, \text{Phi} = .08, p > .05$

Exposed to inappropriate models of sexual attack on adult women at home before 18 years old			
No	55	174	229
Row %	24.0%	76.0%	100.0%
Column %	100.0%	99.4%	99.6%
Yes	0	1	1
Row %	0.0%	100.0%	100.0%
Column %	0.0%	0.6%	0.4%
Total	55	175	230
Row %	23.9%	76.1%	100.0%

$\chi^2(1) = .32, \text{Phi} = .04, p > .05$

Appendix B Chi-square analysis of the offender type by sex offenders' parental or sibling past sexual and non-sexual criminal background

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Sex offenders' close family who convicted of a violent and non-sexual offense(s)			
No	46	133	179
Row %	25.7%	74.3%	100.0%
Column %	85.2%	78.7%	80.3%
Yes	8	36	44
Row %	18.2%	81.8%	100.0%
Column %	14.8%	21.3%	19.7%
Total	54	169	233
Row %	24.3%	75.8%	100.0%
$\chi^2(1) = 1.09, \text{Phi} = .07, p > .05$			
Sex offenders' close family who convicted of a non-violent and non-sexual offense(s)			
No	35	113	148
Row %	23.6%	76.4%	100.0%
Column %	63.6%	66.5%	65.8%
Yes	20	57	77
Row %	74.0%	26.0%	100.0%
Column %	36.4%	33.5%	34.2%
Total	55	170	225
Row %	24.4%	75.6%	100.0%
$\chi^2(1) = .15, \text{Phi} = .03, p > .05$			
Sex offenders' close family who convicted of a sexual offense(s) with contact(s)			
No	51	159	210
Row %	24.3%	75.7%	100.0%
Column %	92.7%	91.9%	92.1%
Yes	4	14	18
Row %	22.2%	77.8%	100.0%
Column %	7.3%	8.1%	7.9%
Total	55	173	228
Row %	24.1%	75.9%	100.0%
$\chi^2(1) = .04, \text{Phi} = .01, p > .05$			

Appendix B (continued)

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Sex offenders' close family who convicted of a sexual offense(s) without contact including sexual nuisance(s)			
No	54	169	223
Row %	24.2%	75.8%	100.0%
Column %	98.2%	98.3%	98.2%
Yes	1	3	4
Row %	25.0%	75.0%	100.0%
Column %	1.8%	1.7%	1.8%
Total	55	172	227
Row %	24.2%	75.8%	100.0%

$\chi^2(1) = .01$, $\Phi = .01$, $p > .05$

Appendix C Chi-square analysis of the offender type by sex offenders' personal experience with family violence

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Victim of psychological violence at home before 18 years old			
No	31	100	131
Row %	23.7%	76.3%	100.0%
Column %	56.4%	57.1%	57.0%
Yes	24	75	99
Row %	24.2%	75.8%	100.0%
Column %	43.6%	42.9%	43.0%
Total	55	175	230
Row %	23.9%	76.1%	100.0%
$\chi^2(1) = .01, \text{Phi} = .01, p > .05$			
Victim of physical violence at home before 18 years old			
No	30	101	131
Row %	22.9%	77.1%	100.0%
Column %	54.5%	57.7%	57.0%
Yes	25	74	99
Row %	25.3%	74.7%	100.0%
Column %	45.5%	42.3%	43.0%
Total	55	175	230
Row %	23.9%	76.1%	100.0%
$\chi^2(1) = .17, \text{Phi} = .03, p > .05$			
Victim of sexual attack and/or sexual contact(s) at home before 18 years old			
No	53	170	223
Row %	23.8%	76.2%	100.0%
Column %	96.4%	97.1%	97.0%
Yes	2	5	7
Row %	28.6%	71.4%	100.0%
Column %	3.6%	2.9%	3.0%
Total	55	175	230
Row %	23.9%	76.1%	100.0%
$\chi^2(1) = .09, \text{Phi} = .02, p > .05$			

Appendix D Chi-square analysis of the offender type by sex offenders' personal consumption of pornography

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Consumption of pornographic movies and magazines that started at least a year prior to the index offense			
No	11	54	65
Row %	16.9%	83.1%	100.0%
Column %	21.6%	31.2%	29.0%
Yes	40	119	159
Row %	25.2%	74.8%	100.0%
Column %	78.4%	68.8%	71.0%
Total	51	173	224
Row %	22.8%	77.2%	100.0%

$\chi^2(1) = 1.78, \text{Phi} = .09, p > .05$

Appendix E Chi-square analysis of the offender type by sex offenders' personal sexually deviant behaviors and attitudes

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Engaged in compulsive masturbation			
No	34	132	166
Row %	20.5%	79.5%	100.0%
Column %	66.7%	75.9%	73.8%
Yes	17	42	59
Row %	28.8%	71.2%	100.0%
Column %	33.3%	24.1%	26.2%
Total	51	174	225
Row %	22.7%	77.3%	100.0%

$\chi^2(1) = 1.72, \text{Phi} = .09, p > .05$

Appendix F Chi-square analysis of the offender type by sex offenders' victim as an attractive and suitable target

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Distinctive characteristics of the victim that sex offenders looked for			
No	39	78	117
Row %	33.3%	66.7%	100.0%
Column %	75.0%	66.1%	68.8%
Yes	13	40	53
Row %	24.5%	75.5%	100.0%
Column %	25.0%	33.9%	31.2%
Total	52	118	170
Row %	30.6%	69.4%	100.0%

$\chi^2(1) = 1.33$, Phi = .09, $p > .05$

Physical attractiveness of the victim to sex offenders at the time of the offense

No or low level of interest	4	26	30
Row %	13.3%	86.7%	100.0%
Column %	11.8%	16.7%	15.8%
Moderate level of interest	22	80	102
Row %	21.6%	78.4%	100.0%
Column %	64.7%	51.3%	53.7%
High level of interest	8	50	58
Row %	13.8%	86.2%	100.0%
Column %	23.5%	32.1%	30.5%
Total	34	156	190
Row %	17.9%	82.1%	100.0%

$\chi^2(2) = 2.03$, Cramer's $V = .10$, $p > .05$

Appendix F (continued)

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Personality attractiveness of the victim to sex offenders at the time of the offense			
No or low level of interest	3	18	21
Row %	14.3%	85.7%	100.0%
Column %	17.6%	15.1%	15.4%
Moderate level of interest	6	65	71
Row %	8.5%	91.5%	100.0%
Column %	35.3%	54.6%	52.2%
High level of interest	8	36	44
Row %	18.2%	81.8%	100.0%
Column %	47.1%	30.3%	32.4%
Total	17	119	136
Row %	12.5%	87.5%	100.0%

$\chi^2(2) = 2.42$, Cramer's $V = .13$, $p > .05$

Appendix G Chi-square analysis of the offender type by an absence of a capable guardian or guardianship

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Victim as an alcoholic or a drug addict at the time of the attack			
No	28	62	90
Row %	31.1%	68.9%	100.0%
Column %	57.1%	66.0%	62.9%
Yes	21	32	53
Row %	39.6%	60.4%	100.0%
Column %	42.9%	34.0%	37.1%
Total	49	94	143
Row %	34.3%	65.7%	100.0%

$\chi^2(1) = 1.07, \text{Phi} = .09, p > .05$

Sex offenders having probabilities to be arrested or intervened when the offense occurred

Yes	26	83	109
Row %	23.9%	76.1%	100.0%
Column %	47.3%	47.4%	47.4%
No	29	92	121
Row %	24.0%	76.0%	100.0%
Column %	52.7%	52.6%	52.6%
Total	55	175	230
Row %	23.9%	76.1%	100.0%

$\chi^2(1) = .01, \text{Phi} = .01, p > .05$

Appendix H Chi-square analysis of the offender type by sex offenders' pre-crime precipitating factors

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Drug consumption by sex offenders within the hours before the offense			
No	30	109	139
Row %	21.6%	78.4%	100.0%
Column %	54.5%	62.6%	60.7%
Yes	25	65	90
Row %	27.8%	72.2%	100.0%
Column %	45.5%	37.4%	39.3%
Total	55	174	229
Row %	24.0%	76.0%	100.0%
$\chi^2(1) = 1.15, \text{Phi} = .07, p > .05$			
Use of pornographic material by sex offenders within the hours before the offense			
No	53	155	208
Row %	25.5%	74.5%	100.0%
Column %	96.4%	90.6%	92.0%
Yes	2	16	18
Row %	11.1%	88.9%	100.0%
Column %	3.6%	9.4%	8.0%
Total	55	171	226
Row %	24.3%	75.7%	100.0%
$\chi^2(1) = 1.86, \text{Phi} = .09, p > .05$			
Deviant sexual fantasies (featured the victim) within 48 hours before the offense			
No	48	146	194
Row %	24.7%	75.3%	100.0%
Column %	87.3%	86.9%	87.0%
Yes	7	22	29
Row %	24.1%	75.9%	100.0%
Column %	12.7%	13.1%	13.0%
Total	55	168	223
Row %	24.7%	75.3%	100.0%
$\chi^2(1) = .01, \text{Phi} = .01, p > .05$			

Appendix H (continued)

Variables	Offender Type		Total
	Homicidal Sex Offender	Non-homicidal Sex Offender	
Relational/interpersonal problem(s) of sex offenders within 48 hours before the offense			
No	21	84	105
Row %	20.0%	80.0%	100.0%
Column %	40.4%	48.3%	46.5%
Yes	31	90	121
Row %	25.6%	74.4%	100.0%
Column %	59.6%	51.7%	53.5%
Total	52	174	226
Row %	23.0%	77.0%	100.0%

$\chi^2(1) = 1.00, \text{Phi} = .07, p > .05$

Accelerating/precipitating sexual problem(s) of sex offenders within 48 hours before the offense

No	46	142	188
Row %	24.5%	75.5%	100.0%
Column %	88.5%	82.1%	83.6%
Yes	6	31	37
Row %	16.2%	83.8%	100.0%
Column %	11.5%	17.9%	16.4%
Total	52	173	225
Row %	23.1%	76.9%	100.0%

$\chi^2(1) = 1.19, \text{Phi} = .07, p > .05$

About the Author

Heng Choon (Oliver) Chan received his Bachelor's Degree in Psychology from Bemidji State University in Minnesota in 2003 and earned a Master's Degree in Forensic Psychology from Marymount University in Virginia in 2005. As part of his Master's program, he interned at the Washington D.C. Metropolitan Police Department's (MPDC) Violent Crime Case Review Project. Upon his internship completion, he was employed as one of the MPDC Homicide Case Review Unit's first two FBI's Violent Criminal Apprehension Program (ViCAP) analysts.

Mr. Chan entered the Ph.D. program in Criminology at the University of South Florida in Fall 2007 with the Asian Criminology Scholarship award. Upon completing his doctoral course work, Mr. Chan departed for Hong Kong to complete his remaining doctoral requirements via distance education. In 2009, he received an Adjunct Instructor appointment in the Department of Criminology. While in Hong Kong, he was previously employed by City University of Hong Kong and currently by the University of Hong Kong as a criminology researcher and lecturer.

Mr. Chan's research interests focus on sexual homicide, offender profiling, sex offending, homicide, stalking behavior, and criminological issues related to the Asian population. He has published widely on these topics, especially in the area of sexual homicide. As of April 2012, he has co-authored 17 peer-reviewed journal articles and 2 book chapters, and has presented in numerous international, regional, and local academic conferences. His work appeared in, among others, *Trauma, Violence, and Abuse, Homicide Studies, Behavioral Sciences and the Law, Crime and*

*Delinquency, Journal of Forensic Sciences, International Journal of Offender
Therapy and Comparative Criminology, Feminist Criminology, and Journal of
Investigative Psychology and Offender Profiling.*