When is a murder a sexual murder? Understanding the sexual element in the

classification of sexual killings

Manuscript in press

Journal of Criminal Justice

Abstract

Purpose: This paper considered the different ways the sexual element and the act of killing could be connected in sexual homicide cases by assigning each case as belonging to either directly or indirectly related groups.

Methods: A total of 350 non-serial male sexual killers of females aged 14 years or over, who had been convicted and served a custodial sentence within UK Prison Service, were included in the study. The cases were assigned as belonging to either the direct (the sexual aspect and killing were closely connected) or indirect (the killing was not a source of sexual stimulation) group. Once classified, logistic regressions explored the factors related to the criminal events of the two perpetrator groups.

Results: The results noted predictors that could effectively differentiate between the indirect and the direct cases. The presence of two of Ressler et al.'s (1988) criteria lowered the odds of the case being classed as indirect.

Conclusions: The paper argues that the direct sexual killer is the 'true' sexual killer. This is because for these perpetrators the sexual element and the act of killing were integral in the criminal event, and thus the killing at some point provided a source of sexual stimulation.

KEY WORDS: sexual killers; classification; sadism; anger.

Introduction

"The difference between homicide and assault may simply be the intervention of a bystander, the accuracy of a gun, the weight of a frying pan, the speed of an ambulance or the availability of a trauma centre" (Gottfredson & Hirshi, 1990, p. 34).

In the absence of disclosure from the perpetrator, the over-riding issue in possible sexual homicide is to reliably classify killings as sexual (Carter, Hollin, Stefanska, Higgs, & Bloomfield, 2016). Currently, in research, the most widely used definition of sexual homicide is that proposed by Ressler, Burgess and Douglas (1988). It relies entirely on physical evidence readily available at the crime scene or obtained during the investigation and requires at least one of the criteria to be met: (a) victim lacks clothing (b) exposure of the sexual parts of the victim's body, (c) the body is found in a sexually explicit position, (d) an object has been inserted into a victim's body cavity (anus, vagina, or mouth), (e) there is evidence of sexual intercourse, (f) there is evidence of substitutive sexual activity (e.g., masturbation and ejaculation at the crime scene), or of sadistic sexual fantasies (e.g., genital mutilation). A study by Carter et al. (2016) showed that using the Ressler et al. (1988) definition of sexual homicide with non-serial killers is useful when attempting to identify the likelihood of a sexual element to the murder. However, in some cases the forensic evidence of sexual contact might be misleading, suggesting that the murder should be assessed as a sexually-related homicide, even though the killing occurred following consensual sexual activity (Clarke & Carter, 2000). Therefore, a thorough case formulation should not only focus on the motivation behind the killing but also it should place the offence within a situational context by examining the way the sexual element was related to the killing within the criminal event (Carter & Hollin, 2014).

When turning to the question of motivation, while killing in pursuit of sadistic pleasure is commonly noted in sexual homicide, it is not a feature of all cases. In classification studies, apart from the sadistic type, the angry sexual killers have also been consistently identified (Proulx, 2008) and some studies additionally describe a sexually motivated perpetrator. Clinical, statistical, and theory-led approaches have been used to examine prototypical characteristics of perpetrators differentiated by their motivation to sexually kill. Various aspects such as development, personality traits, crime situational factors and *modus operandi* have been considered depending on whether the focus of investigation was theoretical advancement, treatment or criminal profiling (Kerr, Beech & Murphy, 2013).

Differences between sexual killers and other sexual offenders

In order to understand what discriminates lethal from non-lethal sexual assault, and whether sexual killers represent a distinct group of sexual perpetrators, research also compared sexual killers with sexual aggressors (specifically perpetrators of rape or attempted rape). Overall the groups appeared to have more similarities than differences (Stefanska, Beech & Carter, 2016). More recently, Beauregard and Martineau (2016) also added violent non-homicidal sexual offenders (i.e. those who inflicted physical injuries that go beyond forced sex) as a comparison group. The overall picture suggested that the main differences could be found between the violent non-homicidal sexual offenders and the sexual aggressors. While the former group of offenders resembled antisocial perpetrators who had a diverse criminal career and proclivity for violence, the latter group fitted a general description of a "traditional" sex offender who was mainly preoccupied with sex. Interestingly, sexual murderers shared characteristics of both groups and appeared to combine both deviant sexuality and antisociality.

Types of sexual killers

To expand on this, for the sadistic sexual killers, the offence appeared to be a result of sexual excitement to sadistic fantasies reinforced by the use of pornography and compulsive masturbation. Accordingly, in most cases, their crime was planned, the victim was selected on the basis of specific criteria and a con strategy was used when the perpetrator first came in to contact with the victim. These offenders were more likely to exert control over their victim with the use of restraints. Victims might have been kidnapped, confined for long periods, humiliated and tortured. Incidences of post-mortem sexual interference, post-mortem mutilation as well as ritualistic elements (e.g. combing hair) and bizarre crime behaviour (e.g., cannibalism or positioning of a body) were also noted (Beauregard & Proulx, 2002; Beauregard, Proulx, & St-Yves, 2007; Beech, Fisher, & Ward, 2005; Clarke & Carter, 2000; Kocsis, 1999; Meloy, 2000; Stefanska, Carter, Higgs, Bishopp & Beech, 2015). The unusual acts during the crime event are likely to represent enactment of a deviant fantasy (Ressler et al., 1988). In fact, a recent study by Higgs, Carter, Stefanska and Glorney (2016) found that a similar number of sexual aggressors and sexual killers engaged in unusual acts when offending but the psychological function of behaviours seemed different. Overall, sexual aggressors were less ritualistic and tended to include acts such as attempting to engage the victim in conversation and offering to escort them home. In the post-crime phase, these offenders were more likely to destroy or remove incriminating evidence, clean the scene and conceal the victim's body (e.g., Beauregard & Proulx, 2002; Beauregard, Proulx, & St-Yves, 2007; Beech et al., 2005; Clarke & Carter, 2000; Kocsis, 1999; Meloy, 2000; Stefanska et al., 2015).

In contrast, the offence of the angry sexual killer tended to be triggered by something that a victim said or did which resulted in a violent attack with evidence of 'overkill' often being

present. The spontaneity of the offence was reflected in the crime scene as the victim was not preselected and the killing was unplanned. As such, items enabling the perpetrator to facilitate the crime were absent and the weapon was often picked up at the crime scene. There was some evidence of post-mortem interference and post-mortem mutilation; although on average the prevalence of such incidents was lower than in the sadistic group. The crime scene was generally left uncleaned and the body was not moved (e.g.; Beauregard & Proulx, 2002; Beauregard et al., 2007; Beech et al., 2005; Clarke & Carter, 2000; Kocsis, 1999; Meloy, 2000; Stefanska et al., 2015).

For the sexually motivated killer, the main objective was sexual assault. While the offence might have been planned, victim selected and offence driven by prior fantasies, the offence was not characterised by post-mortem sexual interference, post-mortem mutilation or ritualistic behaviour. The killing appeared to be carried out either to silence the victim or to avoid detection (Beech et al., 2005; Clarke & Carter, 2000; Kocsis, 1999; Stefanska et al., 2015).

Sexually motivated sexual killers

Proulx (2008) considered identification of sexually motivated perpetrators problematic. Given that as a group they appear to be characterised by an absence rather than a presence of features (e.g., lack of post-mortem sexual interference or overkill) but at the same time they might share certain crime scene aspects with the other two groups (e.g., premeditation), they could be confused with either the sadistic or the angry type (Stefanska et al., 2015). Thus, considering whether or not the sexual aspect and the killing were closely bound could sometimes help in understanding the context in which the sexual element occurred (Carter & Hollin, 2014). For example, premeditation or victim selection seems to be a shared feature of

both sexually driven and sadistic perpetrators. However, contrary to the sadistic type, for the sexually driven perpetrator killing plays an instrumental role with no evidence suggesting that the act of murder was sexually gratifying (Stefanska et al., 2015).

Indeed, the instrumental killing in the sexually driven group makes these perpetrators more akin to non-homicide sexual aggressors. The offence itself could be understood as evolving in the context of victim-aggressor dynamic (Polaschek & Hudson, 2004) fitting the continuum conceptualization of sexual aggression (i.e., that rape and sexual killing should be viewed as occurring at extreme ends of a single continuum with the level of violence distinguishing between the types of offence, Oliver et al., 2007; Proulx et al., 2007; Salfati & Taylor, 2006).

Anger as a motivator

Anger as a motivational drive in the typology of sexual killers has been questioned due to the unclear connection between the perpetrator's mood and the sexual component of the offence (Myers, Husted, Safarik, & O'Toole, 2006). At a physiological level, Myers et al. (2006) argued that sexual arousal and anger are negatively related because a fit of rage would inhibit the ability to sustain an erection (details of these physiological mechanisms are beyond the scope of this paper, see Myers et al., 2006 for details). Although the authors acknowledge that some men find subjecting another person to pain and even killing erotic such cases should be considered to represent sexual sadism regardless of whether anger initially played a part in the offence (Myers et al., 2006).

Carter and Hollin (2014) further argued that capturing anger as a motivation in sexual killings describes a characteristic of the perpetrator but does not adequately explain the way the sexual element and the killing were related. In contrast to sadistic offences, where the act of killing and sexual excitement were closely bound, and in contrast to instrumental killings, where the murder was not a source of sexual stimulation, the sexual aspect in an angry perpetrator is not addressed.

Considering the sexual element when classifying sexual killers

Although the Ressler et al. (1988) definition can be useful when identifying the likelihood of a sexual element to the murder (Carter et al., 2016), in some cases, the forensic evidence of sexual contact might be misleading for example if the killing occurred following consensual sexual activity (Clarke & Carter, 2000). As such, when classifying sexual killing, Carter and Hollin (2014) suggested placing the offence within a situational context by considering the different ways the killing and sex can be related within the criminal event. The authors further noted that the killing and the sexual element could be directly or indirectly related. Direct cases are defined as those where,

> "the killing is integral to the perpetrator's pursuit of sexual gratification and the sexual aspect of the offence can be demonstrably connected to the death: Such cases include those where the act of killing is itself sexually gratifying, or where the purpose is to enable sexual acts to be carried out with the victim's body. In indirect attachment the killing is not a source of stimulation, rather the offence occurs in a sexual context: The context may be the elimination of a victim, and hence witness, of a sexual assault, or where the victim is killed as they try to escape from a sexual attack" (p. 287).

While the sadistic aggressor represents a direct killing, murder for instrumental reasons makes the killing indirect. In the case of angry perpetrators, as a group they appear to be comprised of both direct and indirect cases (Stefanska et al., 2015). Carter and Hollin (2014) described cases with a mixture of direct and indirect types when for example "the victim dies while trying to escape and the perpetrator carries out a sexual assault after death" (p. 287). However, following Myers et al.'s (2006) premise, cases where sexual excitement and the act of killing were linked should be considered as driven by sadism regardless of whether anger initially motivated the offence. In a similar vein, it could be argued that once there is evidence of the direct link, the offence should be regarded as direct regardless of whether it was initially indirect. Thus, offences where there is evidence of sexual excitement to the act of killing or the perpetrator had sex with a dying or dead victim (and thus manages an erection knowing he had just killed) should be considered direct.

Thus, the research suggests that for sexual killers belonging to the sadistic group, the act of killing is integral to the sexual element of the offence, and these arguably most closely represent 'true' cases of sexual killing. For the perpetrators murdering for instrumental reasons (e.g. to eliminate the witness) the act of killing and the sexual element are not closely bound and these offenders might be more aligned to non-homicidal sexual aggressors (namely perpetrators of rape and/or attempted rape). More specifically, it could be possible that the perpetrators murdering for instrumental reasons would actually be most similar to violent non-homicidal sexual offenders (Beauregard & Martineau, 2016). Perpetrators driven to kill due to anger appear to include a mixture of cases, with either a close association or not. That is, cases where the act of killing and the sexual aspect are not related could be more aligned to non-sexual homicides (Carter et al., 2016) whereas cases where there is evidence

of sexual excitement at the time or following the killing should be viewed as closely bound even if the murder was initially driven by anger.

Current study

Carter and Hollin (2014) postulated that in order to adequately capture the sexual aspect within the criminal event of sexual killers, it would perhaps be advantageous to consider the different ways the killing and sex can be related within the criminal event when classifying sexual killers. This was the aim of the current study. As such, the cases in the current research were classified as either direct or indirect and following this, various factors related to the criminal events of the two groups were explored. Specifically, the research aimed to explore:

1) Whether there are any specific situational and MO factors that can predict the membership of the indirect and the direct group

2) Whether the Ressler criteria for sexual murder can predict membership of the indirect and the direct group

Method

Sample

The sample was comprised of non-serial sexual killers, who had female victims aged 14 years[1] or above, who served a custodial sentence for murder or manslaughter within HM Prison Service in England and Wales, UK. Non-serial homicide was defined as killing of one

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[1] The age of the victim was set at 14 years old in order to offer consistency with previous research (Carter & Hollin, 2010; Stefanska et al., 2015).

or two victims without an emotional cool-off period (i.e. two victims killed at the same time or within a period indicative of a single event, Proulx et al., 2007). This was applied as research suggests that serial offenders appear to differ in important ways from non-serial offenders (Carter & Hollin, 2010; James & Proulx, 2014; Proulx et al., 2007). The criteria for sexual homicide was in line with the National Offender Management Service, OASys research database and included offences where a sexual element and/or a sexual motivation for the murder was evidenced, suspected or admitted. The search identified 916 offenders who were then checked against the Public Protection Unit Database (PPUD) for availability of Lifer files. Where electronic files were not available, physical files were requested from the File Registry Office, leaving a final sample size of 350 cases.

The perpetrators' age at the time of offence ranged from 18 to 59 years with an average age of 28.33 (SD 8.79) whereas victims' ages ranged from 14 to 94 with a mean of 33.88 (SD 19.97). The majority (89.4%) of offenders were white, 44% were unemployed while 38.3% were in full-time employment. Most of the offences in the sample occurred in the 1990's, 1980's and 2000's.

Procedure

Information was gathered from the electronic or physical lifer files. These varied in content but typically consisted of pre-sentence reports, the offender's police interrogation files, sentencing remarks and offence summaries as well as various reports written post-sentence. The variables were coded as either absent or present (0 = no, 1 = yes) for each offender in the sample. The Sexual Sadism Scale (SeSaS; Nitschke et al., 2009) was additionally scored for each case. Two raters blind-coded ten percent of the same cases in order to establish inter-rater reliability of the framework, and the strength of agreement was excellent (Fliess criteria, 1981) (Cohen's Kappa = .91). The agreement on the classification into direct and indirect

groups was good (Cohen's Kappa = .74) and the agreement on the total score for part 1 of the SeSaS was found to be excellent (ICC = .89).

A top-down approach (i.e. a deductive approach that uses the assumptions driven from theory; Goddard & Melville, 2004) was used with the aim of assigning each case as belonging to either direct or indirect group. This decision was based on the evidence accepted by the court at trial and available in the lifer's files. In general, three different types of evidence were available; 1) disclosure from the perpetrator; 2) forensic evidence; 3) judge's remarks summarising the evidence accepted (Table 1. See also Stefanska & Higgs, accepted for publication, for further details).

The categories of indirect and direct groups were based on the definitions provided by Carter and Hollin (2014). In indirect attachment the authors noted that "the killing is not a source of stimulation, rather the offence occurs in a sexual context" (p. 287) and three typical scenarios were apparent: 1) victim is killed in order to eliminate the witness (48 cases, 27.3%); 2) victim killed trying to escape a sexual assault (97 cases, 55.1%); 3) there was no sexual violence but killing occurred in a sexual context (31 cases, 17.6%). In total, 174 cases were classed as belonging to the indirect group. The direct cases were defined as those where, "the killing is integral to the perpetrator's pursuit of sexual gratification and the sexual aspect of the offence can be demonstrably connected to the death (p. 287) and included two typical scenarios where the evidence indicated that: 1) the act of killing was itself sexually gratifying (82 cases, 47.1%) or 2) the purpose was to enable sexual acts to be carried out with the victim's body (37 cases, 21.3%). Of note is the fact that according to Aggrawal's (2009) classification, the second scenario of the direct cases included both homicidal and opportunistic necrophiles.

Homicidal necrophiles are those who kill in order to have sex with the corpse whereas opportunistic necrophiles are satisfied with having sex with the living and would generally not think of having intercourse with a corpse. They would, however, if the opportunity arose. This means that opportunistic necrophiles in this group did not kill specifically for the purpose of sexual intercourse but were included on the basis that at some point during or after the killing they became sexually aroused and gained sexual gratification from performing sexual acts with the victim's body.

When a case could not be classified as belonging to either of the two groups (55 cases), it was assigned to the third group of cases where a 'decision about the group could not be reached'. It should be highlighted that cases where the perpetrator appeared to deviate from an indirect to a direct pattern were not included here. Instead, once there was evidence of a direct link, the offence was regarded as direct regardless of whether it initially started as indirect (Myers et al., 2006). Rather, this group included cases where either the indirect or the direct hypothesis of the events could apply but (often in light of perpetrator's denial) a decision about which hypothesis was more likely could not be reached. However, given that at this stage the research is exploratory, these cases were included as direct in the analysis based on the fact that there was a possibility of a direct link. Although as a result, a certain degree of 'noise' was expected, this ensured that all of the possible cases were included in the direct group. As a result, in total, 174 cases were classed as belonging to the direct group.

INSERT TABLE 1 ABOUT HERE

Analytical strategy

The binominal logistic regression technique was employed to explore the indirect and the direct types of sexual killers as "it identifies patterns of variables which can effectively differentiate between the members of two different categories. That is, binominal logistic regression predicts category membership..." (Howitt & Cramer, 2005, p.219). Logistic regression has the capacity to analyse a mix of dichotomous and continuous predictors. The analysis assumes an absence of multicollinearity among independent variables, an absence of outliers, and an appropriate ratio of independent variables to the number of cases (Tabachnick & Fidell, 2014). The guidance on the sample size required to carry out a meaningful logistic regression ranges from 10 to 15 cases for each predictor variable studied (Field, 2009). The number of variables that can be entered into the models is based on a formula cited in Harrell, Lee, and Mark (1996) which states that the number of predictor variables that can be entered into the model is m/10, where m is the number of people in the less-frequent outcome category. Multicollinearity was assessed by the variance of inflation (VIF) and the tolerance (T) statistic.

The forced entry method was used so that all predictors were placed into the regression model in one block (Field, 2009). Before the analysis of Question 1, the relationship between each independent variable against the dependent variable was assessed using Chi-square tests or Independent t-tests. Only the factors identified as significant ($p < .05$) in distinguishing the indirect from the direct cases were chosen for logistic regression. The variables used in the study were chosen based on previous research looking at situational and *modus operandi* factors in sexual homicide (e.g. Beauregard & Leclerc, 2007; Chéné & Cusson, 2007; Reid & Beauregard, 2015). A list of the variables used in this study can be found in Appendinx 1. Post mortem sexual activity was excluded from the modelling analysis given that the variable

is captured in the definition of direct cases. For Question 2, all of the Ressler criteria were entered.

Results

Tests of Question 1:

A logistic regression was carried out to determine whether situational factors and MO for which there was a significant association with either the indirect (1) or the direct (0) link can predict the membership of these groups. All of the predictor variables were binary, coded as either present (1) or absent (0), except for SeSaS score (ranging from 0 to 11). Multicollinearity was checked for all variables included in the analysis. The variance of inflation (VIF) ranged from 1.063 to 1.480, and the tolerance statistics (T) were between 0.676 - 0.941 indicating a low likelihood of issues relating to multicollinearity affecting the regression model (Field, 2009).

The variables produced a good model fit (i.e. discrimination between the outcome groups) as measured by the Hosmer and Lemeshow Test. The correct classification of cases overall was 80.3% and it was better for the indirect cases (85.2%) than the direct cases (75.3%). Table 2 shows how the predictor variables contributed to the model, along with the Wald and Exp (B) statistics for these variables. As shown, six variables: (1) encounter scene was different than the crime scene i.e. the killing site, (2) victim was a stranger, (3) crime phase anger, (4) victim died of beating, (5) unusual crime scene, and (6) SeSaS score made a statistically significant predictive contribution. This means that for sexual killers categorised as indirect the odds of meeting the victim at a place different from the crime scene were 2.01 times the odds of

encounter and the crime scene being the same. The odds of attacking a stranger victim were 2.55 times the odds of the victim being known. The odds of the perpetrator becoming angry during the attack were 2.46 the odds of not being angry. The odds of victim dying of beating were 2.70 the odds of not dying of beating. On the other hand, unusual crime scene behaviours decreased the odds of being classed as indirect and this variable in indirect cases was 12.5 times less than the odds in the direct cases (OR = .08). A decrease in a SeSaS score increased the odds of a case being classed as indirect by a factor of 2.63 (OR = .38).

INSERT TABLE 2 ABOUT HERE

Tests of Question 2:

A logistic regression was carried out to determine whether the Ressler criteria for sexual murder predicts membership of the indirect (1) or the direct (0) group. The research suggests that although the Ressler et al. (1988) definition can be useful when identifying the possibility of the murder being sexual (Carter et al., 2016), in some cases, the forensic evidence of sexual contact might be misleading, for example if the killing occurred following consensual sexual activity (Clarke & Carter, 2000). Such cases were apparent in the indirect group, therefore the Ressler et al. (1988) criteria were expected to be more predictive of the direct cases. All of the predictor variables were binary, coded as either present (1) or absent (0). Multicollinearity was checked for all variables included in the analysis. The variance of inflation (VIF) ranged from 1.017 to 1.570, and the tolerance statistics (T) were between 0.637 - 0.983 indicating a low likelihood of issues relating to multicollinearity affecting the regression model (Field, 2009).

INSERT TABLE 3 ABOUT HERE

The variables produced a satisfactory model fit (i.e. discrimination between the outcome groups) as measured by the Hosmer and Lemeshow Test. The correct classification of cases overall was 69.1% and it was better for the indirect cases (89.8%) as compared with the direct cases (48.3%). Table 3 shows how the predictor variables contributed to the model, along with the Wald and Exp (B) statistics for these variables. As shown, two Ressler criteria: (1) object insertion and (2) substitute sexual activity/sadistic fantasy made a statistically significant predictive contribution although both variables decreased the odds of being classed as indirect. Specifically, the odds of object insertion for indirect perpetrators were 11 times less than the odds of object insertion in the direct group (OR = .09). The odds of substitute activity or sadistic fantasy for indirect group were eight times less than the odds of this Ressler's criterion in the direct group (OR = .12).

INSERT TABLE 4 ABOUT HERE

Discussion

The current classification system of sexual homicide does not adequately capture the sexual aspect within the criminal event. When considering the different scenarios of sexual homicide cases, it becomes clear that while some perpetrators kill for sexual reasons, others do not. For example, for some the motive to kill is pragmatic such as to eliminate the only witness to the crime. For others, killing is a violent response to a given situation, either because the victim resisted a sexual assault or because the perpetrator became enraged due to rejection or during

an argument. However, even in such cases physical violence may precede the sexual assault raising the possibility that the killing was a source of sexual stimulation.

This research took into account the different ways the sexual element and the act of killing could be connected, and classified cases as either directly or indirectly related. The basis for the categories of the indirect and the direct groups were built on the definitions provided by Carter and Hollin (2014). In the indirect attachment, killing was not a source of sexual stimulation. It included scenarios where the victim was killed in order to be eliminated as a witness, when resisting a sexual assault, or there was no sexual violence but the killing occurred in a sexual context. In the direct attachment, the sexual aspect of the offence was closely connected to the death. It included scenarios where the act of killing was itself sexually gratifying or the purpose was to enable sexual acts to be carried out with the victim's body (although opportunistic necrophiles who did not kill specifically for the purpose of sexual intercourse but nonetheless gained sexual gratification from performing sexual acts with the corpse [Aggrawal, 2009] were also recorded here).

Predicting the membership of the indirect and the direct group from the crime scene factors

The analysis of the profiles of the crimes committed by sexual killers in this study indicated that certain predictors can effectively differentiate between the indirect and the direct cases. Specifically, for the indirect perpetrators the odds of meeting their victim in a place different from the crime scene and becoming angry during the criminal event were higher than for the direct perpetrators. The victims of the indirect perpetrators had greater odds of being a stranger and to die due to injuries sustained through a beating. On the contrary, the presence of unusual crime scene behaviours (such as leaving a note at the crime scene, defecating at

crime scene, arranging victim's body into a sexually provocative position or more ritualistic behaviours for example cannibalism, piquerism) decreased the odds of the case being classed as indirect. Additionally, the higher the SeSaS score the lower the odds of being an indirect sexual killer.

The approach taken in this study permitted exploration of the way the sexual element was connected to the act of killing. However, it also made it difficult to compare the results obtained with the results obtained in other studies. Research exploring escalation of sexual assaults to a fatal outcome compares violent sexual assaults that ended in the death of the victim with those that did not (e.g. Chéné & Cusson, 2007; Mieczkowski & Beauregard, 2010; Reid & Beauregard, 2015; Salfati & Taylor, 2006; see Chan & Heide, 2016; Stefanska et al., 2016 for reviews). However, much like comparison studies of sexual killers and sexual aggressors, all sexual killers tend to be amalgamated in a single group without acknowledging the different types of the sexual killer or the different roles that the killing could play in relation to the sexual behaviour (Stefanska et al., 2016).

Nevertheless, based on previous research a conceptualisation of the current findings could be offered. The indirect perpetrators had greater odds of encountering their victim at a place different from the crime scene. Yet these perpetrators did not differ from the direct cases in how they approached their victim suggesting a mixture of two most likely scenarios: either the victim was conned (a likely scenario of the sexually driven sexual killers; Stefanska et al., 2015) or the perpetrator and the victim met in a consensual situation (a likely scenario of the anger/grievance driven perpetrators; Stefanska et al., 2015). The greater odds of the victim dying from blunt force trauma might imply that many angry perpetrators have been classed in the indirect group (Beech et al., 2005). Additional higher odds of crime-phase anger might

further point to angry perpetrators in the indirect group, although this is not necessarily the case as research exploring crime-scene criteria show that pre-crime anger tends to be a feature of the angry sexual killers (Beauregard & Proulx, 2002) and is positively correlated with a fatal outcome of the offence (Beauregard et al., 2007).

Chéné and Cusson (2007) noted that escalation from sexual assault to murder is first guided by intentional followed by situational factors. The high odds of crime-phase anger could highlight the importance of situational factors in this group when the original intention of the perpetrator (rape or consensual sex) altered. Certain types of victim's resistance for example were marked as crucial when considering the crime event of a sexual assault. While physical resistance and forceful verbal resistance seemed to effectively aid in avoiding rape (Ullman, 2007), physical resistance also increased the chances that the perpetrator was violent during the attack (e.g. Balemba, Beauregard, & Mieczkowski, 2012). Both physical and verbal resistance increased lethality of a sexual assault if the perpetrator had a weapon, however physical resistance increased the likelihood of the victim's death even when no weapon was present (Reid & Beauregard, 2015). In line with this, research considering the rational choice approach showed that during their decision-making process sexual offenders who used force did so mainly because of victim's resistance (Beauregard & Leclerc, 2007). Even though these studies did not look into the victim-offender relationship, research examining escalation from a sexual assault to a murder showed that severity of the attack and a fatal outcome was less likely if the victim was known (Chéné & Cusson, 2007). Increased probability of a fatal outcome if the victim was a stranger has also been reported by Mieczkowski and Beauregard (2012) as well as Mieczkowski and Beauregard (2010). Thus, it is possible that under situational circumstances that the perpetrator did not anticipate, a stranger victim is more

vulnerable to a physical attack. This could account for the greater odds of stranger victims being found in the indirect group in the present study.

On the contrary, the results indicated that the presence of unusual crime scene behaviours decreased the odds of the case being classed as indirect. A study by Higgs et al. (2016) found that a similar number of sexual aggressors and sexual killers engaged in unusual acts during the crime event but the psychological function of behaviours seemed different. Sexual aggressors were less ritualistic and tended to include acts such as attempting to engage the victim in conversation and offering to escort them home, albeit behaviours that were mainly known from the victim's statements. The current study use the same definition of "unusual crime scene behaviours" as the study by Higgs et al. (2016) i.e. it aimed to capture all unusual behaviours not necessarily ritualistic in nature. However, without witness statements it is possible that apart from a few (e.g. leaving a note at the crime scene, defecating at crime scene), more ritualistic acts were in fact captured. Bizarre acts are likely to represent enactment of a deviant fantasy (Ressler et al., 1988) accounting for this feature being representative of the direct group. Furthermore, the current study found that the higher the SeSaS score the lower the odds of being an indirect sexual killer and this perhaps is not surprising, given that items of the scale for crime scene factors aim to assess sexual sadism, which is yet again related to the enactment of a deviant fantasy (Nitschke et al., 2009).

Even though the correct classification of cases was good (80.3%), it was better for the indirect cases (85.2%) than the direct cases (75.3%). This is possibly due to an inclusion in the direct group of cases where either direct or the indirect hypothesis of the events could be valid but a decision about which is more likely could not be reached. As such, a certain degree of 'noise' was expected and indeed has probably been reflected in the results.

Exploring whether Ressler criteria can predict the membership of the indirect or the direct group

The only research testing the hypothesis that the majority of sexual homicide cases can be captured using the Ressler et al. (1988) definition is a study by Carter et al. (2016). By ensuring a high degree of certainty that a sexual element was associated with the killing in their sexual homicide sample, the authors examined whether these were the same characteristics highlighted by Ressler et al. Exposure of the lower half of the victim's body and evidence of sexual acts were found to be the most pronounced indicators of a sexual element thereby finding support for the usefulness of adapting the Ressler et al. definition. However, the authors noted that while the sexual element was captured, the criteria did not seem to allow for distinguishing between cases where the sexual element represented a salient factor in forensic case formulation and cases where the sexual act and the killing were not closely bound.

Such difficulties became apparent in the methodology of the current study where the indirect category included killings where the sexual encounter was, in fact, consensual. Despite the fact that the violence was not sexual in its nature, cases were categorised as sexual homicide because of forensic evidence (e.g. victim was found naked or there was evidence of a sexual contact). As such, based on this physical evidence, the case would meet one of the Ressler et al. (1988) criteria. The results highlighted further difficulties. Out of six criteria, object insertion and substitute sexual activity/sadistic fantasy made a significant predictive contribution. A presence of either variable lowered the odds of the case being classed as indirect. However, although the classification for the indirect cases was 89.8% correct, the

classification for the direct cases (those where sexual element and the killing are closely associated) was very poor at 48.3%. All in all, this raises a possibility that Ressler et al. criteria are overly inclusive amalgamating various cases, direct and indirect some of which might not even represent sexual homicide cases. However, it could be that there are alternative explanations as to why the Ressler el al. criteria are not useful in guiding direct/indirect classification (for example that using such classification is difficult at a practical level). Unfortunately, no other studies examined a possible relationship between the Ressler et al criteria and the sub-types of sexual murderers (even those distinguished on the basis of the motivation to kill e.g. sadistic or angry types). Further, although the Ressler et al criteria are the most widely used definition of sexual homicide, recently Chan (2015) proposed new definitional criteria, which apart from the physical evidence available from the crime scene, also include other relevant indicators. The authors proposed that in order for the homicide to be classified as sexual, at least one of the criteria 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 offence that intentionally or unintentionally results in a homicide, or (d) an indication of sexual element (s) of the crime from the offender's personal belongings (e.g., home computer and journal entries)" (p. 7).

The research exploring whether these criteria would be better at predicting the membership of the indirect and the direct group (as well as the sadistic/angry classification) could possibly answer this question. Thus, it appears that more research is needed in that area.

Limitations

The categories of the indirect and the direct groups which were the subject of examination in this study were based on the definitions provided by Carter and Hollin (2014). A top-down approach was used with the aim of assigning each case as belonging to either group and this decision was based on the evidence accepted by the court at trial and available in the lifer's files. Although using evidence accepted at trial ensured consistency when the homicides were categorised, it is possible that in some cases that decision would be different due to additional information that came to light after the trial.

A further limitation of this study was in the inconsistent content of the official documentation of each homicide case. While some files included robust information, in others some hypotheses remained unanswered as the evidence was not conclusive. Where there was a discrepancy between the trial or the police information and the reports written post-sentence (with information often provided by the perpetrator) the study used the former statements. Additionally, the case files included reports which were written by various professionals whose focus would differ depending on their role in the case. In practice however, clinicians also need to overcome a similar problem and are likely to be restricted by incomplete access to reports, particularly police and trial reports. Thus, this study was able to bring together a range of sources rarely available to clinicians and as such it was able to improve the reliability of information through corroboration across sources.

Implications

Who is the 'true' sexual killer? We argue that this is the direct sexual killer, for whom the sexual element and the act of killing were integral, and thus the killing at some point (either

pre or post) provided a source of sexual stimulation. Indeed, if the perpetrator deviated from the indirect to the direct pattern they also ought to be regarded as direct since the association between sexual activity and murder became integral. By making such a distinction we do not imply that the indirect sexual killers are somehow less dangerous or less culpable of the murder since they tended to kill under the situational circumstances. Rather, we argue that, if sexual homicide should be regarded as a distinct type of sexual offence, this requires that direct perpetrators should be distinguished and examined separately.

Of course, differentiating sexual homicides where the sexual element was integral to the killing from homicides where the sexual element was not closely related might not always be a straightforward task. It appears that the crime scene indicators could guide both the clinicians and the researchers in making such distinctions, although at a practical level, the differences between the direct/indirect looked at in this research and the sadistic/angry types found by Beauregard and Proulx (2002) should be considered in more depth.

Indeed, recently Beauregard and Martineau (2016) argued that although distinguishing the 'true' sexual murderer is interesting at a theoretical level, it is not productive in practice because these perpetrators are identified based on their actions at the crime scene and not their motivation. To clarify, the direct/indirect classification does exactly that. Unlike the sadistic/angry classification, which explains the motivation for the killing, the direct/indirect classification aims to consider the relationship between the sexual element and the act of killing by examining the behaviours within the criminal event. Beauregard and Martineau (2016) further state that sexual killers are a diverse population of perpetrators and that there would not be only one 'real' type of sexual murderer. Our results are concordant, as the direct group comprised of variety of different offenders. Some were more sadistic and some quickly

killed their victim in order to carry out the sexual activity after the victim's death. In fact, some offenders killed for the purpose of sexual activity but actually were more opportunistic than others who had planned their offence. Lastly, Beauregard and Martineau (2016) conclude that sexual homicide appears to be a hybrid offence between sexual assault and homicide and is committed by perpetrators who sometimes have and sometimes do not have the intention to kill their victim. Indeed, this is also the finding of the current study, which indicated that even in the direct group some perpetrators were opportunistic (e.g. opportunistic necrophiles). As such, the aim of the current classification is not assessing the motivation for the offending or examining if the killing was intentional or not. Rather, the study concentrates on the crime scene behaviours in accounting for how the two very important factors of that hybrid (the sexual aspect and the killing) were related.

Finally, this study noted that Ressler et al.'s (1988) criteria for sexual homicide might be overly inclusive. Most of the criteria (victim found naked, victim found with genitals exposed, body found in sexually explicit position, evidence of a sexual contact) did not distinguish between the direct and the indirect cases. In some instances, they even led to the inclusion of some of the homicides that did not represent sexual murders e.g. the cases where it was accepted that the sexual encounter was consensual and therefore violence was not sexually driven. However, because the killing occurred within a sexual context (e.g. an argument commenced following consensual sex), the cases were nevertheless categorised as sexual killing because of forensic evidence (e.g. evidence of a sexual contact). These examples ought to be acknowledged given that much of contemporary research uses Ressler et al.'s criteria in order to identify sexual homicide cases. The newly proposed definitional criteria by Chan (2015) go beyond the physical evidence readily available from the crime scene. There appears to be an additional advantage, as instead of concentrating on victim

lacking clothing or having evidence of a sexual intercourse, by definition, the sexual activity is required to be classed as a sexual assault. This would allow for excluding killings where the sexual encounter was, in fact, consensual. However, the study by Carter et al (2016) found that the exposure of the lower half of the victim's body and evidence of sexual acts were the most pronounced indicators of a sexual element. These criteria are not captured in the definition by Chan (2015). Therefore, research testing whether the majority of sexual homicide cases can be captured using the newly proposed definition is required.

References:

Aggrawal, A. (2009). A new classification of necrophilia. *Journal of Forensic & Legal Medicine, 16*(6), 316-320 315p. doi:10.1016/j.jflm.2008.12.023

Balemba, S., Beauregard, E., & Mieczkowski, T. (2012). To resist or not to resist? The effect of context and crime characteristics on sex offenders' reaction to victim resistance. *Crime & Delinquency, 58*(4), 588-611. doi:10.1177/0011128712437914

Beauregard, E., & Leclerc, B. (2007). An application of the rational choice approach to the offending process of sex offenders: A closer look at the decision-making. *Sexual Abuse: Journal of Research and Treatment, 19*(2), 115-133. doi:10.1177/107906320701900204

Beauregard, E., & Martineau, M. (2016). *The Sexual Murderer: Offender behaviour and implications for practice.* Abingdon, UK: Routledge.

Beauregard, E., & Proulx, J. (2002). Profiles in the offending process of nonserial sexual murderers. *International Journal of Offender Therapy and Comparative Criminology, 46*(4), 386-399. doi:10.1177/0306624X02464002

Beauregard, E., Proulx, J., & St-Yves, M. (2007). Angry or sadistic: Two types of sexual murderers. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 123-141). Chichester, UK: John Wiley & Sons.

Beech, A., Fisher, D., & Ward, T. (2005). Sexual murderers' implicit theories. *Journal of Interpersonal Violence, 20*(11), 1366-1389. doi:10.1177/0886260505278712

Carter, A. J., & Hollin, C. R. (2014). Assessment and treatment when sex is attached to a killing: A case study. In D. T. Wilcox, T. Garett, & L. Harkins (Eds.), *Sex Offender Treatment* (pp. 286-304). Chichester, UK: John Wiley & Sons, Ltd.

Carter, A. J., Hollin, C. R., Stefanska, E. B., Higgs, T., & Bloomfield, S. (2016). The use of crime scene and demographic information in the identification of non-serial sexual homicide. *International Journal of Offender Therapy and Comparative Criminology*. Advance online publication. doi:10.1177/0306624X16630313

Chan, H. C. O. (2015). *Understanding Sexual Homicide Offenders: An Integrated Approach.* Basingstoke, UK: Palgrave Macmillan.

Chan, H. C. O., & Heide, K. M. (2016). Sexual homicide offenders distinguished from non-homicidal sexual offenders: A review of the literature. Aggression and Violent Behavior, 31,147-156. doi:10.1016/j.avb.2016.09.002

Chéné, S., & Cusson, M. (2007). Sexual murderers and sexual aggressors: Intention and situation In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 70-86). Chichester, UK: John Wiley & Sons Ltd.

Clarke, J., & Carter, A. J. (2000). Relapse prevention with sexual murderers. In D. R. Laws, S. M. Hudson, & T. Ward (Eds.), *Remaking relapse prevention with sex offenders: A sourcebook* (pp. 389-401). London: Sage Publications.

Field, A. (2009). *Discovering statistics using SPSS*. London, UK: Sage publications.

Fleiss, J. L. (1981). Balanced incomplete block designs for inter-rater reliability studies. *Applied Psychological Measurement, 5*(1), 105-112. doi:10.1177/014662168100500115

Goddard, W. & Melville, S. (2004). *Research methodology: An introduction.* (2nd ed). Landsdowne: Juta & Co., Ltd.

Gottfredson, M. R. & Hirshi, T. (1990). *A generic theory of crime*. California: Stanford University Press.

Higgs, T., Carter, A. J., Stefanska, E. B., & Glorney, E. (2015). Toward identification of the sexual killer: A comparison of sexual killers engaging in post-mortem sexual interference and non-homicide sexual aggressors. *Sexual Abuse: A Journal of Research and Treatment*. Advance online publication. doi:10.1177/1079063215609935

Howitt, D., & Cramer, D. (2005). *An introduction to statistics in psychology*. UK: Prentice Hall.

James, J., & Proulx, J. (2014). A psychological and developmental profile of sexual murderers: A systematic review. *Aggression and Violent Behavior, 19*(5), 592-607. doi:10.1016/j.avb.2014.08.003

Kerr, K. J., Beech, A. R., & Murphy, D. (2013). Sexual homicide: Definition, motivation and comparison with other forms of sexual offending. *Aggression and Violent Behavior, 18*(1), 1-10. doi:10.1016/j.avb.2012.05.006

Kocsis, R. N. (1999). Criminal profiling of crime scene behaviours in Australian sexual murders. *Australian Police Journal, 53*(2), 98-101.

Meloy, J. R. (2000). The nature and dynamics of sexual homicide: An integrative review. *Aggression and Violent Behavior, 5*(1), 1-22. doi:10.1016/S1359-1789(99)00006-3

Mieczkowski, T., & Beauregard, E. (2010). Lethal outcome in sexual assault events: A conjunctive analysis. *Justice Quarterly, 27*(3), 332-361. doi:10.1080/07418820902960105

Mieczkowski, T., & Beauregard, E. (2012). Interactions between disinhibitors in sexual crimes: additive or counteracting effects? *Journal of Crime and Justice, 35*(3), 395-411. doi:10.1080/0735648X.2012.666408

Myers, W. C., Husted, D. S., Safarik, M. E., & O'Toole, M. E. (2006). The motivation behind serial sexual homicide: Is it sex, power, and control, or anger? *Journal of Forensic Sciences, 51*(4), 900-907. doi:10.1111/j.1556-4029.2006.00168.x

Nitschke, J., Osterheider, M., & Mokros, A. (2009). A cumulative scale of severe sexual sadism. *Sexual Abuse: A journal of research and treatment, 21*(3), 262-278. doi:10.1177/1079063209342074

Oliver, C. J., Beech, A. R., Fisher, D., & Beckett, R. (2007). A comparison of rapists and sexual murderers on demographic and selected psychometric measures. *International Journal of Offender Therapy & Comparative Criminology, 51*(3), 298-312. doi:10.1177/0306624X06289157

Polaschek, D. L. L., & Hudson, S. M. (2004). Pathways to rape: Preliminary examination of patterns in the offence processes of rapists and their rehabilitation implications. *Journal of Sexual Aggression, 10*(1), 7-20. doi:10.1080/13552600410001667779

Proulx, J. (2008). Sexual murderers: Theories, assessment and treatment. In A.J.R. Harris, &
C.A. Pagé (Eds.), Sexual homicide and paraphilias: The Correctional Service of
Canada's Experts Forum 2007 (pp. 215–233). Ontario, Canada: Correctional Service
of Canada.

Proulx, J., Cusson, M., & Beauregard, E. (2007). Sexual murder: Definitions, epidemiology
and theories. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual
murderers: A comparative analysis and new perspectives.* (pp. 9-28). Chichester, UK:
John Wiley & Sons Ltd.

Reid, J. A., & Beauregard, E. (2015). A mixed methods exploratory examination of victim
injury and death: Effect of weapon type and victim resistance during sexual assaults
by strangers. *Victims & Offenders*, Advance online publication.
doi:10.1080/15564886.2015.1033580

Ressler, R. K., Burgess, A. W., & Douglas, J. E. (1988). *Sexual homicide: Patterns and
motives*. New York: Lexington.

Salfati, C. G., & Taylor, P. (2006). Differentiating sexual violence: A comparison of sexual
homicide and rape. *Psychology, Crime & Law, 12*(2), 107-125.
doi:10.1080/10683160500036871

Stefanska, E. B., Beech, A. R., & Carter, A. J. (2016). A systematic review of the literature
comparing male non-serial sexual killers and sexual aggressors: Examining
homogeneous and heterogeneous characteristics of these groups. *Journal of Sexual
Aggression*. Advance online publication. doi:10.1080/13552600.20015.1126657

Stefanska, E. B., Carter, A. J., Higgs, T., Bishopp, D., & Beech, A. R. (2015). Offense

pathways of non-serial sexual killers. *Journal of Criminal Justice, 43*(2), 99-107.

doi:10.1016/j.jcrimjus.2015.01.001

Stefanska, E. B. & Higgs, T. (in press). Understanding the sexual element in sexual murder.

In J. Proulx, A. J. Carter, É. Beauregard, A. Mokros, R. Darjee, & J. James (Eds.),

Routledge International Handbook of Sexual Homicide Studies. Abingdon, UK:

Routledge.

Tabachnick, B. G., & Fidell, L. S. (2014). *Using Multivariate Statistics*. London: Pearson

Education.

Ullman, S. E. (2007). A 10-Year update of "Review and critique of empirical studies of rape

avoidance". *Criminal Justice & Behavior, 34*(3), 411-429.

doi:10.1177/0093854806297117

Table 1. *Examples of evidence*

Indirect
Elimination of a witness
"The offence is mitigated to some degree by the lack of pre-meditation as it would appear the killing was precipitated by the victim's reaction to rape… when she threatened to report him for rape…"
Victim killed trying to escape a sexual assault
"This was a violent crime involving sexual motivation. The killing appears to be a spur of the moment and not pre-meditated… It is clear that during the course of the evening both the deceased and the defendant had had a good deal of alcohol to drink... The circumstances of the killing leave me in no doubt that the deceased died defending herself from the sexual assault…"
Not sexual violence but killing occurred in a sexual
"The defendant strangled … [the victim]… A few hours before the killing they had sexual intercourse, after which she stayed at the house where he otherwise lived alone. The killing seems to have been unpremeditated, the result of a spur-of-the-moment loss of temper, according to him because of a belittling comment she made about him."
Direct
Act of killing is itself sexually gratifying
"The assault was obviously pre-planned in that he had rehearsed it in fantasy previously and had then dressed especially for the event and had collected and adapted tools for his use. It was also means of acting out his sadistic sexual fantasies".
Killing enabled the perpetrator to carry out sexual acts with the victim's
"It is clear that at present you are unfit to be at liberty… I accept the evidence that the defendant… hit the victim, put hands to her throat, took off her stocking and strangled her with it and then removed her clothing and proceeded to sexually assault her body… It is clear that she was not alive at this point"
Decision about the group could not be reached
"Over 100 stab wounds and cuts had been inflicted by a knife on her body, some of them after her death, and there was evidence of some strangulation and sexual intercourse…swabs indicated that a considerable quantity of semen was present… [and] that she had not moved after sexual intercourse, which was therefore contemporaneous with or immediately prior to the killing… The defendant denies the killing."

Table 2. *Logistic regression of situational and MO factors for indirect and direct cases*

Predictor	B	S.E.	Wald	Sig.	Exp(B)	95% C.I. for EXP(B)	
						Lower	Upper
Secluded place	.18	.38	.21	.65	1.19	.56	2.53
Encounter different*	.70	.35	4.01	.04	2.01	1.02	4.00
Stranger*	.93	.36	6.94	.01	2.55	1.27	5.10
Victim target	-.38	.37	1.06	.30	.69	.33	1.41
Weapon taken to scene	.02	.38	.01	.95	1.03	.49	2.16
Sexually frustrated	-.22	.51	.19	.67	.80	.29	2.20
Crime phase anger*	.90	.33	7.25	.01	2.46	1.28	4.72
Pornography use	-.63	.41	2.38	.12	.53	.24	1.19
Use of restrains	.40	.39	1.06	.30	1.49	.70	3.16
Interrupted	.84	.51	2.69	.10	2.31	.85	6.31
Vaginal penetration	-.21	.32	.45	.50	.81	.43	1.51
Anal penetration	-.19	.41	.21	.65	.83	.37	1.84
Biting	-.90	.57	2.46	.12	.41	.13	1.25
Victim died of beating*	.99	.40	6.18	.01	2.70	1.23	5.90
Unusual crime scene***	-2.52	.83	9.33	.00	.08	.02	.41
SeSaS score***	-.96	.14	44.71	.00	.38	.29	.50
Constant	1.52	.47	10.62	.00	4.58		
Hosmer - Lemeshow		6.64, non-significant					
Cox and Snell R squared		.42					
Nagelkerke R squared		.56					

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

Table 3. *Descriptive statistics of Ressler criteria in the sample*

Ressler criteria	N	%
Victim lacks clothing	279	79.7
Exposure of the sexual parts of the victim's body	208	59.4
Body is found in a sexually explicit position	25	7.1
Object has been inserted into a victim's body cavity	44	12.6
Evidence of sexual intercourse	204	58.3
Evidence of substitutive sexual activity	56	16

Table 4. *Logistic regression of Ressler criteria for indirect and direct cases*

Predictor	B	S.E.	Wald	Sig.	Exp(B)	95% C.I. for EXP(B)	
						Lower	Upper
Naked	-.04	.37	.01	.92	.96	.47	1.97
Genitals	-.03	.31	.01	.93	.98	.54	1.77
Position	-.78	.49	2.57	.11	.46	.18	1.19
Object insertion***	-2.37	.51	21.47	.00	.09	.03	.26
Sexual activity	-.37	.26	2.14	.14	.69	.42	1.14
Substitute activity/fantasy***	-2.12	.42	25.64	.00	.12	.05	.27
Constant	.84	.32	7.07	.01	2.32		
Hosmer - Lemeshow		27, non-significant					
Cox and Snell R squared		.19					
Nagelkerke R squared		.025					

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

Appendix 1. *List of variables used in the study*

Modus Operandi and situational factors	
Victim – stranger	Other weapon (axe, hatchet, hammer)
Pre-crime anger	Pseudo-weapon (e.g. rock, lamp, scissors)
Pre-crime: sexual arousal	Use of restraints/gagging/blindfold
Pre-crime: depressed/anxiety	Sexual acts – vaginal penetration
Pre-crime: sexual frustration	Sexual acts – anal penetration
Crime phase anger	Sexual acts – other sexual activity at crime scene
Intoxication	Sexual dysfunction before attack
Sexual related disinhibitors	Victim died of – beating
Stalking, following or victim target	Victim died of – stabbing
Taking things to facilitate crime (not weapon)	Victim died of – strangulation
Weapon: found at the scene	Victim died of – asphyxiation
Weapon: taken from victim	Victim died of – other
Weapon: taken to crime scene	Other violence used than victim died of
Weapon: recovered	Biting
Knife	Post mortem sexual activity
Ligature	Other unusual crime scene behaviours