SEXUAL MURDERERS: PSYCHOLOGICAL AND CRIMINOLOGICAL FACTORS IN DIVERSE TYPES

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Abstract

Studies of sexual murder are abundant, but an empirically supported understanding of this type of crime and its perpetrators is limited in important ways. The overall aim of this thesis was to work towards a theoretical model recognising that sexual murder is a heterogeneous concept. Also, the thesis aimed to understand sexual murder in the wider context of sexual aggression against adult women. First, a systematic review was conducted to clarify the existing typologies of sexual murder. Three consistently observed subtypes were found. These were labelled *sexualised murder*, *grievance murder*, and *rape murder*. A behaviour that could be used to differentiate groups was post mortem sexual interference (PMSI), indicative of *sexualised murder*. Subsequently, a study was conducted comparing subgroups of sexual murderers (those who had engaged in PMSI, and those who had not), and rapists, on developmental factors, adult lifestyle, and criminal career. The main finding was that the groups responded differently to early adversity. Difficulties with social and sexual relationships leading to the development of sadistic interests, as opposed to pervasive antisociality, distinguished PMSI sexual murderers from rapists, while non-PMSI sexual murderers were largely similar to rapists. However, although the role of psychopathy in sexual aggression is debated, no group was strongly characterised by psychopathy in the present study. A secondary study was conducted to verify that this finding was not associated with limitations in the assessment tool used (the Psychopathy Checklist: Screening Version [PCL: SV]; Hart, Cox, & Hare, 1995). Good psychometric properties were found. Next, a case study

demonstrated the functional heterogeneity of the act of killing under the broadly defined term ‘sexual murder’, and highlighted the importance of this in forensic case formulation and intervention. Finally, drawing on the findings of the present research, a new model of sexual murder is proposed to address some of the issues discussed in this thesis.

Preface

Establishing a model of sexual aggression with fatal and non-fatal outcomes, incorporating psychosocial and behavioural characteristics of perpetrators, is necessary for continued development in risk assessment and intervention. The relative lack of empirical studies relating to sexual murder and the associated gaps in knowledge is a central guiding focus of this thesis, and shapes the overall objective to contribute to a field lacking a substantiated multifactorial model. The first aim was to challenge assumptions about what is 'known' about sexual murder, and to provide some clarification on issues in a way that should be useful to researchers as well as in applied forensic psychology. Specifically, it is argued that the general definition of sexual murder is too broad, and greater recognition is needed in research to the diverse types of offence captured by the term. Therefore, a necessary first step was to identify the empirically supported subtypes of sexual murder, which was achieved through a systematic review of empirically derived or validated typologies. Results of this systematic review are presented in Chapter Two.

Continuing to apply the argument that in order to advance understanding it is necessary to account for the diverse types of sexual murder within research design, the primary study presented in Chapter Three operationalizes sexual murder using two subgroups. The sampling strategy is explained in detail in the method section of Chapter Three, but in brief, sexual murderers engaging, or not engaging, in post mortem sexual interference were compared to a sample of rapists whose offending warranted a life or indeterminate sentence. Importantly, results suggested

that eventual offence outcome could be predicted by differential psychosocial responses to early trauma or adversity.

Each case within the sample studied in Chapter Three was assessed using the PCL: SV (Hart et al., 1995). In Chapter Four, the psychometric properties of the PCL: SV are examined. Results favoured the use of the PCL: SV as a valid and reliable measure of psychopathy, and implications for research and forensic-clinical practice are discussed.

In Chapter Five, a case study of a sexual murderer and his forensic case formulation and progress through intervention is presented. The case is discussed in relation to the typologies identified in Chapter Two, as well as in relation to factors consistent with the results of the primary study reported in Chapter Three. Some of this discussion can be found in the final discussion (Chapter Six), where a new model of sexual murder based on the present findings is proposed.

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Chapter 1.

Introduction

Some facts appear to be quite well established in the literature concerning sexual murder. There are two key themes, anger and sadism, that underlie these crimes (Kerr, Beech, & Murphy, 2013), and on balance, sexual murder may be considered an extreme form of sexual offending committed by men presenting as more similar than different from non-homicide sexual aggressors (Stefańska, Beech, & Carter, 2016). Yet, empirical studies of sexual murder are more scarce and incomprehensive than might be expected (Maniglio, 2010). There are considerable limitations in this field of research, relating to small non-random samples being used and re-used, the retrospective nature of data, and a lack of well-designed comparative studies (Beauregard & Martineau, 2013; Meloy, 2000). In research carried out in forensic settings, creating randomized untreated control groups is exceptionally problematic for obvious legal and ethical reasons, and the low base rates for this type of crime (Proulx, Cusson, & Beauregard, 2007) mean that recidivism data is inherently difficult to obtain.

A point to consider is that sexual murder is not recognised as a specific offence category within the UK criminal justice system, nor is it in in the United States, Canada, and Germany (those being the countries that have produced the majority of the research in the domain; Liem & Pridemore, 2012). Also, the phenomenon remains unclearly defined academically (Kerr et al., 2013), although researchers commonly rely upon the definition offered by Ressler, Burgess and Douglas (1988). This

is a broad definition, that specifies that a murder may be considered sexual in nature when there is evidence or observation of "victim attire or lack of attire; exposure of the sexual parts of the victim's body; sexual positioning of the victim's body; insertion of foreign objects into the victim's body cavities; evidence of sexual intercourse (oral, anal, vaginal); and evidence of substitute sexual activity, interest, or sadistic fantasy" (from the preface, pp. xiii). However, terminology varies across studies: 'sexual murder', 'sexual homicide', and 'sexual killing' are interchangeably used within the literature. Thus, is it is important to note that throughout this thesis, reference to sexual murderers refers to offenders receiving convictions for murder, but may also include manslaughter convictions, i.e., plea bargains, or cases of diminished responsibility. Further, it is necessary to draw attention to the issue of reliable identification of sexual murderers. This is problematic because sometimes only the perpetrator's disclosure will reveal that the killing was in fact sexual, leading to sampling difficulties such as an unknown number of false negatives (Carter, Mann, & Wakeling, 2008; Folino, 2000). Indeed, a problem with the Ressler et al. (1988) definition is that evidence of substitute sexual activity, interest, or sadistic fantasy may not be obvious from the crime scene (Chan, 2015).

Notwithstanding definition difficulties, most recent estimates suggest that in the UK approximately 7.5% of all murders and manslaughters are sexual (Stefańska et al., 2016), which represents a comparable annual rate to the US and Canada (1% and 4% respectively) given the higher overall murder rates in the US (Proulx, Cusson, & Beauregard, 2007). Although this type of offence is relatively rare, continuing to advance

empirical understanding remains an important goal for transparent reasons to do with the severity of harm caused to victims, their families, and society as a whole.

As will be elaborated upon in subsequent chapters of this thesis, there are considerable gaps in knowledge detectable from existing theoretical models of sexual murder. Indeed, there is a need to develop a substantiated multifactorial model that explains the complexity of this form of offending (Kerr & Beech, 2015). This weakness in the literature has implications for forensic clinical practice. For example, in the UK prison service and secure psychiatric facilities, treatment is provided for those who have been identified as sexual murderers alongside non-homicide sexual offenders, which is tenable on the basis of best available evidence (Beech, Oliver, Fisher, & Beckett, 2005). However, although validation studies may have included small numbers of sexual murderers within their samples of sexual aggressors, risk assessments and treatment programmes were not designed specifically for sexual murderers and impact studies as well as validation of risk assessment tools for use with this group of offenders are needed (Carter et al., 2008; Hill et al., 2012; Tardif, Dassylva & Nicole, 2007). Such a research programme and subsequent policy decisions would benefit from advances in the theoretical understanding of sexual murder.

Therefore, a problem has been identified in the extant literature in the lack of recognition of the heterogeneity of offences classified as sexual murder within available theoretical models. This suggests that studies designed using what is known about the diverse types of sexual murder will offer advantages in advancing the scientific understanding of these

crimes and those who perpetrate them. Indeed, some sexual murders are explained largely by situational factors (Healey, Beauregard, Beech, & Vettor, 2016). That is, it has been hypothesised that sexual murder represents one extreme of a continuum of sexual aggression whereby circumstantial violence predicts fatal outcomes (Oliver, Beech, Fisher, & Beckett, 2007; Proulx et al., 2007; Salfati & Taylor, 2006). Yet, a subgroup of sexual murderers appear to represent a unique type of offender with lethal intent demonstrated in their offending behaviour (Healey et al., 2016). Further, there are almost no recidivism studies specifically addressing reconviction among sexual murderers (Hill et al., 2012). Future research in this area would benefit from a more nuanced understanding of these crimes (Lussier & Cale, 2016).

In order to design innovative research, it is necessary to take into account the diversity among sexual murderers when forming research questions and hypotheses. One approach may be to examine separately those sexual murders where there is a direct association between killing and sexual arousal, and those where killing is only indirectly associated with the sexual element of the crime (Carter & Hollin, 2014). An example of the latter would be murder following a sexual assault, for the purpose of witness elimination. Research focusing on the diverse types of sexual murderers in this way has only recently begun to emerge (Beauregard & Martineau, 2016a; Higgs, Carter, Stefańska, & Glorney, 2015).

With these gaps in knowledge and proposals for future directions in research identified, the overall aim of this thesis will be to work towards building a model of sexual murder that is able to reconcile the heterogeneity captured by the generally adopted broad definition.

Throughout the thesis objectives include contribution to the wider discussion concerning the distinctiveness of sexual murder and how it may be understood within a continuum of sexual aggression, by providing evidence supporting the perspective that current conceptualisations of sexual murder apply well to some, but not all sexual murderers. It is argued that an approach is needed that accounts for the diverse types of sexual murder, and begins to configure those elements that are empirically supported. Such an approach will be taken with the aim of improving scientific understanding of sexual murder, but also to situate sexual murder theory within broader models of sexual offending.

Given these overall aims, a necessary first step will be to identify the empirically supported subtypes of sexual murder appearing in the extant literature. There are various typologies and classifications of sexual murderers proposed from differing perspectives, such as whether the investigators were primarily concerned with criminal profiling, risk assessment and forensic-clinical intervention, or theory development (Fisher & Beech, 2007). Subsequently, researchers wanting to draw upon these typologies in their own studies must evaluate each and consider how the complementary or contradictory elements might inform their investigations. This results in key aspects from different approaches being used to generate new hypotheses, or influential models being heavily relied upon despite a lack of external validation. As such, a systematic review is needed to produce a focused synthesis of the shared features across the field of study, with clearly specified study inclusion criteria and quality assessment.

The characteristics associated with the subtypes of sexual murder emerging from the systematic review will be considered central to the design of a subsequent primary research study, which will aim to address the main aims of the thesis. Specifically, to focus on the problem that a lack of attention to the diverse types of sexual murder was hypothesised to be a critical limitation in studies comparing sexual murderers to non-homicide sexual aggressors, as well as in the development of a substantiated multi-factorial model of sexual murder. On the basis of the results of the systematic review, specific behaviours distinguishing subtypes of sexual murder will be identified to provide an empirically supported proxy to delineate cases. In the primary study, subgroups of sexual murderers categorised according to difference on these variables will be compared with each other, as well as to a sample of rapists.

Variables measured in the study will focus on psychosocial factors and the criminal careers of the offenders. Assessment of psychopathic personality will also be examined. Psychopathy was determined to be important here because there has been considerable previous research interest in the role of psychopathy in relation to sexual murder. For example, based on the interpretation of correlations between measures of psychopathy and sadism, some researchers suggest that the motivation for sadistic sexual murder is thrill seeking (Porter, Woodworth, Earle, Drugge, & Boer, 2003). Others found that sexual sadism and psychopathy have callous lack of empathy as a shared characteristic, but disagree that thrill seeking motivates sadistic behaviour (Mokros, Osterheider, Hucker, & Nitschke, 2011). Proulx and Beauregard (2014) discuss their own and

other studies examining the role of psychopathy in sexual aggression, concluding that the debate remains open.

Psychopathy will be measured in this thesis using the Psychopathy Checklist: Screening Version (PCL: SV; Hart, Cox, & Hare, 1995). The PCL: SV, and more so the full version, the Psychopathy Checklist – Revised (PCL – R; Hare, 1991), is widely used in research, legal, and clinical settings (Skeem, Polaschek, Patrick, & Lilienfield, 2011). Therefore, its present application will maximise scope to compare and contrast results of the study with the existing literature. A secondary study in the form of a psychometric critique will also be completed in order to verify that the use of the PCL: SV rather than the PCL – R is unlikely to introduce a limitation in the primary study.

The research presented in this thesis has implications for the criminal justice system where psychological treatment interventions should be based on empirically informed forensic case formulation. As such, a case study will be conducted to illustrate theory-practice links. The case study aims to evaluate treatment outcome at the individual level, but with a focus on recognition of the diverse types of sexual murder in the treatment plan. Therefore, attention will be drawn to the ways in which the case study participant presents consistently with a particular subtype, and inconsistently with others.

The final aim of the thesis will be to develop a preliminary differential model of sexual aggression with fatal and non-fatal outcomes, which will represent the main findings of the thesis. Working towards an improved theory of sexual murder was one of the main objectives of the thesis, and

it is hoped that through further development of the model and external validation, this may be achieved.

Chapter 2.

Sexual murder typologies: A systematic review

Abstract

Establishing an empirically valid typology of sexual murder is necessary for developing theory, risk assessment, and intervention. Results from all empirical studies conducted between 1970 and 2016, drawing on information pertaining to more than 700 sexual murderers, were collated to provide a definitive best evidence synthesis elucidating the overall patterns and motives underlying sexual murder. Three subtypes of sexual murder were consistently found. The term *sexualised murder* is proposed, to refer to those crimes in which killing is functionally related to the sexual element of the offence. *Grievance murder* is driven by angry schema and an excessively aggressive response style. Finally, *rape murder* involves only an indirect association between the sexual offence and killing. Factors distinguishing these subtypes are discussed, and attention is directed towards gaps in knowledge, particularly in relation to biopsychosocial and criminal career factors that remain under-researched.

Introduction

Person-oriented, as opposed to variable-oriented approaches to understanding similarities and differences within a given population, such as sexual murderers, are useful for clinical descriptions, intervention, and risk prediction (Lussier & Cale, 2014). That is, there are advantages for understanding criminal acts and for advancing scientific enquiry using the configurations of factors offered by a typology. As Lussier and Cale (2014) assert, this is because the profile of factors present has greater explanatory power than any one factor alone, or an accumulation of factors that are not necessarily related at the individual level. In the sexual murder literature, there are a number of widely cited, influential typologies. For example, the organised/disorganised dichotomy identified by Federal Bureau of Investigation (FBI) agents (Burgess, Hartman, Ressler, Douglas, & McCormack, 1986; Ressler, Burgess, & Douglas, 1988), returned to later in this text. However, limitations related to a lack of scientific rigour have been highlighted (Burkhart, 1989), and there have been few validation attempts that may have overcome such criticisms.

Comprehensive syntheses of various typological descriptions of sexual murderers are available (Beauregard, Proulx, & St-Yves, 2007; Chan & Heide, 2009; Kerr, Beech, & Murphy, 2013). Methodological considerations and associated limitations of the typologies may be discussed, but none of these publications specify any inclusion criteria for the studies reviewed, nor do they describe any systematic approach in terms of literature search strategy or provide any methodical quality

assessment of the studies reported. This means that clinical opinion and theoretically proposed (but not necessarily validated) typologies are presented alongside those derived using multivariate statistical analyses, potentially giving credence to invalid, or at best untested, hypotheses. The purpose of the present review is to address this issue, through an exhaustive review of relevant work determining the state of current scientific knowledge.

Expert opinion, clinical observation, and theory-led approaches.

Canter, Alison, Alison, and Wentink (2004) questioned whether the FBI organised/disorganised typology represented mere myth, or a model that may reliably be used, as it has been, to aid police investigations and inform expert witness testimony. On the basis of 36 cases, the organised offender is described by Ressler et al. (1988) to carry out a planned attack against a targeted stranger, demonstrating control, ritualism, and detection avoidance strategies such as moving the body and disposing of weapons. By contrast, the disorganised offender is proposed to represent a more chaotic type of murderer, who leaves behind a crime scene with little or no effort to remove or destroy evidence. These are only a few of the crime scene characteristics assigned to organised and disorganised sexual murderers, along with a number of proposed psychosocial differences. However, there are numerous problems in the development of the typology, such as sampling bias (over-representation of serial murderers, taken from an opportunity sample), and unclear methodology (lack of standardized interview procedure, and categorisation of offenders based on crime scene behaviours and selected offender characteristics in

a 'top-down' approach, dictated by the expertise of the investigators). As such, external validation is an essential goal for proponents of the organised/disorganised typology, which has not been actualised. On the contrary, Canter and colleagues (2004) reject the model, finding that organised traits were common across their sample of 100 serial killers. It should be noted that their study relied heavily upon secondary sources of information (journalistic biographies), which as well as the question of the reliability of the data, introduces a problem of sample bias due to being limited to those cases attracting sufficient media attention. However, this reflects similar biases as in the original FBI research. As such, the lack of support for the typology that was found following a scientific method (data analysis through multi-dimensional scaling) must be underlined.

In a theory-led approach Keppel and Walter (1999) extended Groth, Burgess, and Holmstrom's (1977) classification system for rape, pivoting on anger and power as central to the understanding of these offences. Further, Keppel and Walter aligned their typology to the FBI work, suggesting that an organised crime scene should be left by *power-assertive* and *anger-excitation* sexual murderers, whereas *power-reassurance* and *anger-retaliation* ends with a disorganised crime scene. Demonstration of the typology was presented using case examples (Keppel & Walter, 1999). However, statistical testing to determine the strength of association between variables that should co-occur within types failed to offer external validation (Bennell, Bloomfield, Emeno, & Musolino, 2013), suggesting tautology in the categorisation of selected cases in the original development of this typology.

Other important efforts to delineate the heterogeneity observed within sexual murderers have been made drawing on a wealth of investigative and clinical experience. Some common themes emerge in the *catathymic* and *compulsive* types of sexual murderer described by Revitch and Schlesinger (1989; elaborated upon by Schlesinger, 2004, 2007), the *hedonistic* (*thrill* and *lust*), and *power/control* subtypes of serial murderer proposed by Holmes and DeBurger (1985; see also Holmes & Holmes, 2009), the *rape homicides; lust (or sadistic) homicides* and *homicides to destroy evidence* described by Malmquist (2006), and the *sexually motivated murder; sexually triggered – aggressive control; sexually triggered – aggressive discontrol; sexually triggered – neuropsychological dysfunction* typology developed by Clarke and Carter (2000). For example, a distinction is consistently identified between sexual murderers for whom killing is integrated into sexual fantasies manifesting in a murder typically characterised by sadistic behaviours (compulsive, Revitch & Schlesinger, 1989; lust, Holmes & DeBurger, 1985; Malmquist, 2006; sexually motivated murder, Clarke & Carter, 2000), compared to those who respond with extreme aggression to either distal or temporal grievance (catathymic, Revitch & Schlesinger, 1989; sexually triggered – aggressive discontrol, Clarke & Carter, 2000). There are also some similarities between the homicide to destroy evidence (Malmquist, 2006), and the sexually triggered – aggressive control (Clarke & Carter, 2000) subtypes, in that for these men the primary motivation appears to be to sexually offend, and killing serves an instrumental purpose.

Despite some overall concordance between the proposed typologies, it is difficult to extrapolate further. That is, the behavioural and psychological characteristics that would have implications for investigators, treatment providers, risk assessors and policy makers remain unclear, due to methodological limitations in the studies. Specifically, classification methods are insufficiently described and rely heavily on expert opinion rather than necessarily being data driven, or were based on small unrepresentative samples. Frequently serial murderers are over-represented or there is a lack of discrimination between serial and non-serial murderers, complicated by the fact that serial murder is defined differently between studies with some accepting a minimum of two victims and others requiring a minimum of three or four (Kocsis, 2006). However, serial murder often involves no sexual element, for example those who kill for profit (Hickey, 2002), and there is sufficient evidence of differences between serial sexual murderers and non-serial sexual murderers (James & Proulx, 2014; James & Proulx, in press) to indicate a need for researchers to methodologically control for this.

Current aims and objectives

Given the limitations outlined concerning some widely accepted typologies appearing in the extant literature, the overall objective of the present review was to identify all typologies of sexual murder that were empirically derived or validated, and assess the quality of the available studies. The review also aimed to synthesise the findings of included studies, such that any overarching themes may be clarified, including the

social and psychological characteristics associated with different types of sexual murderer.

Method

Procedures were followed according to the guidance provided by the Centre for Reviews and Dissemination (2009), and Petticrew and Roberts (2006).

Data sources

Electronic searches of the Cochrane Database of Systematic Reviews and the Campbell Collaboration Library did not find any systematic reviews of the characteristics of sexual murderers. Following a scoping exercise completed for an indication of the number of potentially relevant studies the period 1970 to 2016 was determined for the literature to be covered, because empirical studies began to appear following Brittain's (1970) clinical descriptions of sadistic murderers (Carter & Hollin, 2010). Five electronic platforms (Ovid, EBSCO, ProQuest, Thomson Reuters, and EBSCO) were used to search the following databases: PsycINFO, MEDLINE, Web of Science (including the Science Citation Index – Expanded, Social Sciences Citation Index, Conference Proceedings Citation Index – Science, Conference Proceedings Citation Index – Social Sciences & Humanities, Arts & Humanities Citation Index, Book Citation Index – Science, Book Citation Index – Social Sciences & Humanities), ERIC (Education Resources Information Center), Science Direct, ASSIA (Applied Social Sciences Index and Abstracts), IBSS (International Bibliography of

the Social Sciences), NCJRS (National Criminal Justice Reference Service), PQDT – UK & Ireland (ProQuest Dissertations & Theses), ProQuest COS Conference Papers Index. The Australian Criminology Database was accessed via the British Library online. Additionally, grey literature was searched via the online repository, OpenGrey. Searches were conducted using keywords: sex offences, sadism, or serial, combined with murder, killing, or homicide; and wildcard searches: (sex* or sadis* or lust AND murder* or kill* or homicid*) or erotophonophli* or necrophili* (Appendix A). Finally, the reference lists of relevant articles were hand-searched for articles not identified in the electronic databases (n = 3), and several experts in the field (in alphabetical order, Professor Eric Beauregard, Professor Anthony Beech, Dr. Peer Briken, Dr. Oliver Chan, Dr. Maurice Godwin, Dr. Richard Kocsis, Dr. Andreas Mokros, Dr. Joachim Nitschke, Professor Jean Proulx, Mark Safarik, Professor Gabrielle Salfati) were contacted for additional articles such as unpublished work. Eight responses were received resulting in the addition of one article, an unpublished masters thesis (Mjanes, 2016). The search was not restricted to peer-reviewed journal articles, meaning that book chapters and conference papers were included but reviews and editorials were excluded. No language restriction was made. Articles published in English, French, German, Russian and Czech were included.

Inclusion/exclusion criteria

Defining sexual murder is problematic given an absence of academic or legal consensus, but a wide definition was employed to capture the range of heterogeneity resulting in different classification systems. Thus,

sexual murder for the purpose of this review refers to all homicide (murder or manslaughter) where a sexual element was identified due to: evidence of sexual activity including touching the victim's genitals, penetration of the victim vaginally, anally or orally, insertion of foreign objects, mutilation of genitals, or other sexually exploitative activities or sexual contact (Burgess et al., 1986; Meloy, 2000); which may occur at any or all stages before, during, or after the killing and in some cases evidence of sexual activity might be found near to the victim's body (Chan & Heide, 2009; Meloy, Gacono, & Kenney, 1994; Schlesinger, 2007); or may not be overtly available but sexual motivations may be disclosed by the perpetrator or identified by professionals involved in the case (Clarke & Carter, 2000). Studies of sexual murder according to this definition were included subject to the following criteria:

Population. Males convicted for murder or manslaughter with a sexual element as defined above. Samples aged 10 years and above were included. This was to ensure inclusion of relevant studies internationally, given that the age of criminal responsibility is 10 years in England and Wales (Lipscombe, 2012) and worldwide the median age of criminal responsibility is 12 years ("Justice for children", 2013). Samples of sexual murderers of male victims only, or of child victims (age <14) only, were excluded. Samples of entirely female perpetrators were excluded. Samples of serial murderers (more than 2 victims; Proulx, Cusson, & Beauregard, 2007) were excluded when this included non-sexual murderers and the sexual murder data could not be differentiated from general data. Where it was not possible to ascertain the proportion of

non-sexual murderers from the publication, the author was contacted for clarification, which resulted in the exclusion of one study (Godwin, 2000).

Exposure. Sexual sadism as a proposed motivation or defining factor of a sub-type of sexual murder. Studies using other terminology, such as *lust murder*, or any other category that represents the binding of sexual interest to violence were included.

Comparator. Alternative proposed motivation or characterisation. Exclusions were a-priori categorisations based on demographic or psychobiological markers, such as mental illness or personality disorder, as this taxonomises perpetrators rather than the crime. Rather, both the exposure and the comparator needed to be derived from the data using statistical or clearly defined qualitative methods.

Study type. Studies reported after 1970, to include case control, cohort, cross sectional, or qualitative research were included. Studies using unreliable sources of data (e.g. biographies or media reports) were excluded.

Study selection

Searching bibliographic databases identified 4726 articles (PsycINFO, 1240; Web of Science, 760; Medline, 656; ERIC, 25; ScienceDirect, 173; ASSIA, 232; PQDT & COS Conference Papers Index, 356; OpenGrey, 22; Australian Criminology Database, 168; IBSS, 243; NCJRS, 851). This included 1100 duplicates, subsequently removed. Titles and abstracts were assessed for relevance and 3582 articles were excluded. The remaining 44 articles were evaluated more thoroughly, along with 3 additional articles identified within the reference lists of relevant work,

and 1 article supplied following a request sent to experts in the field for unpublished work. Of this total of 48 articles, 40 were disqualified because they did not meet the specified inclusion criteria (Appendix B). Some of the remaining studies did not, or may not, have used independent samples. Specifically, three studies were conducted using samples of offenders detained by Her Majesty's Prison Service, in the United Kingdom (Beech, Fisher & Ward, 2005; Beech, Robertson, & Clarke, 2001; Stefańska, Carter, Higgs, Bishopp, & Beech, 2015). It was not possible to identify whether or not these samples were entirely independent but because data sources and variables included vary across the studies, each was retained for analysis separately. Two studies conducted with data provided by the Royal Canadian Mounted Police used the same sample and many of the same variables, both subjecting the data to Latent Class Analysis (Balemba, Beauregard, & Martineau, 2014; Mjanes, 2016). These studies were retained for quality assessment and subsequently a decision was made to reject one (Mjanes, 2016) due to limitations in the analytical strategy. For example, the statistical procedure appeared to rely upon too few indicators (Wurpts & Geiser, 2014), and results were presented accepting a dichotomous model whereas a trichotomous model was statistically superior (Mjanes, 2016). Following this selection process (Figure 1), seven studies were retained for review: Balemba et al. (2014); Beauregard and Proulx (2002); Beech et al. (2005); Beech et al. (2001); Gerard, Mormont, & Kocsis (2007); Kocsis, Cooksey, & Irwin (2002); Stefańska et al. (2015).

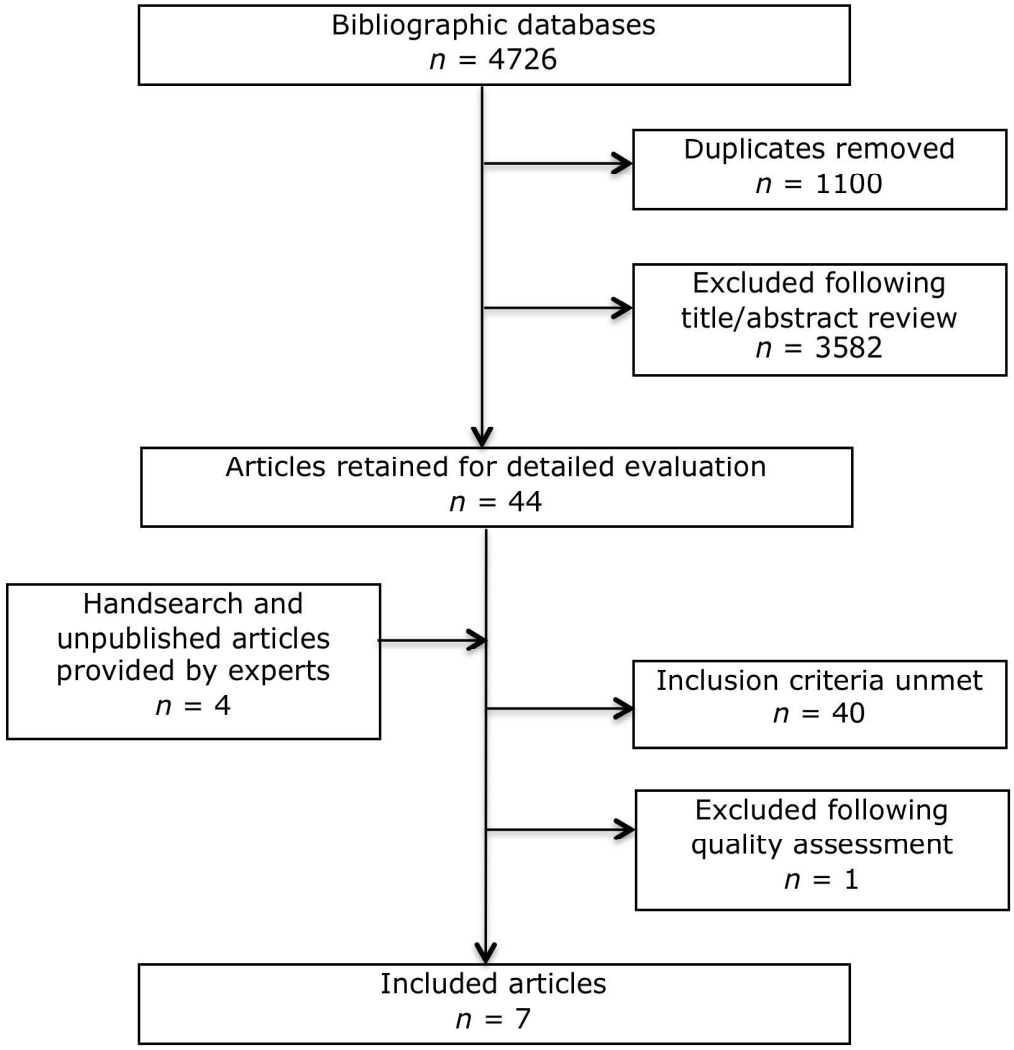


Figure 1. Summary of the study selection process

Quality assessment and data extraction

Included studies were evaluated using a protocol adapted from the Critical Appraisal Skills Programme and Centre for Reviews and Dissemination (2009) (Appendix C). Overall, four domains were assessed: 1) Initial screening (adequate sample description; clarity of aims; appropriateness of design/methodological approach relative to stated aims), 2) Risk of selection bias (use of an appropriate system for selecting cases; sufficient sample size for the study design; no special sampling criteria, e.g. psychopathy; representativeness of the sample compared to the defined population), 3) Classification bias (reliability of procedures for classifying cases into groups, clarity of classification criteria, reliability of measurement procedures across groups), 4) Measurement bias (use of objective measures; consistency of measures across groups; data sufficient to support findings; design/methodological procedures taking into account confounding factors). Qualitative studies were subjected to the same quality assessment as quantitative studies so that all could be rated to have high, low, or unclear risk of bias, following recommendations of the Cochrane Collaboration (Higgins, Altman, & Sterne, 2011). Of those studies satisfying the inclusion criteria, 50% were quality assessed by a second rater to determine inter-rater reliability.

Data was extracted as follows: General information (study characteristics, sample characteristics, methodological factors), results (variables or characteristics associated with each subtype of sexual murderer identified), and study strengths and weaknesses.

Results

Details of the samples used to develop typologies of sexual murder, and the scientific approaches taken, are presented in Table 1. Three studies used samples that may have involved some overlap due to sampling from the same population (Beech et al., 2005; Beech et al., 2001; Stefańska et al., 2015). Therefore, although it is not possible to calculate the exact number of participants, typologies were identified in this review based on information gathered for approximately 700 sexual murderers. The majority of these men ($n > 436$) were non-serial murderers, with female victims ($n > 556$). Risk of sample bias introduced by the inclusion of sexual murderers of children is likely to be low, given that these offenders were excluded from two studies (Beauregard & Proulx, 2002; Stefańska et al., 2015) and one further study identifies only four (14%) sexual murderers with child victims in their sample (Beech et al., 2005). Therefore, the total sample is representative of non-serial sexual murderers of adult women. On quality assessment, all studies were considered to be of good quality overall (low risk of sample selection, measurement, and classification biases), with excellent inter-rater agreement ($ICC_2 = .83$). However, sampling and selection bias was unclear in the studies by Beech et al. (2001) and Kocsis et al. (2002).

The focus was almost exclusively on convicted offenders, with the exception of the study by Balemba et al. (2014), which included suspects and unsolved cases. Four studies were conducted with prisoners (Beauregard & Proulx, 2002; Beech et al., 2005; Beech et al., 2001; Stefańska et al., 2015), and in two studies the inclusion criteria specified

that cases had reached conviction (Gerard et al., 2007; Kocsis et al., 2002), hence it is implied that data relates to sexual murderers from a prison population. As such, although this does not preclude all cases successfully claiming a defense on the grounds of mental disorder, it is possible that certain factors are under-represented. However, because no case-control studies testing subtypes of sexual murder were found, the typologies described were not affected by confounding factors. That said, Balemba and colleagues (2014) did re-analyze their data using only the unsolved cases, finding that although a dichotomous split into *forensically aware* versus *lucky* categories was most statistically sound for this sub-set of their sample, a trichotomy similar to their main results could also be observed.

Generally, data was taken from official records, but was sometimes supplemented with information from interviews with perpetrators (Beauregard & Proulx, 2002), or was primarily qualitative (Beech et al., 2005). All studies included modus operandi, or evidence of crime scene behaviours to construct their classification models, but there were few variables reported consistently between studies. Those studies providing additional psychosocial characteristics rarely included the same sorts of information or did not provide variable frequencies per sub-type. Nevertheless, drawing on those studies developing a typology determined through a clearly defined analytical approach, a best evidence synthesis (Slavin, 1995) is provided.

Table 1. Empirical studies presenting a typology of sexual murder

Study	Sample	Data	Approach	Strengths and limitations	Subtypes identified
Balemba et al. (2014)	Non-serial sexual murderers. Most (90%) had female victims (adult and child). Convicted and suspected offenders, Canada. (*N* = 350)	Police case files	Latent Class Analysis	Results are based on a large sample using a robust statistical technique. However, although sampling criteria included only male, single-victim, sexual murderers, 29% of included cases were unsolved. Therefore, the actual composition of the sample is unknown. Limited number of variables, restricted to crime scene characteristics.	Sloppy/reckless (*n* = 119) Violent/sadistic (*n* = 116) Forensically aware (*n* = 115)
Beauregard and Proulx (2002)	Non-serial sexual murderers of adult women.	Institutional files and semi	Chi-square followed by K-mean	One of the only studies to limit the sample to non-serial offenders and to exclude child and adult male victims.	Angry (*n* = 20) Sadistic (*n* = 16)

	Prison sample, Canada. (*N* = 36)	structured interview	cluster analysis	Also one of the only studies to investigate offenders' affective state specifically in the hours immediately preceding the crime. Adequate sample size for the study design, but external validation needed.	
Beech et al. (2005)	Mixed. Proportion of serial sexual murderers not specified. Most (86%) offended against adult women. Prison sample, UK.	Semi-structured interview and actuarial risk assessment (RM2000)	Grounded theory, and grouping of identified schemas by frequency	One of only a few studies reporting appropriate data concerning cognitive distortions in sexual murderers. Group 1 comprised half of the sample, therefore groups 2 and 3 were very small, and overall the sample is too small for more than descriptive statistical analyses. As such, the methodology was appropriate for the	Group 1, motivated by urges to rape and murder (*n* = 14) Group 2, motivated by grievance (*n* = 8) Group 3,

	(*N* = 28)			stated study aim, but further validation is needed to support the between group comparisons.	motivated to sexually offend (*n* = 6)
Beech et al. (2001)	Mixed. Proportion of serial sexual murderers not specified. Victims not specified. Sample crossover with Beech et al. (2005) possible. Prison sample, UK. (*N* = 50)	Institutional files	Factor analysis followed by cluster analysis	Data included from treatment summary documents, as such less reliance on crime scene behaviours alone to infer motive. Homogeneity of sample (serial/non-serial; victim age and gender) unclear. Factor analysis requires larger sample. Authors comment that the typology relied upon a limited number of items and results required external validation.	Group 1,[1] motivated by urges to rape and murder (*n* = 13) Group 2, motivated to sexually offend (*n* = 18) Group 3, aggressive dyscontrol (*n* = 10) Group 4,

					other (*n* = 9)
Gerard et al. (2007)	Mixed. Proportion of serial sexual murderers not specified. Most (93%) offended against female victims (adult and child victims). Convicted offenders, Belgium. (*N* = 33)	Police case files, psychiatric reports, interviews with offenders' neighbors, public media reports.	Multi-dimensional scaling	Proportion of child victims unclear. Strictly, the study does not identify a typology, only a categorisation of crime scene variables. The categories rely on only a few variables to characterise each, and the labels assigned may not be accurate. For example, it is unclear why the first category is considered impulsive. Four profiles of offender characteristics are identified, but any relationships these may have had to the final dichotomy are not statistically explored.	Opportunistic-impulsive Sadist-calculator (*n* per group not established)

Kocsis et al. (2002)	Mixed. Proportion of serial sexual murderers not specified. Proportion of male and child victims not specified. Convicted offenders, Australia. (*N* = 85)	Police records (VICLAS)	Multi-dimensional scaling and vector-fitting	Associations between crime scene factors and offender characteristics identified statistically in the same sample compared to more common method of making conceptual evaluations of offender behaviour and offender characteristics from separate analyses of crime scene behaviours and offender and victim characteristics. Homogeneity of sample (serial/non-serial; victim age and gender) unclear. Motivational distinctions made between types cannot be objectively drawn from the data (unclear which variables were relied upon to infer deliberateness, and	Perversion Rape Fury Predator (*n* per group not established)

				it appears that single trauma is used to conclude that the offender was not motivated to kill, whereas death may be equally intentional in the case of single trauma versus multiple trauma).	
Stefańska et al. (2015)	Non-serial sexual murderers of adult women. Sample may include some of those included in Beech et al. (2001). Prison sample, UK.	Institutional files and psychometric data	Multi-dimensional scaling, followed by cluster analysis and Chi-square	One of the only studies to limit the sample to non-serial offenders and to exclude child and adult male victims. Statistically determined associations between offender characteristics and crime scene behaviours. Latent class analysis may have offered more stable solutions than cluster analysis. The sample was comprised of offenders who had completed SOTP,	Deviancy driven (*n* = 55) Grievance driven (*n* = 40) Sexually driven (*n* = 34)

	(*N* = 150)			whereas there may be differences between sexual killers referred for and accepting treatment and those who do not participate in treatment.	

[1] Group descriptive labels not given by the study authors for Groups 1, 2, and 4. Labels consistent with the authors' other work have been added to aid comparison of studies in this review.

Descriptive data synthesis

The data were organised to identify themes across studies. Specifically, sub-types of sexual murder that appeared qualitatively similar, that were identified in two or more studies. Similarities and differences in the factors that characterised comparable sub-types were then identified, in order to determine which factors might reliably distinguish between the different types of sexual murder identified. Overall, three main subtypes of sexual murder were consistently observed between studies (Table 2). These were labeled to reflect the higher-order themes: The first subtype that emerged was labeled *sexualised murder*, the second was labeled *grievance murder*, and the third was labeled *rape murder*. A fourth category was labeled *other*, because most data could be categorised within the three clearer categories, and it did not appear that the remaining category represented a valid additional subtype of sexual murder.

Typologies of sexual murder

Sexualised murder

A subtype of sexual murder that could be categorised as *sexualised murder* was found in all seven studies. Deviant sexual fantasies were an important factor in the characterisation of this subtype. *Sexualised murderers* self-reported regular use of pornography, and sexual contact with prostitutes (Stefańska et al., 2015). They were likely to have had deviant sexual fantasies in the 48 hours before the offence (Beauregard & Proulx, 2002), the specific content of which tended to be sadistic in nature more often than for other types of sexual murderer (Beech et al., 2005).

The crime scene behaviours of these offenders typically reflected sadistic interests or urges, such as mutilation and insertion of objects (Balemba et al., 2014; Beauregard & Proulx, 2002; Beech et al., 2005; Beech et al., 2001; Gerard et al., 2007). These offenders tend to strangle their victims (Balemba et al., 2014; Beech et al., 2005), and there was evidence of post mortem sexual interference in this subtype (Beech at al., 2005; Beech et al., 2001; Stefańska et al., 2015). Kocsis et al. (2002) found post mortem sex occurring in a cluster they labeled *perversion*, falling into the *other* category in this review. However, inspection of Kocsis and colleagues' multi-dimensional scaling diagram shows that their *perversion* cluster bordered with their *predator* cluster, which is aligned to the sexualised murder category. As such, *perversion* may be associated more closely with sexualised murder than its counterparts in the *other* category.

The other distinguishing factor for *sexualised murder* was premeditation. Subtypes of sexual murder reflect the different functional role of the act of killing, and the relevance of the murder itself for this subtype indicated the label assigned to the category. For these offenders, the act of killing is an integral part of a premeditated offence (Beauregard & Proulx, 2002; Beech et al., 2005; Beech et al., 2001; Stefańska et al., 2015). Therefore, although the offences demonstrated sadistic features (indeed, for these offenders the act of killing may gratify sadistic interests), the factor that appeared to strongly characterise the category was the direct association between killing and sexual arousal. Put another way, the murder itself is sexualised.

Additionally, results suggest that these offenders are less likely to know their victims (Beauregard & Proulx, 2002; Beech et al., 2005),

although they may specifically target their victim (Beech et al., 2005). Finally, substance abuse does not appear to be a relevant precipitating factor for sexualised murderers; they are unlikely to have a history of substance abuse (Beech et al., 2001), and are unlikely to have been intoxicated at the time of the offence (Stefańska et al., 2015).

Grievance murder

The *grievance murder* category emerged in six studies, with all but Balemba et al. (2014) describing a subtype of sexual murder characterised by anger, or that is best explained as driven by distal and/or proximal grievances. These offences are characterised by a greater number of injuries sustained by the victim (Beech et al., 2001; Gerard et al., 2007; Kocsis et al., 2002; Stefańska et al., 2015), and in addition to a particularly violent attack, further harm is inflicted by subjecting the victim to anal rape (Gerard et al., 2007; Stefańska et al., 2015). Unlike sexualised murder, grievance murder is usually unplanned (Beauregard & Proulx, 2002; Stefańska et al., 2015), although there may have been intent to sexually offend (Beech et al., 2001). The absence of deviant sexual fantasies should be emphasised. Instead, for these offenders, angry cognitive schemas favour an excessively aggressive response (Beauregard & Proulx, 2002; Beech et al., 2005; Beech et al., 2001) in what is often an initially consensual situation (Stefańska et al., 2015). The victim of a grievance murder generally knows her attacker (Beech et al., 2005; Beech et al., 2001; Gerard et al., 2007). These offenders are the most likely to experience problems with substance abuse (Beech et al.,

2001) and intoxication may precipitate the offence (Stefańska et al., 2015).

Rape murder

The final subtype consistently identified between studies was the rape murder, this being a murder that occurs following a sexual assault and as such appears to be for instrumental or other situational reasons. It is the absence of factors present for sexualised and grievance murders that distinguish rape murder. These offenders plan to sexually offend without necessarily intending to kill (Beech et al., 2005; Beech et al., 2001; Stefańska et al., 2015). However, they are prepared to use violence as necessary to overcome resistance, or as a detection avoidance strategy. Since violence, more so than rape is itself a violent act, tends not to be associated with deviant sexual interests and neither is it triggered by a state of negative emotional arousal, overkill or protracted violence is not found in this subtype (Balemba et al., 2014; Kocsis et al., 2002; Stefańska et al., 2015).

Inconsistent results

A few factors were found to be characteristic of a subtype in one or more studies, but others reported contradictory results. Most saliently, the role of loneliness as a precursor to sexual murder is unclear from the results of this review. According to Stefańska et al. (2015) loneliness should be characteristic of *sexualised murderers*, but none of the offenders in the comparable subtype identified by Beauregard and Proulx (2002) reported loneliness either in the 48 hours immediately prior to the

crime, or in the year leading up to that time. The reverse was found for *grievance murderers*. Stefańska and colleagues found that these offenders were less likely to experience loneliness, whereas Beauregard and Proulx reported the opposite. The discrepancy may be partially explained by the different measurement methods used by the two groups of researchers; the former used psychometric scores and the latter used interview material. Possibly, there were confounding factors between studies such as assessment at different stages in the offenders' sentences. However, these methodological differences are unlikely to account for such a sharp contrast in results.

Additionally, some modus operandi factors (beating, and use of restraints) were found inconsistently among *sexualised murderers*, and whether or not they commonly have previous convictions for sexual offences requires verification.

Table 2. Synthesis of data extracted from empirical studies presenting a typology of sexual murder

	Sexualised murder	Grievance murder	Rape murder	Other
Balemba et al. (2014)	*Violent/sadistic*[1] Offence may involve vaginal intercourse (55%) Crime scene rarely contains semen evidence (20%) Victim likely to be beaten (79%) Strangulation may be used (55%) Restraints not usually used (17%)		*Sloppy/reckless* Offence involves vaginal intercourse (81%) and may involve anal intercourse Crime scenes contain semen evidence (61%) Restraints not usually used (19%) Unlikely to mutilate (15%) Victim unlikely to be beaten (35%)	*Forensically aware* Both vaginal (1.2%) and anal intercourse unlikely. Semen evidence not found at the crime scene (0.4%) Restraints not used (8%) Unlikely to mutilate (17%) Unlikely to insert inanimate objects (10%) Victim unlikely to be beaten (28%)

	Offence may involve mutilation (41%) and insertion of inanimate objects (25%) Offence may be characterised by overkill, with the perpetrator stomping or crushing the victim May take items from the victim or scene (44%)		Strangulation may be used (46%) Does not insert inanimate objects (0.2%) May take items from the victim or scene (43%)	Strangulation unlikely (24%) Unlikely to take items from the victim or crime scene (26%)
Beauregard and Proulx (2002)	*Sadistic* Premeditated offence (81%) Stranger victims (94%)	*Anger* Unplanned offence (95%) Victim not preselected		

	Victim selected (79%) Victim humiliated (82%) Physical restraints used (38%) Mutilation (44%) Duration of offence more than 30 minutes (87%) Body dismembered (19%) Body moved (56%) Pre-crime positive affect (42%) Unlikely to give self up (25%) Less likely to admit all	(100%) Infrequent victim humiliation (11%) Use of physical restraints rare (5%) Mutilation rare (10%) Less likely than sadistic group to perpetrate an offence lasting more than 30 minutes (53%) Body left at crime scene (84%) Pre-crime anger (83%) Gives self up to police (86%)		

	acts committed during offence (81%) Less likely to admit responsibility (73%) Deviant sexual fantasies 48 hours pre-crime (50%) Unlikely to have had occupational problem of idleness 48 hours pre-crime (0%) Unlikely to have experienced loneliness in the year or 48 hours before the crime (0%)	Admits all acts committed during offence (100%) Admits responsibility (100%) Less likely to have had deviant sexual fantasies 48 hours pre-crime (21%) Occupational problem of idleness 48 hours pre-crime (39%) Loneliness in the year (28%) and 48 hours (22%) before the crime.		

	Separation problems in the 48 hours before the crime (27%)	Unlikely to experience separation in the 48 hours before the crime (0%)		
Beech et al. (2005)	*Motivated by urges to rape and murder* Reported thoughts/fantasies: Intent to murder 21% Rape and/or murder 21% Sadistic 21% Control or domination 21% None reported 3%	*Motivated by grievance* Reported thoughts/fantasies: Resentment and/or anger toward women (87%) Sexual fantasies (13%) Death caused by blunt instrument (63%). Known victims (50%). Post mortem sexual	*Motivated to sexually offend* Reported thoughts/fantasies: Sexual fantasies (83%) Intent to murder (17%) Victim type unclear (Stranger, 17%; Known, 33%). Death caused by stabbing (50%).	

	Death caused by strangulation (43%) or stabbing (36%). Targeted stranger victims (65%). Sexual mutilation of the body (65%). Post mortem sexual interference (36%). History of violence against women (71%). Previous convictions for violent (43%) and sexual (36%) offences (non-significantly higher than	interference (37%). Previous convictions for non-sexual and/or non-violent offences (88%). RM2000 risk for a sexual offence medium (50%).	Non-sexual and/or non-violent offences (67%) RM2000 risk for a sexual offence medium (50%) or low (50%).	

	in the other groups). RM2000 risk for a sexual offence high or very high (50%).			
Beech et al. (2001)	*Motivated by urges to rape and murder* Intent to sexually offend, but group also largely comprises those sexually motivated to kill, driven by fantasies. Whether killing was deliberate or not, offences involve sadistic elements. Sex after death features in	*Aggressive dyscontrol* Intention to sexually offend before victim identified. Long standing sense of grievance, triggered by victim behaviour; disproportionately aggressive response. Offence may involve object insertion.	*Motivated to sexually offend* Prior intent to sexually offend. Penetrative sexual assault characteristic, also sadistic features. Killing is instrumental. Victims aged <30. Not had long-term relationships.	*Other* Not strongly characterised by intent to sexually offend, intent to kill, or grievance motivation; not distinguished by any factor. Frequently offences were against women age >60. Half mutilated victim's

	this group. Deviant PPG more common. Victims aged <30. Less often substance abusers. Around a third mutilate.	Married or had long-term relationship. Known victim. History of violence towards women. History of substance abuse. Kills using ligature or strangulation.	Deviant PPG in some cases.	body.
Gerard et al. (2007)	*Sadist-calculator* Younger offenders (age 17-30) Imprisons and tortures his victim. Inserts objects and mutilates.	*Opportunistic-impulsive* Older offenders (aged 31-47) Well known victim Inflicts random violence Engages in oral and anal		

	Vaginal penetration typical but not oral or anal sexual acts. Leaves the body exposed	sexual assaults as well as vaginal penetration.		
Kocsis et al. (2002)	*Predator* Force used during sex, gags used, and victim may be tortured and pattern wounds inflicted. History of mental problems. History of sexual offending. More likely to have a greater number of	*Fury* Force used before sex. Major and multiple traumas. Unpatterned wounds and blunt force facial trauma. Souvenir or other item taken. Offender may have had problems with sexual dysfunction. Outdoor crime scene,	*Rape* Victim is acquaintance Threats and force used to overcome resistance. Minor trauma, to single area of body. Same initial contact scene and crime scene, body recovered at the scene. Evidence of mental	*Perversion* Post mortem sex, semen found other than in body cavities. Initial contact at the victim's home, or a public place, where the offender had been involved in some previous activity. The crime scene was a public

	victims (serial murderers). Initial contact outdoors, in a non-city location, which was also the recovery site. Crime scene was more likely to be the victim's home.	which the offender was unfamiliar with. Body recovered at the same scene.	illness.	place.
Stefańska et al. (2015)	*Deviancy driven* High problems in offence-related cognitions. May show low empathic concern. Emotionally lonely.	*Grievance driven* Low problems in offence-related cognitions. May show low empathic concern. Unlikely to report	*Sexually driven* Mixed profile of problems in offence-related cognitions. May show low empathic concern. Unlikely to report	

	Deviant sexual interests and/or hypersexuality. Unlikely to have previous convictions for rape. Most likely to immediately attack his victim but may use a con approach. Offence likely to be premeditated (67%) Unlikely to have been intoxicated at the time of offence (38%) Overkill unlikely (22%) Unlikely to use violence	emotional loneliness. History of hypersexuality. Unlikely to have previous convictions for rape. Offence occurs in an initially consensual situation. Offence is unlikely to be premeditated (28%). Offender is likely to be intoxicated at the time of the offence (68%). Overkill (38%) and violence other than fatal	emotional loneliness. History of hypersexuality. Likely to have previous conviction(s) for rape. Most likely to use a con approach, but may immediately attack his victim. Premeditated offence (77%). Unlikely to have been intoxicated at the time of offence (38%) Overkill unlikely (12%)	

	other than the fatal injury (33%) Post-mortem sex acts (46%). Often evidence of vaginal sex (38%) and/or anal sex (33%).	injury (60%). Less likely to engage in post-mortem sex acts (25%). May be evidence of vaginal sex (28%) and/or anal sex (18%).	Unlikely to use violence other than the fatal injury (38%). Unlikely to engage in post-mortem sex acts (15%). Likely to be evidence of vaginal sex (56%), but less often anal sex (12%).	
Characteristics associated with subtypes[2]	Deviant fantasies. Premeditation. Stranger victim. Vaginal rape. Strangulation.	Unplanned offence. Known victim. Vaginal rape. Anal rape. Overkill/multiple	Plans to sexually offend. Vaginal rape.	

	Sadistic elements. Mutilation. Post mortem sexual interference. Insertion of objects. Substance abuse unlikely.	traumas. Substance abuse.		
Inconsistent findings[3]	Loneliness. Beating. Use of restraints. Previous convictions for sexual offences.	Loneliness.		

[1] Italicised headings are the original group labels assigned by the study authors

[2] Reported in at least two studies, with no study reporting conflicting results

[3] Conflicting results found between studies

Discussion

As the field of sexual aggression research continues to progress, researchers have begun to rely upon on typologies of sexual murder that are widely cited in the literature (Beauregard & Martineau, 2016a; Higgs et al., 2015). This is, however, constrained by the caveat that much of the evidence base is flawed due to methodological inadequacies or limitations, and unsuccessful attempts to validate proposed models (Bennell et al., 2013; Canter et al., 2004; Canter & Wentink, 2004). The purpose of this review was to establish the true extent and quality of empirical support for typologies of sexual murder in order to advance scientific understanding of this form of crime. Accordingly, three subtypes of sexual murder are consistently identified in the scientific literature. First, *sexualised murder*, in which killing is functionally related to the sexual element of the offence. Secondly, *grievance murder*, driven by angry schema and an excessively aggressive response style. Finally, *rape murder*, which involves only an indirect association between the sexual offence and killing.

Parallels exist between the sexual murder subtypes found through this review, and the overall patterns described in studies that did not satisfy the inclusion criteria. The three subtypes largely concord with clinical observations appearing in numerous publications (Clarke & Carter, 2000; Malmquist, 2006; Revitch & Schlesinger, 1989; Schlesinger, 2004), suggesting strong validity of the general themes. What remains to be seen is the reliability of proposed associations between the different subtypes and specific behavioural and psychological characteristics. For

example, only a small range of crime scene behaviours consistently distinguished subtypes. *Sexualised murder* is typified by sadistic behaviours. Victims are often strangled, subjected to insertion of objects, and further violated through post mortem sexual interference. *Grievance murders* involve infliction of multiple injuries and anal rape, whereas sadistic and excessive violence does not occur in a *rape murder*. In addition to these behavioural factors, victim selection is an important modus operandi factor. Stranger victims are found more frequently for *sexualised murders*, compared to *grievance murders*, where a known victim is more often found (the type of victim in *rape murder* could not be determined from this review). However, this finding should be interpreted cautiously because definitions of stranger vary (Carter & Hollin, 2010), and the studies included in this review did not provide their operational definitions. For example, this means that one study may have considered the victim known if she would likely have recognized the perpetrator, perhaps as a neighbour, seen previously in passing, but in another study the lack of reciprocal interaction would classify the same victim as a targeted stranger.

Turning to psychosocial factors, loneliness has repeatedly been indicated in studies of sexual murderers (Grubin, 1994; Milsom, Beech, & Webster, 2003; Nicole & Proulx, 2007) but the present review found that the precise role of loneliness as a precursor to sexual murder remains unclear, given that it is inconsistently associated with *sexualised murder* and *grievance murder*. Further, only one study presented data providing information about offenders' affective state before, during, and after the crime (Beauregard & Proulx, 2002). The only significant findings were that

sadistic offenders reported positive affect before the crime, as opposed to pre-crime anger in the *anger* cluster. Beech et al. (2005) found a group of sexual murderers who reported that they were motivated by anger and resentment towards women, and Stefańska et al. (2015) also concluded that a subtype of sexual murderers were best described as grievance driven. However, they found a profile of low scores among this group on psychometric measures of cognitive problems, including angry rumination. This does not necessarily suggest a contradiction, because angry rumination is a different psychological construct to grievance towards women, but it is clear that there is room for improvement in understanding the precipitating factors specific to subtypes of sexual murder.

An important goal for theory development would, therefore, be to empirically work towards a more complete biopsychosocial model mapping onto the subtypes of sexual murder that may now be considered relatively well established. It would also be beneficial to develop an objective operationalisation of *sexualised murder*, *grievance murder*, and *rape murder*. This would allow researchers to design innovative studies aiming to improve risk prediction (Lussier & Cale, 2014), which is imperative because available risk assessment tools have yet to be validated for use with sexual murderers (Hill et al., 2012). Similarly, programs offered in forensic services were not designed directly for this client group, but based on the limited evidence base, are offered to sexual murderers alongside non-homicide sexual offenders (Carter, Mann, & Wakeling, 2008). Using a broad definition of sexual murder, perpetrators categorised as such do not appear qualitatively different from non-homicide sexual

aggressors in many ways (Stefańska, Beech, & Carter, 2016). Problematic, though, is a lack of attention to the heterogeneity within groups that is evident in research comparing sexual murderers to non-homicide sexual aggressors. Possibly, the definition of sexual murder generally used academically is too broad. For example, *rape murderers* may well be more aligned to non-homicide sexual aggressors given the indirect association between killing and sexual arousal in this subtype, whereas the same may not be true for *sexualised murderers* and *grievance murderers*. If this hypothesis is accurate, a broad definition of sexual murder results in attenuation in the ability of comparison studies to detect differences between groups. A recent trend towards making use of typologies in order to advance understanding crime (Beauregard & Martineau, 2016b; Higgs et al., 2015; Lussier & Cale, 2014) will be aided by this review, as it has demonstrated validity in the general themes found in the literature. More importantly, it has highlighted the gaps in knowledge that remain.

Limitations

The critical finding of this review is also its main limitation: This review has highlighted that although publications on the topic of sexual murder are abundant, methodologically rigorous empirical studies are not so. Only seven studies were identified in the extant literature contributing typologies developed using clearly described analytical methods. Within these, there remains insufficient information and a lack of replication of results, particularly in relation to biopsychosocial factors necessary to establish a model of sexual homicide that would be of use to those tasked

with risk assessment and intervention. Further, as discussed, mentally disordered offenders appear to be underrepresented and understudied.

Additionally, *sexualised murderers* may be more likely than others to be, or present greater risk of becoming, serial sexual murderers (Kocsis et al., 2002). Studies focusing on serial murderers were not included in this study in order to avoid confounding effects of samples partially comprising non-sexual murderers. However, the issue of serial versus non-serial and sexual versus non-sexual is complex for several reasons. As Schlesinger (2000) points out, some researchers have conflated serial murder with sexual murder, and conversely, some seemingly non-sexual murders may in fact have been sexually motivated despite the absence of overt crime scene evidence (Folino, 2000). Further, defining serial offending relying on accumulation of victims may be somewhat arbitrary and does not take into account an offender's disposition to reoffend if not apprehended (Kocsis, 2006). Therefore, there may be additional studies relevant to this review that have not been included due to the particular inclusion criteria set.

Conclusion

Recurrent themes are seen in the sexual murder literature, describing offenders propelled by sexual fantasies to eventually kill, others acting out of anger, and still others inflicting fatal injuries in the context of a sexual crime that bears no other hallmarks of sexual murder in the sense invoked by the term. Empirically derived typologies of sexual murder support such distinctions. Respectively, these may be labeled *sexualised murders, grievance murders,* and *rape murders.* Objective

criteria to distinguish subtypes will require further validation, but there is evidence to suggest that *sexualised murder* is characterised by strangulation, sadistic behaviour, insertion of inanimate objects, and post mortem sexual interference. *Grievance murder* appears to be characterised by infliction of multiple injuries and anal rape. *Rape murder* occurs following a sexual assault, without evidence of overkill or sadistic violence. Next steps will be to elucidate the biopsychosocial factors associated with these subtypes of sexual murder, and to examine whether there are differences in their criminal careers, and finally, risk of recidivism.

Chapter 3.

Developmental and criminal histories of sexual aggressors of women: A comparison of rapists and subgroups of sexual murderers engaging, or not engaging, in post mortem sexual interference

Abstract

Identifying factors that may predict sexual aggression in the context of directly sexual murder, indirectly sexual murder, and non-fatal outcomes is necessary for advancing a field lacking a substantiated multifactorial theoretical model. Eighty-nine sexual murderers engaging in post mortem sexual interference were compared to 92 non-post mortem sexual interference sexual murderers and 72 rapists on developmental factors, adult lifestyle, and criminal history. A series of multinomial logistic regression analyses suggested that unlike rapists, both groups of sexual murderers experienced a lack of success in sexually intimate relationships. Perpetrators of post mortem sexual interference were rarely necrophiles, but having a history of sadistic behaviors or interests uniquely predicted sexual murder involving post mortem sexual interference. Chronic violent and sexual offending was characteristic of rapists. Psychopathy, measured using the screening version of the Psychopathy Checklist (Hart, Cox, & Hare, 1995), was not predictive of any outcome. Results support criticism of existing theoretical models; that they do not apply to non-sadistic sexual murder. Findings are discussed in relation to gaps in theoretical

understanding of sexual murder, and concerning implications for forensic policies and practice.

Introduction

Despite a vast amount of popular and academic interest in sexual homicide and what sort of individual is capable of such an act, several researchers have commented on the problematic nature of the subject as far as robust research methodology is concerned. For example, difficulties remain with definition and objective identification criteria, sample selection bias is unavoidable, base rates are low, and researchers face a particular challenge in the reliability and availability of information pertaining to this population (Chan, 2015; Clarke & Carter, 2000). Recently there have been fruitful efforts to overcome some of these limitations through the identification of larger samples (Beauregard & Martineau, 2013; Stefańska, Carter, Higgs, Bishopp, & Beech, 2015), targeting diverse populations such as sexual murderers of men, and female sexual murderers (Beauregard & Proulx, 2007; Chan & Frei, 2013; Myers & Chan, 2012), and inclusion of non-sexual murder control groups (Carter et al., 2016). This leads to a position from which it is possible to reach increasingly reliable conclusions about what is known about those who perpetrate such crimes, as well as providing some clarity around those areas demanding further research attention.

Most sexual homicide is perpetrated by men, against women (Chan, Myers, & Heide, 2010; James & Proulx, 2014). Although sexual homicide has, more so historically, been conflated with serial killing, the two are not one in the same (Proulx, Cusson, & Beauregard, 2007). The majority of sexual murderers do not kill repeatedly (Campos & Cusson, 2007). Maybe they are apprehended before they have further opportunity, but sexual

violence recidivism rates appear to be low based on the available post release follow-up data (Hill, Habermann, Klusmann, Berner, & Briken, 2008). Further, there are several psychosocial, criminal career, and modus operandi factors that appear to differentiate between serial and non-serial sexual murderers (James & Proulx, 2014; James & Proulx, in press). That said, proposed theories of sexual homicide are generally inattentive to this issue. They also suffer a number of other limitations, first and foremost, they tend to be based on little or no empirical data, or have received only limited scientific validation. Nevertheless, they provide a valuable framework for elucidating what is currently understood of this rare, but clearly concerning type of crime.

Theoretical models of sexual homicide

Theoretical hypotheses are offered in the trauma-control model (Hickey, 1997, 2002), and the paraphilic model (Arrigo & Purcell, 2001), or derived on the basis of preliminary empirical data as in the FBI's motivational model (Burgess, Hartman, Ressler, Douglas, & McCormack, 1986; Ressler, Burgess, & Douglas, 1988), and Chan, Heide and Beauregard's (2011) social learning-routine activity integrative model of the offending process in sexual homicide. The common theme within these theoretical models is an emphasis on adverse childhood experiences and the subsequent development of violent sexual fantasies, which are typically considered as the central precipitating factor to sexual homicide.

As such, the existing theoretical models all draw upon theories of social learning (Akers, 1985; Bandura, 1986) and attachment (Ainsworth, 1979), more or less explicitly between authors. To some extent they also

refer to biological factors that may favor sexual aggression, as well as operant conditioning that may facilitate the transition from the internal world to the extreme behavior the models seek to explain. However, in some instances there may have been a risk of confirmation bias where possibly unrepresentative samples relied upon displayed similarities to the mostly serial murderer sample of the FBI studies, which is just one possible problem among many difficulties associated with often insufficiently defined and described samples. Also, even the model that was tested on the more representative sample (Chan et al., 2011) was only modestly supported by the data, predicting sexual homicide over non-homicide sexual aggression at around chance level. Moreover, there is no theoretical model of sexual homicide that attempts to explain the different trajectories from pre-dispositional biological and environmental factors and formative events to sexual homicide, which may or may not be driven by sadistic fantasy. For example, there are different pathways to sexual homicide (Stefańska et al., 2015; Vettor, Beech, & Woodhams, 2014), yet there is no multifactorial theory of sexual homicide that deals with the complexities that begin to be drawn out here.

Typologies of sexual homicide

Just as sexual homicide is not equatable to serial killing, neither is sexual homicide necessarily an expression of sexual sadism. There are problems with both conceptual and operational definitions of sexual sadism (Marshall & Kennedy, 2003), particularly when applied to sexual homicide where it appears to have been used as somewhat of a catch-all term for sadism more or less as first defined: "the experience of sexual,

pleasurable sensations (including orgasm) produced by acts of cruelty … may also consist of an innate desire to humiliate, hurt, wound, or even destroy others" (Krafft-Ebing, 1886, p. 53); erotophonophilia (Money, 1990); or lust murder (Myers, Burgess, Burgess, & Douglas, 1999). Nevertheless, a subgroup of sexual killers are typically described as sadistic, or less prescriptively, 'deviance driven' (Stefańska et al., 2015). Whether or not sexual sadism is the most accurate label, for these perpetrators there is a direct association between killing and sexual arousal (Carter & Hollin, 2014).

The extant literature consistently describes a second type of sexual homicide, characterized by anger (Beauregard & Proulx, 2002; Beech, Fisher, & Ward, 2005; Myers et al., 1999; Stefańska et al., 2015). Perpetrators of these grievance-driven offences kill in the context of sexual activity, which may or may not be immediately assaultive; often anger precedes or is triggered in a consensual situation (Stefańska et al., 2015). Although some perpetrators may experience sexual arousal associated with the extreme level of violence, typically the link between killing and the sexual element of the offence is indirect.

Finally, some cases meet the broad definition of a sexual murder (minimally, that the victim was found at least partially naked and/or there was evidence of sexual contact; Ressler et al., 1988) but the sexual element and the act of killing are clearly only indirectly linked. That is, killing is instrumental following a sexual assault (elimination of the witness), or due to violence augmented by victim vulnerabilities, for example.

Sexual homicide as a subtype of sexual violence

The question of the distinctiveness of sexual homicide as a discrete type of offending that might require special consideration theoretically and clinically (i.e. for risk assessment and forensic intervention) remains unanswered, in as much as researchers have reported inconclusive or contradictory results (Chan & Heide, 2009; Kerr, Beech, & Murphy, 2013). It is difficult to ascertain the extent to which this reflects methodological difficulties including low prevalence rates and sample construction, notably over-representation of serial murderers. Also, many studies examine sexual murderers in isolation, therefore, inferences in relation to what is known about sexual violence more widely are restricted. However, a systematic review addressing the issue found ten articles making direct comparisons between sexual murderers and non-homicide sexual aggressors (Stefańska, Beech, & Carter, 2016).

Overall, sexual murderers were found to experience anger, and especially loneliness to a greater degree than sexual aggressors. The groups appeared similar in several domains: family structure, mental health disorders, and criminal history; whereas it remained unclear whether certain characteristics, including own victimization and psychological factors such as self esteem, may differ between sexual murderers and sexual aggressors (Stefańska et al., 2016).

However, when making comparisons between sexual murderers and sexual aggressors, typically the heterogeneity within samples of sexual murderers is not taken into account. In the first study to utilize established typologies to minimize the potentially confounding effects of a broad definition of sexual murder when making comparisons to a sample

of non-homicide sexual aggressors, Higgs et al. (2015) specified that research should focus on sexual murder where killing is directly linked to sexual arousal. Thus, their sample included sexual murderers operationalized to include only those engaging in post-mortem sexual interference, in order to exclude all cases where homicide was clearly indirectly sexual. It was found that this operationalization for sampling sexual murderers may provide a useful starting point for further research to reach an improved understanding of this type of crime and those who perpetrate such extreme acts of harm.

Current objectives

Theoretical explanations of sexual homicide require empirical substantiation and there has been a lack of innovation in scientific attention to the problem (DeLisi, 2015). This study aims to address both issues. Specifically, the aims were to examine developmental factors, adult lifestyle, and criminal careers of sexual murderers compared to non-homicide sexual aggressors (rapists). In line with the hypothesis that the amalgamation of heterogeneous types of sexual murderers attenuates the possibility to detect potential differences between sexual murderers and rapists, sexual murderers were divided into subgroups of those engaging, and those not engaging, in post mortem sexual interference. Post mortem sexual interference was defined to be present when there was disclosure from the perpetrator and/or crime scene or pathology evidence of sexual activity with an unconscious or dead victim, including sexual mutilation (i.e. of genital areas) but excluding any other post mortem mutilation (i.e. for the purpose of body disposal or destruction of evidence; Carter, Mann,

& Wakeling, 2008; Higgs et al., 2015). According to this definition, post mortem sexual interference does not necessarily represent a necrophilic subgroup of sexual murderers. Indeed, when these behaviors are attached to murder, typically the motivation is not sexual activity with a corpse (Stein, Schlesinger, & Pinizzotto, 2010).

Following the argument that population heterogeneity should be considered in the sampling process, the same applies to the comparison sample. Typically, samples of rapists are a combination of violent and non-violent offenders. Yet, a more nuanced understanding comes from comparison research introducing methodological controls for the effects of this amalgamation (Beauregard & Martineau, 2016b). For truly independent samples, the sample of rapists should not contain offenders whose criminal careers would have involved sexual murder given the opportunity. Since some rapists escalate in their offending to commit a sexual murder (Grubin, 1994; Oliver, Beech, Fisher, & Beckett, 2007), identifying such a sample is impossible. However, the probability that an independent sample has been identified can be improved by restricting the rapists sample to those who may be considered to have offended equally as seriously as the sexual murderers, according to legal categorization. In the UK, indeterminate prison sentences (imprisonment for life or imprisonment for public protection, release being dependent upon Parole Board approval) apply to rape or attempted rape based on the severity of the index offense or a history of serious sexual offending. This legal determination of offence severity provides an objective selection criterion, and is one way to identify a sample of rapists who, arguably, represent the most relevant comparison group in sexual homicide

research as opportunity to escalate to sexual murder has been demonstrated.

Given that previous research suggests that the most extreme sexual crimes are a function of more extreme developmental disturbance (Nicole & Proulx, 2007), and the consistent finding that sexual murderers report loneliness and anger (Stefańska et al., 2016), it was hypothesized that the greatest degree of developmental adversity and lifelong social difficulties would be found among sexual murderers engaging in post mortem sexual interference. There are conflicting views in the literature as to whether sexual murderers are specialized offenders or career criminals. However, previous research findings favoured the hypothesis that evidence of habitual or chronic offending would be found in all three groups (DeLisi, 2015). Psychopathy was hypothesized to predict non-post mortem interference sexual murder, and rape, over post mortem interference sexual murder. This is in line with previous characterizations of sexual murderers. That is, the current post mortem interference sample is akin to the sadistic type described in the literature, insofar as these should be directly sexual murders. Conversely, the non-post mortem interference sample is likely to contain a greater proportion of opportunistic offenders, who are more likely psychopathic (Proulx & Beauregard, 2009).

Method

Design

The study was descriptive and comparative in design. Data was obtained from the Public Production Unit Database (PPUD), which stores National Offender Management Service (NOMS) records relating to all prisoners detained in England and Wales. The records accessed included pre- and post-sentence psychiatric and probation reports, official criminal records, and prison file information such as psychological assessments and multidisciplinary reports prepared for parole hearings and so forth. The study aimed to explore whether specific developmental factors and criminal trajectories are related to the type of the offender's last crime (sexual murder involving post mortem sexual interference, sexual murder without post mortem sexual interference, or non-homicide sexual aggression, i.e., rape).

Sample

The sample used in the present study comprised 253 males, all of whom had received an indeterminate prison sentence (imprisonment for life or imprisonment for public protection, release in both cases requiring approval from the Parole Board). For inclusion in the study, all index offences must have been perpetrated when the offender was aged at least 18 years (for the purpose of the study 'index offence' refers to the sexual murder or rape/attempted rape resulting in an indeterminate sentence). Victims of the index offence were female, aged 14 years or over. Murderers were non-serial (one or two victims with no emotional cool-off period, that is, apparently a single event; Proulx et al., 2007).

The first stage of the sampling strategy required a search of NOMS databases, which identified 916 offenders with a conviction for murder or manslaughter, meeting the above criteria, whose offences were recorded as involving a sexual element and/or sexual motivation that was evidenced, suspected, or admitted. A preliminary review of files yielded 350 cases of sexual murder, after exclusion of those where information was substantially or entirely missing, or the initial search had produced false positives (i.e., not all of the study inclusion criteria were met). From this preliminary file review it was also established whether or not the perpetrator had engaged in post-mortem sexual interference (as defined above). The presence or absence of post mortem sexual interference was used as a proxy to create a group that may be representative of cases where there was a direct link between sexual arousal and killing rather than because this behavior was of interest in and of itself. Therefore, cases were included in the post mortem sexual interference group if the victim was sexually assaulted so close to the time of death that it could not be certain that the victim was deceased when the sexual assault occurred, but there was evidence that they had, or were at least very likely to have lost consciousness. The final sample of sexual murderers who had engaged in post-mortem sexual interference (or, post-mortem sexual interference sexual murderers; PMSI sexual murderers) comprised 89 cases.

The sample of sexual murderers who had not engaged in post-mortem sexual interference (non-PMSI sexual murderers) included 92 cases quasi-randomly selected from the remainder of those identified during the initial screening. For each post-mortem sexual interference

case, the next individual appearing in the database was included in the study. Likewise, rapists were identified from NOMS databases and a sample of 72 cases was similarly quasi-randomly selected.

All offenders included in the study were born between 1932 and 1989; PMSI sexual murderers, *M* = 1959; non-PMSI sexual murderers, *M* = 1962; rapists, *M* = 1962. The ethnicity of the samples was mostly White British; 91% (*n* = 81), 82.6% (*n* = 76), and 77.8% (*n* = 56) for PMSI sexual murderers, non-PMSI sexual murders, and rapists, respectively. The remainder of the sample of PMSI sexual murderers was Black (Caribbean, African, or other Black background; 4.5%, *n* = 4), or other ethnicity (non-British White backgrounds, Mixed, Asian, or no ethnicity recorded; 4.5%, *n* = 4). The remainder of the sample of non-PMSI sexual murderer was Black; 4.3% (*n* = 4), or other ethnicity; 13% (*n* = 12). The remainder of the sample of rapists were Black; 15.3% (*n* = 11), or other ethnicity; 6.9% (*n* = 5).

Procedure and measures

Developmental and adult lifestyle information and criminal career details were collated from PPUD. Evidence for each variable was scored dichotomously (present or absent), or numerically (such as frequency of offence types), and managed within a coding framework developed on the basis of previous research (James & Proulx, 2014). The first 10% of cases were blind coded by another researcher, in accordance with the ethical approval received for the study, with good strength of agreement (Cohen's κ = .81).

Each case was also assessed for psychopathy using the Psychopathy Checklist: Screening Version (PCL: SV; Hart, Cox, & Hare, 1995). Where full Psychopathy Checklist-Revised (PCL-R; Hare, 2004) assessment reports were found within PPUD, these were accessed after all other information was collated and PCL: SV items scored, and total PCL-R scores were recorded in order to assess convergent validity. A Pearson product-moment correlation was run to determine the relationship between PCL-R and PCL: SV scores. The data showed no violation of normality, linearity or homoscedasticity. There was a strong, positive correlation between scores on the two measures (r = .86, n = 103, p <.001). Therefore, PCL: SV scores were relied upon for between group comparisons.

Analytical strategy

Variables were organised into three categories pertaining to developmental factors, adult lifestyle, and criminal career. As an initial exploration of the data, chi-square tests for independence and one-way ANOVA (or Kruskal-Wallis Tests where appropriate) were completed (for complete SPSS command and output files, see Appendix D). Most variables were dichotomous (present or absent), whereas aggregate degrees of disturbance should relate to adult offending severity more so than the presence or absence of individual factors (Hickey, 2002; Nicole & Proulx, 2007). Therefore, it was theoretically preferable to combine variables in related areas of developmental disturbance or adult lifestyle. Following this theory-driven approach, where possible variables were grouped according to type of disturbance or difficulty, and sum totals of

the individual variables were calculated. This effectively created three scales: a Detrimental Model Exposure Scale comprising items relating to exposure to violence against women or inappropriate parental sexual behavior; a Negative Childhood Experiences Scale comprising victimization or trauma items; a Developmental Inadequacies Scale comprising of indicators of behavioral maladaptation in childhood; and a Lack of Intimacy Scale comprising items describing sexual inexperience or absence of intimate relationships. The scales had low internal consistency (α = .52; .42; .57; .54 respectively), however this may be expected given that each scale consisted of relatively few items (Tavakol & Dennick, 2011), and was tolerated to preserve theoretical relevance.

Variables were subsequently selected for multivariate analysis using a threshold of p <0.25 (Hosmer & Lemeshow, 2000). Those variables falling below this significance level in the first stage of analysis were disregarded, as were low frequency (<10% prevalence) variables. Remaining variables were tested using multinomial logistic regression, in three blocks (developmental factors, adult lifestyle, and criminal career). A final model was derived based on the outcome of analyses of the three blocks. PMSI sexual murderers were selected as the reference group, in accordance with the research hypotheses. However, for completeness, the regression analyses were repeated with rapists as the reference group in order to examine predictors of rape compared to non-PMSI sexual murder.

Results

Non-significant differences were found between groups on several developmental, adult lifestyle, and criminal career factors (Tables 3 and 4). As such, the bivariate analyses precluded several of the dichotomous variables as candidates for the multivariate model. Likewise, two of the scale variables were excluded from further analysis due to non-significant differences between rapists, PMSI sexual murderers, and non-PMSI sexual murderers: The Detrimental Model Exposure Scale, F (2, 250) = .38, p = .69, and the Negative Childhood Experiences Scale, F (2, 245) = .93, p = .40. There was a statistically significant difference between groups on the Developmental Inadequacies Scale, F (2, 250) = 3.6, p = .03. Post-hoc comparisons using the Sidak test found that the mean score for PMSI sexual murderers (M = 3.02, SD = 2.17) was significantly higher than for rapists (M = 2.21, SD = 1.7). Non-PMSI sexual murderers (M = 2.78, SD = 1.86) did not differ significantly from either PMSI sexual murderers or rapists.

No difference in psychopathy was found between groups. Scores on the PCL: SV were not significantly different between PMSI sexual murderers (M = 11.54, SD = 5.10), non-PMSI sexual murderers (M = 11.29, SD = 5.06), or rapists (M = 11.57, SD = 4.53): F (2, 250) = .08, p = .92.

Table 3. Developmental and adult lifestyle factors present for post mortem sexual interference sexual murderers (PMSI sexual murderers), non-post mortem interference sexual murderers (non-PMSI sexual murderers), and rapists.

	PMSI Sexual murderers (*n* = 89)	Non-PMSI Sexual murderers (*n* = 92)	Rapists (*n* = 72)		
	%			χ^2	*p*
Only child*	9	4	3	3.24	.20
Youngest child	28	25	25	.21	.90
Eldest child	27	28	35	1.27	.53
Large family	51	57	66	3.37	.19
Parent psychiatric history*	11	5	3	4.92	.09
Parent criminal history	14	10	7	1.88	.39
Parent violent crime*	2	5	0	4.36	.11
Parent sexual crime*	2	2	2	.14	.93
Parent other crime*	8	4	2	3.58	.17
Sibling criminality	12	21	17	2.25	.33
Grew up with biological parents	48	44	46	.43	.81
Single mother	14	14	14	.02	.99
Grew up with step-parent	17	23	14	2.33	.31
Grew up with grandparents*	7	1	1	4.16	.13

Disrupted caregiving	8	14	10	1.96	.38
Taken into public care	38	37	35	.21	.90
Felt rejected by family	6	10	8	1.10	.58
Parental lack of emotional warmth	14	11	14	.47	.79
Black sheep of family*	1	1	7	6.53	.04
Anger towards mother*	3	1	4	1.61	.45
Failure to meet high standards*	1	2	3	.59	.74
Parents frequent arguing*	0	2	0	3.53	.17
Sexual development problems*	0	1	1	1.14	.57
Sexual aggression <18	21	17	25	1.43	.49
Antisocial behaviour <18	53	64	65	3.40	.18
Diagnosed conduct disorder*	2	0	0	3.72	.17
Learning disability	10	13	18	2.18	.34
Left school without qualification	60	58	61	.21	.90
Employment problems	64	57	51	2.63	.27
Alcohol misuse	57	47	44	2.96	.23
Drug use	46	41	56	3.34	.19
Cannabis	40	34	50	4.23	.12
Depressants (not cannabis)	15	12	17	.70	.71
Stimulants	27	26	41	5.42	.07
Hallucinogens	19	12	19	2.15	.34

Head injury	15		15		10	1.21	.55
Adult social isolation	63		49		44	6.23	.04
Homosexual self-prostitution	6		3		4	.61	.74
Sexual dysfunction*	9		4		8	1.70	.43
Paraphilia	38		15		28	12.20	.00
Fetishism*	7		5		4	.51	.78
Frotteurism*	0		0		1	2.52	.28
Paedophilia*	1		0		1	1.19	.55
Exhibitionism*	5		9		8	1.43	.49
Sexual masochism*	2		1		4	1.66	.44
Transvestisism*	1		1		0	.80	.67
Voyeurism*	5		4		7	.68	.71
Necrophilia*	5		0		0	7.49	.02
Telephone scatophilia*	0		3		6	4.70	.10
Beastiality*	1		0		0	1.85	.40
Sexual sadism	24		1		8	24.05	.00
Disclosed rape fantasies	22		17		29	3.27	.20
Major mental disorder	10		10		11	.08	.96
Personality disorder	15		16		11	.91	.64
Autism Spectrum Disorder*	1		2		0	1.63	.44
Homelessness	9		11		17	2.38	.30

	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Detrimental Model Exposure Scale	.57	.88	.62	.89	.69	.90	.38	.69
Negative Childhood	1.94	1.53	1.65	1.25	1.81	1.52	.93	.40

Experiences Scale								
Developmental Inadequacy Scale	3.02	2.17	2.78	1.86	2.21	1.74	3.6	.03
Adulthood Lack of Intimacy Scale	2.59	1.15	2.40	1.09	1.47	1.02	23.17	.00

* Excluded from further analysis as observed frequency <10%

Table 4. Criminal histories of post mortem sexual interference sexual murderers (PMSI sexual murderers), non-post mortem interference sexual murderers (non-PMSI sexual murderers), and rapists.

	PMSI Sexual murderers		Non-PMSI Sexual murderers		Rapists			
	M	*SD*	*M*	*SD*	*M*	*SD*	*F* or $\chi 2$	*p*
Age at first conviction	18.40	5.50	17.23	6.08	19.75	10.14	3.99	.14
Previous violent offences	1.33	2.04	2.24	3.49	4.24	6.26	23.43	.00
Age at first violent conviction	19.24	5.35	18.40	4.32	21.75	6.87	8.35	.02
Previous sexual offences	.38	.83	.83	1.67	2.58	5.12	27.19	.00
Previous rape/attempted rape	.10	.30	.20	.60	.54	.90	22.14	.00
Sexual offences against children	.12	.50	.13	.62	.25	.78	.71	.71
Age at first sexual conviction	20.70	5.29	20.83	6.44	23.07	6.72	2.45	.29
Non-violent non-sexual offences	12.07	19.89	20.98	33.87	29.86	50.68	12.79	.00
Age first non-violent non-sex	16.61	3.53	15.81	4.13	17.84	6.72	3.58	.17

conviction								
Age at time of index offence	26.64	6.96	26.42	8.01	39.03	8.66	64.98	.00
Age of index offence victim	33.85	19.16	35.36	22.29	31.76	17.83	.64	.53
				%			χ^2	*p*
History of alleged sexual violence			27		27		38	2.67	.26
Previous sex offence with male victim			5		1		1	2.69	.26
Previous offending includes burglary			39		36		43	.88	.65
Has no prior convictions			17		14		8	2.54	.28

Main effects method multinomial logistic regression analyses were performed to assess prediction of membership in the three categories of outcome (PMSI sexual murderers, non-PMSI sexual murderers, and rapists). First, on the basis of developmental, adult lifestyle, and criminal career predictors and then to assess the improvement in the model taking the strongest predictors ($p < .05$) from each of these blocks within an overall model. Developmental predictors were growing up within a large family, antisocial behavior, and maladaptive behavior measured by the Developmental Inadequacy Scale. Adult lifestyle predictors were alcohol misuse, using cannabis, using stimulants, social isolation, lack of intimacy measured by the Lack Intimacy Scale, sadistic interests or behavior, and disclosure of rape fantasies. Criminal career predictors were age at first conviction for any offence, frequency of previous violent offences, age at first conviction for a violent offence, frequency of previous sexual offences, frequency of previous convictions for rape or attempted rape, frequency of non-violent non-sexual offences, and age at first non-violent non-sexual offence.

No predictors were included where violation of linearity of the logit was observed. Evaluation of adequacy of expected frequencies for categorical predictors revealed no need to restrict tests of the model. There was good model fit (discrimination among groups) for each of the three blocks using a deviance criterion, χ^2 (54, N = 253) = 65.24, p = .14 for the developmental block, χ^2 (204, N = 253) = 193.99, p = .68 for the adult lifestyle block, and χ^2 (268, N = 253) = 255.77, p = .69 for the criminal career block. In the final model, deviance was also acceptable, χ^2 (442, N = 253) = 391.38, p = .96, Nagelkerke R^2 = .43.

Classification was unimpressive for the developmental block (44% overall correct classification rate), the adult lifestyle block (53% overall), and the criminal career block (51% overall), but slightly improved in the overall model where correct classification rates were 54% for PMSI sexual murderers, 62% for non-PMSI sexual murderers, and 58% for rapists; the overall correct classification rate was 58% (Table 5).

Tables 6, 7, 8 and 9 show regression coefficients, Wald statistics, and 95% confidence intervals for each stage of analysis. Antisocial behavior in childhood and adolescence was less frequent among PMSI-sexual murderers than non-PMSI sexual murderers and rapists. Problems with developmental inadequacy were not statistically significantly different between PMSI sexual murderers and non-PMSI sexual murderers, but PMSI sexual murderers had higher scores on the Developmental Inadequacy Scale than rapists. With a one point increase on the Developmental Inadequacy Scale, the odds of being in the rapist sample would be expected to decrease by a factor of .59 assuming other variables in the model are held constant. This indicates that rapists were less likely than PMSI sexual murderers to have had socialization and anxiety difficulties in childhood, expressed in behaviors such as self-harm, fire-setting, cruelty to animals, and substance abuse.

On factors present in adulthood, non-sadists relative to sadists were more likely to be in the non-PMSI sexual murderers or rapists groups; the odds of being in the non-PMSI sexual murders group as opposed to the PMSI sexual murderers decreased by a factor of .03 with the presence of sadism when other variables in the model are held constant, and the odds of being in the rapists group as opposed to the PMSI sexual murderers

group decreased by a factor of .22 with the presence of sadism when other variables in the model are held constant. Differences were also found in the sexual lifestyles of PMSI sexual murderers and rapists (but not between PMSI sexual murderers and non-PMSI sexual murderers). As scores on the Lack of Intimacy Scale increase by one point, the odds of being in the rapists group decrease by a factor of .36, meaning that rapists were more likely than PMSI sexual murderers to have been promiscuous and also had sexual contact with prostitutes, and rapists were more likely to have experienced long term relationships.

Rapists had been convicted more frequently than PMSI sexual murderers for both violent and sexual offences. The odds of being in the rapists sample rather than the PMSI sexual murderers sample increased by a factor of 1.24 for each additional violent offence with other variables held constant, and was 1.5 times greater with an additional sexual offence with other variables held constant.

In the final model, the three groups were distinguished on the basis of five predictors overall: alcohol misuse, lack of intimacy, violent and sexual offending, and sadism. Sadistic interests or behaviors were most common among PMSI sexual murderers and least common among Non-PMSI sexual murderers. The greatest numbers of both violent and sexual offences were found among rapists and the lowest frequency of violent and sexual offending was among PMSI sexual murderers. Sexual lifestyles involving sexual contact with prostitutes, having long-term relationships, and promiscuity were most common among rapists whereas PMSI sexual murderers were most likely to have experienced a lack of intimacy, in the extreme meaning a total absence of consensual sexual experience.

Table 5. Classification of PMSI sexual murderers, non-PMSI sexual murderers, and rapists at each stage of model development

Observed	Predicted			
	PMSI sexual murderers	Non-PMSI sexual murderers	Rapists	Percent Correct
Developmental Block				
PMSI sexual murderers	43	27	16	50.0
Non-PMSI sexual murderers	28	39	18	45.9
Rapists	17	29	24	34.3
Overall percentage	36.5	39.4	24.1	44.0
Adult Lifestyle Block				
PMSI sexual murderers	40	36	11	46.0
Non-PMSI sexual murderers	23	50	18	54.9
Rapists	9	21	42	58.3
Overall percentage	28.8	42.8	28.4	52.8
Criminal Career Block				
PMSI sexual murderers	16	15	6	43.2
Non-PMSI sexual murderers	17	21	13	41.2
Rapists	5	14	35	64.8
Overall percentage	26.8	35.2	38.0	50.7
Final Model				
PMSI sexual murderers	47	34	6	54.0
Non-PMSI sexual murderers	21	57	14	62.0
Rapists	11	19	42	58.3
Overall percentage	31.5	43.8	24.7	58.2

Table 6. Logistic regression analysis of developmental factors in PMSI sexual murderers versus non-PMSI sexual murderers, and PMSI sexual murderers versus rapists.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
PMSI sexual murderers vs. Non-PMSI sexual murderers						
Large family	.12 (.32)	.15	1	1.13	.61	2.10
Developmental Inadequacy Scale	-.10 (.09)	1.34	1	.91	.77	1.07
Antisocial behavior <18	.71 (.35)	4.07*	1	2.04	1.02	4.06
PMSI sexual murderers vs. Rapists						
Large family	.57 (.35)	2.66	1	1.76	.89	3.47
Developmental Inadequacy Scale	-.34 (.10)	11.67**	1	.71	.59	.87
Antisocial behavior <18	.83 (.38)	4.94*	1	2.30	1.10	4.80

Note: R^2 = .08 (Cox & Snell), .09 (Nagelkerke). Model $\chi 2$ = 19.57, p=.003

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

Table 7. Logistic regression analysis of the adult lifestyle of PMSI sexual murderers versus non-PMSI sexual murderers, and PMSI sexual murderers versus rapists.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
PMSI sexual murderers vs. Non-PMSI sexual murderers						
Alcohol misuse	-.27 (.34)	.63	1	.76	.40	1.48
Cannabis use	-.52 (.43)	1.46	1	.60	.26	1.38
Stimulants use	.42 (.47)	.82	1	1.53	.61	3.81
Social isolation	-.43 (.35)	1.54	1	.65	.33	1.29
Sadism	-3.38 (1.05)	10.29**	1	.03	.00	.27
Rape fantasies	.25 (.44)	.33	1	1.29	.55	3.02
Lack of intimacy	-.12 (.15)	.59	1	.89	.66	1.20
PMSI sexual murderers vs. Rapists						
Alcohol misuse	-.78 (.39)	3.98*	1	.46	.22	.99
Cannabis use	-.23 (.47)	.24	1	.80	.32	1.99
Stimulants use	.86 (.50)	2.98	1	2.35	.89	6.22
Social isolation	-.17 (.38)	.20	1	.84	.40	1.78
Sadism	-1.50	.61*	1	.22	.07	.75

Rape fantasies	.98 (.46)	4.55*	1	2.66	1.08	6.55
Lack of intimacy	-1.04 (.20)	28.16***	1	.36	.24	.52

Note: R^2 = .29 (Cox & Snell), .33 (Nagelkerke). Model $\chi 2$ = 86.15, p<.001

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

Table 8. Logistic regression analysis of the criminal careers of PMSI sexual murderers versus non-PMSI sexual murderers, and PMSI sexual murderers versus rapists.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
PMSI sexual murderers vs. Non-PMSI sexual murderers						
Age at first conviction	-.02 (.21)	.01	1	1.02	.68	1.54
Previous violent offences	.13 (.08)	2.37	1	1.14	.97	1.34
Age at first violence conviction	-.00 (.05)	.00	1	1.00	.91	1.10
Previous sexual offences	.19 (.19)	.97	1	1.21	.83	1.75
Rape or attempted rape convictions	.52 (.63)	.68	1	1.68	.49	5.77
Previous non-violent non-sexual offences	.01 (.01)	.98	1	1.01	.99	1.02
Age at first non-violence non-sexual conviction	-.04 (.18)	.04	1	.97	.68	1.37

PMSI sexual murderers vs. Rapists						
Age at first conviction	.04 (.19)	.04	1	1.04	.71	1.52
Previous violent offences	.21 (.09)	5.77*	1	1.24	1.04	1.47
Age at first violence conviction	.10 (.05)	3.53	1	1.10	.97	1.22
Previous sexual offences	.40 (.19)	4.62*	1	1.50	1.04	2.16
Rape or attempted rape convictions	.94 (.62)	2.32	1	2.56	.76	8.61
Previous non-violent non-sexual offences	.01 (.01)	2.01	1	1.01	1.00	1.03
Age at first non-violence non-sexual conviction	.06 (.16)	.16	1	1.06	.78	1.45

Note: R^2 = .31 (Cox & Snell), .35 (Nagelkerke). Model $\chi 2$ = 52.62, p<.001

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

Table 9. Final logistic regression model of antecedent factors for sexual aggressors: PMSI sexual murderers versus non-PMSI sexual murderers; and PMSI sexual murderers versus rapists.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
PMSI sexual murderers vs. Non-PMSI sexual murderers						
Antisocial behavior <18	.41 (.37)	1.25	1	1.51	.73	3.13
Developmental inadequacy	-.01 (.10)	.02	1	.99	.82	1.19
Sadism	-3.32 (1.06)	9.81**	1	.04	.01	.29
Alcohol misuse	-.61 (.35)	3.08	1	.54	.28	1.07
Rape fantasies	.21 (.45)	.22	1	1.24	.51	2.98
Lack of intimacy	-.15 (.16)	.93	1	.86	.64	1.17
Previous violent offences	.11 (.07)	2.66	1	1.12	.98	1.29
Previous sexual offences	.23 (.15)	2.56	1	1.26	.95	1.68
PMSI sexual murderers vs. Rapists						
Antisocial behavior <18	.24 (.44)	.29	1	1.27	.53	3.03

Developmental inadequacy	-.18 (.13)	2.03	1	.83	.65	1.07
Sadism	-.98 (.64)	2.37	1	.38	.11	1.31
Alcohol misuse	-1.06 (.43)	6.01*	1	.35	.15	.81
Rape fantasies	.76 (.50)	2.35	1	2.15	.81	5.69
Lack of intimacy	-.98 (.21)	21.35***	1	.38	.25	.57
Previous violent offences	.22 (.07)	8.97**	1	1.25	1.08	1.44
Previous sexual offences	.49 (.15)	10.87**	1	1.63	1.22	2.19

Note: R^2 = .38 (Cox & Snell), .43 (Nagelkerke). Model $\chi 2$ = 120.26, p<.001

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

In order to explore comparisons between the rapists and non-PMSI sexual murderers, tables 10, 11, 12 and 13 show the results of the repeated analyses, with rapists as the reference category. Similar to the PMSI sexual murderers versus rapists comparisons, developmental inadequacy was less strongly associated with the rapists category than non-PMSI sexual murderers. However, only a non-significant difference in early antisocial behavior was found between rapists and non-PMSI sexual murderers. Looking at adulthood factors, only lack of intimacy significantly distinguished between rapists and non-PMSI sexual murderers; being in the latter group was more than twice as likely with each increase in score on the Lack of Intimacy Scale with other variables in the model held constant. The criminal careers of non-PMSI sexual murderers compared to rapists included convictions for violent offences from a younger age. Sexual offending was more frequent among rapists than non-PMSI sexual murderers. These criminal career variables, along with lack of intimacy, were the only significant factors distinguishing between rapists and non-PMSI sexual murderers in the overall model.

Table 10. Logistic regression analysis of developmental factors in rapists versus non-PMSI sexual murderers, and rapists versus PMSI sexual murderers.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
Rapists vs. Non-PMSI sexual murderers						
Large family	-.44 (.34)	1.65	1	.64	.33	1.26
Developmental inadequacy	.24 (.10)	6.12*	1	1.27	1.05	1.54
Antisocial behavior <18	-.12 (.38)	.11	1	.88	.43	1.84
Rapists vs. PMSI sexual murderers						
Large family	-.57 (0.35)	2.66	1	.57	.29	1.12
Developmental inadequacy	.34 (0.10)	11.67**	1	1.41	1.16	1.71
Antisocial behavior <18	-.83 (0.38)	4.94*	1	.43	.21	.91

Note: R^2 = .08 (Cox & Snell), .09 (Nagelkerke). Model $\chi 2$ = 19.57, p=.003

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

Table 11. Logistic regression analysis of the adult lifestyle of rapists versus non-PMSI sexual murderers, and rapists versus PMSI sexual murderers.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
Rapists vs. Non-PMSI sexual murderers						
Alcohol misuse	.51 (.37)	1.89	1	1.66	.81	3.43
Cannabis use	-.29 (.45)	.40	1	.75	.31	1.83
Stimulants use	-.43 (.48)	.82	1	.65	.25	1.66
Social isolation	-.26 (.37)	.50	1	.77	.38	1.58
Sadism	-1.88 (1.13)	2.75	1	.15	.02	1.41
Rape fantasies	-.73 (.43)	2.84	1	.48	.21	1.13
Lack of intimacy	.92 (.19)	24.03***	1	2.51	1.74	3.62
Rapists vs. PMSIO sexual murderers						
Alcohol misuse	.78 (.39)	3.98*	1	2.17	1.01	4.66
Cannabis use	.23 (.47)	.24	1	1.26	.50	3.13
Stimulants use	-.86 (.50)	2.98	1	.43	.16	1.12
Social isolation	.17 (.38)	.20	1	1.19	.56	2.50
Sadism	1.50(.61)	5.94*	1	4.47	1.34	14.89
Rape fantasies	-.98 (.46)	4.55*	1	.38	.15	.92
Lack of intimacy	1.04 (.20)	28.16***	1	2.82	1.92	4.13

Note: R^2 = .29 (Cox & Snell), .33 (Nagelkerke). Model $\chi 2$ = 86.15, p<.001

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

Table 12. Logistic regression analysis of the criminal careers of rapists versus non-PMSI sexual murderers, and rapists versus PMSI sexual murderers.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
Rapists vs. Non-PMSI sexual murderers						
Age at first conviction	-.02 (.17)	.01	1	.98	.70	1.38
Previous violent offences	-.08 (.06)	1.82	1	.92	.81	1.04
Age at first violence conviction	-.10 (.05)	4.41*	1	.90	.82	.99
Previous sexual offences	-.22 (.11)	4.09*	1	.81	.65	.99
Rape or attempted rape convictions	-.42 (.30)	1.95	1	.66	.36	1.19
Previous non-violent non-sexual offences	-.00 (.01)	.50	1	1.00	.98	1.01
Age at first non-violence non-sexual conviction	-.10 (.14)	.48	1	.91	.69	1.20
Rapists vs. PMSI-sexual murderers						

Age at first conviction	-.04 (.19)	.04	1	.96	.66	1.41
Previous violent offences	-.21 (.09)	5.77*	1	.81	.68	.96
Age at first violence conviction	-.10 (.05)	3.53	1	.91	.82	1.00
Previous sexual offences	-.40 (.19)	4.62*	1	.67	.46	.97
Rape or attempted rape convictions	-.94 (.62)	2.32	1	.39	.12	1.31
Previous non-violent non-sexual offences	-.01 (.01)	2.01	1	.99	.97	1.01
Age at first non-violence non-sexual conviction	-.06 (.16)	.16	1	.94	.69	1.28

Note: R^2 = .31 (Cox & Snell), .35 (Nagelkerke). Model $\chi 2$ = 52.62, p<.001

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

Table 13. Final logistic regression model of antecedent factors: Rapists versus non-PMSI sexual murderers, and rapists versus PMSI sexual murderers.

	B (SE)	Wald	df	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
Rapists vs. non-PMSI sexual murderers						
Antisocial behavior <18	.33 (.63)	.27	1	1.39	.40	4.80
Developmental inadequacy	.04 (.16)	.07	1	1.04	.77	1.4
Sadism	-1.47 (1.29)	1.30	1	.23	.02	2.88
Alcohol misuse	.97 (.52)	3.45	1	2.64	.95	7.35
Rape fantasies	-.78 (.57)	1.84	1	.46	.15	1.42
Lack of Intimacy	.82 (.25)	11.06**	1	2.27	1.40	3.69
Previous violent offences	-.10 (.06)	2.65	1	.91	.80	1.02
Age at first violence conviction	-.11 (.05)	5.15*	1	.90	.82	.99
Previous sexual offences	-.28 (.11)	6.93**	1	.76	.62	.93
Rapists vs. PMSI sexual murderers						
Antisocial behavior <18	-.83 (.67)	1.54	1	.44	.12	1.62

Developmental inadequacy	.09 (.17)	.26	1	1.09	.78	1.53
Sadism	1.23 (.94)	1.73	1	3.44	.55	21.67
Alcohol misuse	1.49 (.60)	6.24*	1	4.45	1.38	14.38
Rape fantasies	-1.03 (.68)	2.35	1	.36	.10	1.33
Lack of intimacy	.87 (.27)	9.92**	1	2.38	1.39	4.09
Previous violent offences	-.29 (.10)	8.81**	1	.75	.62	.91
Age at first violence conviction	-.11 (.05)	4.14*	1	.90	.81	1.00
Previous sexual offences	-.54 (.19)	7.94**	1	.58	.40	.85

Note: R^2 = .45 (Cox & Snell), .50 (Nagelkerke). Model $\chi 2$ = ,90.81 p<001

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

Discussion

New perspectives on life course factors antecedent to serious sexual aggression are gained by comparing sexual murderers to rapists using meaningfully operationalized samples. In this study that is, sexual murderers engaging in post mortem sexual interference, for whom there is a direct association between killing and sexual arousal; sexual murderers not engaging in post mortem sexual interference, a sample more representative of indirectly sexual murder; and rapists who had received a life or indeterminate sentence. Childhood adversity was typical among all three groups of offenders sampled in this study; victimization and trauma was found similarly among PMSI sexual murderers, non-PMSI sexual murderers, and rapists, and exposure to detrimental models was experienced by all groups alike (for example, witnessing violence against women or inappropriate parental sexual behavior). This was inconsistent with the hypothesis that PMSI sexual murderers would have experienced the most disturbance early in life. However, the results indicated that the groups differed on their behavioral responses and trajectories through their criminal careers. This suggests that victimisation and trauma insufficiently explains predisposition to sexual murder. Indeed, such experiences are a common feature of general theories of sexual offending (e.g. Ward & Beech, 2006), the implication being that the processes resulting in sexual murder as opposed to non-homicide sexual aggression are inadequately understood. Present findings suggest that internalisation of harmful experiences differentially predicts eventual offence severity.

These different processes transpired in the behavioral characteristics of the three samples. A key feature of PMSI sexual murderers was developmental inadequacy. They were socially isolated from childhood, and were more likely to have adopted maladjusted coping behaviors such as self-harm, fire-setting, and hostility to others expressed through aggressive behavior towards peers and adults, and cruelty to animals. Consistent with studies describing emotional loneliness as characteristic of sexual murderers (Grubin, 1994; Higgs et al., 2015; Milsom, Beech, & Webster, 2003; Nicole & Proulx, 2007), as adults PMSI sexual murderers were unable to improve their social circumstances, and they were unsuccessful in sexual relationships. Often they were sexually inexperienced, in some cases never having had a consensual sexual partner. Perhaps as a way to cope with this lack of intimacy, they used alcohol excessively and developed deviant sexual fantasies that would play a central role precipitating their offence (Maniglio, 2010). The few empirical studies of necrophilia (noting that both in the present study, and in previous research, post mortem sexual interference following homicide rarely indicates presence of paraphilia according to diagnostic criteria, e.g. other specified paraphilic disorder – necrophilia; DSM-V, American Psychiatric Association, 2013), offer two main hypotheses: A perpetrator who is fearful of rejection by women seeks an unresisting partner, or murder itself failed to satisfy (Rosman & Resnick, 1989; Stein et al., 2010). Both inferences are consistent with the profile of an individual unable to achieve fulfilling intimate relationships, resorting to sadistic fantasies to overcome emotional loneliness and resentment towards women. Further, these men develop sexual entitlement beliefs (Higgs et

al., 2015), fuelling their propensity towards sexual murder when their sexual needs are unmet.

The question of crime-specialization among sexual murderers requires further research. The extant literature on this issue offers differing conceptualizations of subgroups of offenders depending on sample bias (Harris, Knight, Smallbone, & Dennison, 2011), and no study has examined versatility versus specialization for subtypes of sexual murderers. Present findings suggest that directly sexual murder may occur within a more specialized criminal career than indirectly sexual murder and rape, since the criminal careers of the PMSI sexual murderers comprised few prior violent and sexual crimes. However, although PMSI sexual murderers had offended less frequently overall, including general offending, than either non-PMSI sexual murderers or rapists, they still appeared to be habitual offenders (based on total previous offences, although the present study did not detail number of arrests, necessary to evaluate chronicity; DeLisi, 2015).

In contrast, rapists were less likely to have developed socialization and anxiety difficulties as children. However, although statistically non-significant, rapists experienced the most exposure to detrimental models. This provides some support for applying social learning theory to understanding different manifestations of sexual violence. For rapists in this study, exposure to victimization of women, or in some cases witnessing their mother's infidelity or involvement in prostitution, may be hypothesized as important factors in the development of implicit theories favoring sexual aggression (Beech et al., 2005), which may not necessarily result in fatal injury, depending on situational factors

(Beauregard & Mieczkowski, 2012). In adulthood, rapists in this study were sexually promiscuous, engaging in long term and casual relationships and having sexual contact with prostitutes. Their criminal careers typically involved a high frequency of all types of sexual, violent, and acquisitive or general offending. Psychopathy was not predictive of any outcome. However, the rapists' more pervasive criminal histories stemmed from a pattern of antisocial behavior beginning in childhood, suggesting that for this sample of rapists, sexual offending occurs as part of a polymorphic antisocial lifestyle (Proulx & Beauregard, 2009). Interestingly, antisocial behavior in childhood was very nearly as commonly found among non-PMSI sexual murderers as rapists, and subsequently, the criminal careers of non-PMSI sexual murderers comprised less of all types of offending than rapists, but more than PMSI sexual murderers. As such, non-PMSI sexual murderers and rapists appear to represent a more antisocial, if not psychopathic, type of offender than PMSI sexual murderers, who are motivated to act upon their fantasies (Beech et al., 2005), or compulsion (Revitch & Schlesinger, 1989).

Perhaps unsurprisingly, non-PMSI sexual murderers appeared to represent somewhat of a mixed group, sharing some similarities with PMSI sexual murderers, such as experiencing developmental inadequacy and subsequently having unsuccessful sexual relationships in adulthood, while their early criminal careers included violent offences but still less frequent sexual crimes than rapists. Present findings support the hypothesis that the amalgamation of subtypes of sexual murderers into a single group by comparison to rapists attenuates potential differences

between groups. As has been argued elsewhere (Stefańska et al., 2015), when sex is indirectly associated to homicide, as in the majority of non-PMSI sexual murders, perpetrators may be more akin to rapists than sexual murderers driven by deviancy (directly sexual murder). That is, a conceptualization of a continuum of sexual aggression culminating in sexual murder depending on circumstantial violence (Oliver et al., 2007; Proulx et al., 2007; Salfati & Taylor, 2006) appears to account well for indirectly sexual murders but perhaps less so for directly sexual murders. The present results are in line with the suggestion that direct cases need to be reliably identified and theoretical models are needed that account for this distinction. Psychological theory of criminal behavior is fundamental to forensic intervention (Andrews, 1995), and validation studies have not been conducted for assessment tools used, but not specifically developed for, this population (Clarke & Carter, 2000; Hill et al., 2012; Tardif, Dassylva, & Nicole, 2007). As such, moving towards an empirically supported understanding of sexual murder has important implications for policy and practice.

Limitations

The present study represents one of the largest-scale studies of sexual homicide conducted to date, in that previous research focusing on similar variables has without exception relied upon much smaller samples, or no empirical data at all. The necessary compromise was a reliance on file information unaccompanied by interview material. Files were comprehensive, but reporting practices evolving over time meant that there was some case-to-case inconsistency in the quality of information.

As such, there were limitations in data extraction in some areas. Particularly, the prevalence of personality disorders is likely to be underestimated in the present study because only recorded diagnoses were considered as acceptable evidence, whereas frequently psychiatric and psychological assessments reported traits indicative of disorder, but stopped short of reaching a diagnostic conclusion. Furthermore, the present study did not find significant between group differences on psychopathy scores. Although total scores were tested for reliability, interpersonal and affective traits (Factor 1 scores) may be underestimated on the basis of file information alone (Grann, Långström, Tengström, & Stålenheim, 1998). As such, there are potentially characteristic traits of psychopathy, such as glibness and grandiosity, which may have differentiated between groups had it been possible to interview participants.

Further, it may have been advantageous to have used alternative strategies in the first stage of data analysis. A theory-led approach was used to construct scales rather than considering only the individual variables for multivariate analyses. However, despite face validity these scales lacked strong internal consistency. The approach taken was used because the data was dichotomous, and variable-reduction techniques that may have been considered, such as principal components analysis, are more typically applied to continuous data. However, with the dichotomous data scales may have been developed through exploratory factor analysis using the weighted least square method available in specific software (MPlus v6.12; Muthén & Muthén, 2010), or dimensions of developmental difficulties and lifetsyle factors may have been identified

using multiple components analysis. Therefore, the study could be improved through re-examination of the data using these methods, to ensure that the strongest predictors are included in the final model.

Also, the present study used novel operationalization of both sexual murderer samples and rapists. While it is argued that this approach allows for advances to be made in understanding serious sexual violence, sampling is not consistent with the majority of the research literature meaning that contradictions with previous research must be carefully evaluated. Most importantly, post mortem sexual interference was used as a proxy for identifying directly sexual murders. While this strategy should reliably exclude false positive cases, sensitivity is undoubtedly less accurate.

Conclusion

Findings were largely congruent with previous studies emphasizing the damaging effects of adverse childhood experiences (Burgess et al., 1986; Hickey, 2002), but the present study advances understanding by beginning to fill the gaps between proposed theoretical models that have been suggested to apply only to sadistic sexual murderers (Marshall & Kennedy, 2003), and those attempting to elucidate the processes that explain both sexual murder and non-homicide sexual aggression (Chan, Heide, & Beauregard, 2011). That is, the present study offers empirical support for the relevance of deviant sexual fantasy in the case of sexual murder where killing and sex are directly linked, but the findings also help to establish the ways in which murder that is indirectly sexual and non-homicide sexual aggression may be predicted based on developmental,

adult lifestyle, and criminal career factors. Taken together with additional research emerging in the field, the present findings will contribute to efforts to reach a multifactorial theoretical model of sexual homicide.

Chapter 4.

A Critique of The Screening Version of the Hare Psychopathy Checklist

Abstract

The Psychopathy Checklist: Screening Version (PCL: SV; Hart, Cox, & Hare, 1995) is a short form of the Psychopathy Checklist-Revised (PCL-R; Hare, 1991), an expert-rated assessment that measures psychopathic personality traits in research, clinical, and community settings. The PCL-R is an extensively relied upon tool in psycho-legal contexts. The screening version is also widely used, however, it has received far less empirical attention than the PCL-R. This critique examines the psychometric properties of the PCL: SV, specifically in relation to forensic samples, and evaluates its usefulness as an alternative to the full PCL-R. Previously reported comparability of the reliability and validity of the PCL: SV to the PCL-R was supported through further testing in forensic samples. However, limitations in terms of available normative data are highlighted, and the critique engages with wider debate concerning the PCL measures.

Introduction

In *The Mask of Sanity* (1941, 1976), psychiatrist Hervey Cleckley elaborated upon the observations of Philippe Pinel before him, who posited that, "a fully developed case of this species of mental derangement will clearly establish its claims to nosological attention" (Pinel, 1801/1806, p. 152). Originating from there, the conceptualization of psychopathy of Hare and colleagues was consolidated first in the Psychopathy Checklist (PCL; Hare, 1980). This instrument, and the subsequent revision (PCL-R; Hare, 1991), represent the most widely legally and clinically applied framework for understanding this type of personality functioning to date (Skeem, Polaschek, Patrick, & Lilienfeld, 2011). The screening version deriving from the PCL-R (PCL: SV; Hart, Cox, & Hare, 1995) offers some advantages over the full instrument, but scoping the literature indicates that it is less widely researched and utilized and, as such, will be the focus of this review.

The PCL-R is a protocol for assessing psychopathy, demonstrating good reliability and validity (Storey, Hart, Cooke, & Michie, 2016). Characteristic traits are in common with Cleckley's (1976) portrayal of a superficially charming, insincere individual lacking the experience of guilt. Rated on the basis of file information and semi-structured interview, scores are interpretable dimensionally with higher scores indicative of a greater degree of psychopathy (Hare, 1991).

The PCL-R depicts an extreme variant of antisocial personality disorder. However, the latest publication of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association,

2013), as in preceding versions, does not specify psychopathy within the personality disorders. That said, DSM-5 makes clear parallels to psychopathy, as defined by Hare (1991), within the diagnostic criteria for antisocial personality disorder. These criteria include "a pervasive pattern of disregard for and violation of the rights of others" (American Psychiatric Association, 2013, p. 659), which may be indicated by deceitful, impulsive, irresponsible behaviors and a lack of remorse. The diagnostic and associated features extending upon the diagnostic criteria further align antisocial personality disorder with psychopathy, describing individuals who may meet the criteria as callous, with an inflated sense of self-worth, and even glib and superficially charming. Thus, it is possible for individuals both with and without overt expressions of interpersonal and affective traits typically distinctive of psychopathy, to receive an antisocial personality disorder diagnosis.

Not synonymous with antisocial personality disorder, nor is there a single phenotype of psychopathy (Skeem et al., 2011). Continued discussion and evaluation of conceptual issues as well as assessment measures and their applied contribution remains relevant and necessary. As Skeem and colleagues (2011) observe, a psychopathy assessment can have multifaceted implications in forensic use, often given significant weight in decisions concerning punishment, level and type of supervision, and provision of other services such as psychological intervention. The PCL measures have been the subject of several meta-analytic reviews (Campbell, French, & Gendreau, 2009; Edens & Campbell, 2007; Guy, Edens, Anthony, & Douglas, 2005; Leistico, Salekin, DeCoster, & Rogers, 2008; Mokros, Vohs, & Habermeyer, 2014; Salekin, Rogers, & Sewell,

1996; Walters, 2003). PCL: SV data is included in some of this body of research, but no specific evaluation of the PCL: SV exists. Given this relative lack of research attention to the PCL: SV, this critique aims to provide a review of its psychometric properties. At the time of its publication it was found to have good validity as a screening test (Hart et al., 1995), but accountable application of an instrument in clinical or research contexts requires continued efforts to ensure that the measure performs as expected. Moreover, at least for the purposes of research the PCL: SV is often employed as a substitute for a full PCL-R assessment, which requires specialist training and is time consuming to administer. As such, the PCL: SV is an attractive resource for researchers, assuming reliability and validity of results. Therefore, the extent to which use of the PCL: SV may represent a limitation in research design will be addressed by evaluating the available evidence of reliability and validity.

Overview of the PCL: SV

The PCL: SV was designed as a conceptual and empirical derivative of the PCL-R without the dependence on criminal records as is requisite for some items of the full instrument. Goals were to create a tool appropriate for use in diverse populations, and to reduce demands on resources (training and administration/scoring time). Data from 11 samples were collated and the assessment was standardized for adult prisoners, forensic psychiatric patients, civil psychiatric patients, and undergraduate students. Whereas normative data, reliability and factor structure were established for the PCL-R in samples of male prisoners and forensic psychiatric patients, the psychometric properties of the PCL: SV

were investigated in samples that were 0 – 56% female. Normative data is discussed further below.

There are some important theoretical assumptions underlying the PCL measures (Hart et al., 1995). First, psychopathy should be chronic (emergent in childhood, persisting into adulthood). Second, criminality is neither a necessary nor sufficient consideration, but higher base rate of psychopathy is likely within offender populations than in non-forensic populations. Third, deceitfulness is closely associated with psychopathy. Finally, key features should cluster into two distinct but related facets, one relating to interpersonal characteristics and the other measuring social deviance. As such, the PCL: SV comprises two parts, equivalent to the PCL-R's two factors. These assumptions will be returned to herein, particularly, by review of studies reporting on factor structure and alternative conceptualisations of psychopathy (e.g. Patrick, Fowles, & Krueger, 2009).

Total scores on the PCL: SV range from 0 to 24 based on six Part 1 items (measuring interpersonal/affective traits, including grandiosity and callousness), and six Part 2 items (measuring lifestyle/antisocial traits, including but not dependent upon criminal behaviour). Items are rated on a 3-point scale with a maximum score of 2 applicable when there is sufficient evidence that the individual matches the criteria detailed in the scoring manual (Hart et al., 1995). Scores represent a dimensional rather than categorical assessment but in North American forensic samples cutoff scores of ≥18 and ≤12 provide almost perfect specificity for the presence/absence of psychopathy. In European samples, psychopathy is

indicated at a cutoff of 14-16 (Dolan & Blackburn, 2005; Urbaniok, Endrass, Rosseger & Noll, 2007).

PCL: SV users should have expertise in psychometric assessment and psychopathology, including knowledge of the clinical and empirical literature concerning psychopathy, be practicing in accordance with the relevant professional regulations for the context of use (e.g. psychological or psychiatric association or professional council in clinical settings, or with the appropriate ethical committee approval for research), and be adequately trained in the use of the PCL: SV. Standard administration requires a semi-structured interview, corroborated through review of official records and ideally additional interviews with links such as family members or past employers. The PCL: SV should not be scored on the basis of interview without collateral information, largely because of the third theoretical assumption noted above, i.e. the likelihood for lies and attempts to manipulate, but an assessment can be made in the absence of an interview when necessary if sufficient alternative sources are available.

PCL: SV Normative Data

The PCL: SV was developed in North American and Canadian samples (Hart et al., 1995). Mean ages ranged from 20.2 to 37.4 years (all over 16 years). Normative data was collected from 11 samples across four settings (N = 586): Forensic/non-psychiatric (n = 149; 79% male), forensic/psychiatric (n = 120; 97% male), civil/psychiatric (n = 217; 56% male), and noncriminal/non-psychiatric (undergraduate students; n = 100; 50% male).

Standardization data indicated higher base rates of psychopathy, using a cutoff score of ≥18, in both forensic samples compared to the non-forensic samples. In all samples, mean Part 2 scores were higher than mean Part 1 scores. Higher total scores were associated with male gender. For generalizability of the tool for forensic use it is of note that females were under-represented in the forensic samples, with only 3% being female. Little evidence was found suggesting an association between ethnicity and psychopathy although again, there may be a selection bias in the normative data as the majority across the normative samples were Caucasian (77%). However, cross-cultural generalizability is indicated in a number of international studies using one or more of the PCL measures (Cooke & Michie, 1999; Kosson, Smith, & Newman, 1990; León-Mayer, Folino, Neumann, & Hare, 2015; Tütüncu et al., 2015; Wong, 1984).

Psychometric Properties of the PCL: SV

A systematic search of PsycINFO, Embase, Medline, and Web of Science databases identified 34 published articles reporting data relating to the psychometric properties of the PCL: SV in criminal or forensic psychiatric samples. Descriptive information from each study is presented in Table 14.

Table 14. Descriptive data and internal consistency coefficients from studies using the PCL: SV in forensic samples

Sample description and study authorship	Country[1]	*N*	Mean age	PCL: SV Scores M (SD)			Internal Consistency (Cronbach's alpha)		
				Total	Part 1	Part 2	Total	Part 1	Part 2
Forensic non-psychiatric[2]									
Douglas, Yeomans, & Boer (2005)	Canada	188		12.5(5.7)	5.6(3.2)	6.9(3.3)			
Shariat et al. (2010)[3]	Iran	351	32.7	12.05(5.56)					
Hughes, Stout, & Dolan (2013)	Australia	48	36.63	12(4.86)	5.27(3.4)	6.69(3.04)	.75	.81	.72
Kropp, Hart, Lyon, & Storey (2011)[2i]	Canada	109	35						
Frodi, Dernevik, Sepa, Philipson, & Bragesjö (2001)	Sweden	14	34						
Guy & Douglas (2006)	Canada	188	38.25				.83		
Žukauskienė, Laurinavičius, & Čėsnienė (2010)	Lithuania	257	32.39	14.59(5.12)	6.76(3.03)	7.82(2.79)	.85	.81	.78
Brody & Rosenfeld (2002)	US	74	28.2	12.32(6.14)	5.53(3.54)	6.80(3.18)			
Walters & Mandell (2007)	US	136	34.24	13.46(4.32)					
Foellmi, Rosenfeld, & Galietta (2015)[2ii]	US	89	34.9	7.8(4.87)					
Urbaniok, Endrass, Rossegger & Noll (2007)	Switzerland	96	29.7	13.6					
Wygant & Sellbom (2012)[2iii]	US	99	32.8				.86	.77	.77

Schoenleber, Sadeh, & Verona (2011)[2iv]	US	343	30.2	11.8(4.8)	3.7(2.6)	5.50(3.30)			
Douglas, Strand, Belfrage, Fransson, & Levander (2005)[2v, 5]	Sweden	199	34.99	14.39(6.21)	7.15(3.58)	7.22(3.55)	.86	.86	.82
Basque, Toupin, & Côté (2012)[4]	Canada	42	17.6	8.9(4.6)	3.80(2.10)	5.10(3.20)			
Forensic psychiatric									
Cullen, Soria, Clarke, Dean, & Fahy (2011)	UK	42	36.5						
Pouls & Jeandarme (2014)	Belgium	60	40	10.18(4.32)	5.32(2.42)	4.77(3.03)	.75	.64	.77
Edens, Hart, Johnson, Johnson, & Olver (2000)	US	46	36.64	11.17(6.23)	4.98(3.18)	6.20(3.56)	.90	.84	.85
Hill, Neumann, & Rogers (2004)	US	149	35.33	14.31(5)					
Magyar, Carr, Rosenfeld, & Rotter (2009)	US	83	38.92	8.73(5)	3.56(2.87)	5.17(2.84)			
Dolan & Anderson (2003)	UK	51	29.7	17.02(4.88)	8.34(3.03)	8.64(2.91)			
Dolan, Fullam, Logan, & Davies (2008)	UK	147	36	13.07(5.48)	5.36(3.19)	7.7(3.03)			
Dolan & Davies (2006)	UK	134	35.6	13.05(5.37)	5.35(3.14)	7.69(2.98)			
Craissati & Blundell (2013)	UK	137							
Huchzermeier, Bruß, Geiger, Kernbichler, & Aldenhoff (2008)	Germany	19	39.5						
Desmarais, Nicholls, Wilson, & Brink (2012)	Canada	120	37.97	11.72(4.2)					
Pedersen, Kunz, Rasmussen, & Elsass	Denmark	96	36	14.19(5.12)	6.45(2.75)	7.74(2.77)	.89		

(2010)									
Ho, Thomson, & Darjee (2009)[2vi]	Scotland	96	34.2	11.48(6.38)	3.52(3.11)	7.48(4.44)			
Kruh et al. (2005) [2vii]	US	50	44	9.9(5.37)			.86	.84	.78
Guy & Douglas (2006) [2viii]	Canada	175	33				.84		
Barber-Rioja, Dewey, Kopelovich, & Kucharski (2012) [2ix]	US	131	37.32						
Gray, Fitzgerald, Taylor, MacCulloch, & Snowden (2007) [2x, 6]	UK	1141		6.88(4.94)	3.22(2.97)	3.81(2.81)			
Podubinski, Lee, Hollander, & Daffern (2014) [2xi]	Australia	200	38.32		.61(1.05)	1.13(1.53)			
Douglas, Strand, Belfrage, Fransson, & Levander (2005) [2xii, 7]	Sweden	365		11.62	5.30	6.33			

[1] Ethnicity was reported in 19 studies. Most frequently, the majority of participants were Caucasian (36-100% in 11 studies).

[2] Sample was entirely male except: [2i] 95% male; [2ii] 94% male; [2iii] 81% male; [2iv] 67% male; [2v] 84% male; [2vi] 92% male; [2vii] 72% male; [2viii] 88% male; [2ix] 69% male; [2x] 84% male; [2xi] 66% male [2xii] 75% male

[3] Standardization sample (Hart et al., 1995) used to compare against the sample of Iranian prisoners.

[4] PCL: SV adapted for use with adolescents

[5] Internal consistency coefficient based on *N* = 564; Alpha is reported for combined forensic/non-psychiatric and forensic/psychiatric samples.

[6] PCL: SV scores given for non-intellectually disabled group (*n* = 775). Scores also reported for an intellectually disabled group (*n* = 132): Total, M = 8.96, SD = 4.79; Part 1, M = 4.40, SD = 3.06; Part 2, M = 4.59, SD = 2.56.

[7] Weighted estimates of the mean given for Total, Part 1 and Part 2 scores based on two subgroups of forensic psychiatric sample

Internal Consistency

Hart et al. (1995) reported overall internal consistency of the PCL: SV, using alpha coefficients found in the standardization sample giving a weighted mean alpha of .84, within the range typically viewed as acceptable (DeVellis, 2003). Consistently, the present review found a weighted mean alpha of .85, calculated from subsequent studies identified with forensic samples, where the total score coefficient was reported (see Table 14). However, the alpha value may be inflated when a scale measures more than one concept (because alpha increases as a function of increasing number of items), therefore calculation of alpha for each construct is preferable (Tavakol & Dennick, 2011). Internal consistency is reported by Hart et al. (1995) in the PCL: SV manual for Part 1 and Part 2 at α = .81 and .75 respectively (weighted means). The weighted mean alpha from subsequent forensic samples was .83 for Part 1 and .80 for Part 2. This suggests good internal validity for both factors, and a robust indication that consistency is stronger for Part 1 than Part 2.

Further, mean inter-item correlations found in the standardization data were generally within the range of .15 to .50 recommended by Clark and Watson (1995), although in three of the samples Part 1 scores exceeded the upper bound (.57 in one of the forensic/non-psychiatric samples; .54 in one of the civil/psychiatric samples and .51 in another). It may be argued that this indicates possible redundancy, but, overall, item homogeneity appears satisfactory. Mean item-correlations in further forensic samples have been found in the range .21 to .50 (Douglas, Strand, Belfrage, Fransson, & Levander, 2005; Edens, Hart, Johnson,

Johnson, & Olver, 2000; Pouls & Jeandarme, 2014; Žukauskienė, Laurinavičius, & Čėsnienė, 2010).

Test-Retest Reliability

Estimations calculated based on the reliability of the PCL-R are indicative of the reliability of the screening version (Hart et al., 1995), but no studies have explicitly established test-retest reliability in the PCL: SV. Yet, this is important given that chronicity is one of the theoretical assumptions specified in relation to the development of the instrument. There is evidence of test-retest reliability using the PCL-R (e.g. Rutherford, Cacciola, Alterman, McKay, & Cook, 1999), and even among adolescents (still reaching maturity in their personality development; Roberts, Caspi, & Moffitt, 2001), there appears to be stability of psychopathic traits, particularly interpersonal and behavioral as opposed to affective traits (Lee, Klaver, Hart, Moretti, & Douglas, 2009). However, empirical data confirming test-retest reliability would be valuable, with implications for forensic services, given that a psychopathy diagnosis can carry a great deal of stigma with important consequences in legal and clinical-forensic decision making (Lloyd, Clark, & Forth, 2010).

Inter-rater Agreement

In order to minimise systematic bias in research, and to avoid over- or under-diagnosing in forensic-clinical settings, consistent agreement between raters is essential. Strength of agreement is observable using the intraclass correlation coefficient (ICC), with critical values ≥ .60 considered good, and ≥ .75 excellent (Fleiss, 1986). In the

standardization data, ICC for single ratings (ICC_1) ranged from .67 to .92, and ICC for averaged ratings (ICC_2) ranged from .83 to .96, for total scores. The range for Part 1 ICC_1 was .59 to .84; ICC_2 was .80 to .92, and for Part 2 ICC_1 = .72 to .90; ICC_2 = .86 to .95. Similar levels of inter-rater agreement were found in the additional studies identified; ICC_1 coefficients were extracted in favor of ICC_2 from studies reporting both values since these are the more conservative. Also, they have high practical relevance given that average ratings are less often feasible to obtain. ICC_1 values were excellent, at .77 to .98 for total score, .80 to .94 for Part 1, and .85 to .96 for Part 2 (Barber-Rioja, Dewey, Kopelovich, & Kucharski, 2012; Brody & Rosenfeld, 2002; Desmarais, Nicholls, Wilson, & Brink, 2012; Dolan & Davies, 2006; Douglas, Yeomans, & Boer, 2005; Gray, Fitzgerald, Taylor, MacCulloch, & Snowden, 2007; Guy & Douglas, 2006; Kruh et al., 2005; Magyar, Carr, Rosenfeld, & Rotter, 2010; Pedersen, Kunz, Rasmussen, & Elsass, 2010; Pouls & Jeandarme, 2014; Schoenleber, Sadeh, & Verona, 2011; Walters & Mandell, 2007).

However, contradictory results have been reported elsewhere. In a study examining PCL-R assessments made for the courts, discrepant scores were found for the same individuals in excess of the standard error of measurement, dependent on whether the evaluation was made for the prosecution or defense (Murrie, Boccaccini, Johnson, & Janke, 2008). Variance in PCL: SV scores attributable to raters may be greater for Part 1 compared to Part 2 (Harris, Boccaccini, & Murrie, 2015). Users of PCL measures must therefore be alert to the risk of rater bias, despite high levels of inter-rater agreement frequently reported in research contexts. A tendency towards scoring more or less conservatively has implications for

score interpretation; risk may be under- or over-estimated by evaluators who assign systematically lower or higher scores that may be inconsistent with normative data (Harris et al., 2015). In practice, then, there are two issues. First, raters must be mindful of their own scoring tendencies and exercise caution to avoid deviation from the norm. Given the high level of inter rater agreement demonstrated in the articles cited above, this should be a realistic expectation. Second, risk of "partisan allegiance" and associated ethical implications must be acknowledged (Murrie et al., 2008).

Construct and Content Validity

Several studies have examined the psychopathy construct. There are some differences in the factor loadings between models in exploratory analyses, but confirmatory factor analysis and structural equation modeling has supported a two-factor model, or a four-factor subordinate model (interpersonal-affective; lifestyle-antisocial), for both the PCL-R (Harpur, Hakstian, & Hare, 1988; Mokros, Habermeyer, et al., 2014), and the PCL: SV (Boduszek, Dhingra, Hyland, & Debowsak, 2015; Hart et al., 1995; Hill, Neumann, & Rogers, 2004; Neumann & Hare, 2008; Rogers et al., 2000). However, it has been argued that psychopathy is underpinned by three factors: arrogance/deceitfulness, emotional deficiency, and impulsivity/irresponsibility (Cooke & Michie, 2001; Dolan & Anderson, 2003). Other researchers report little difference in the model fit between two- three- and four-factor solutions (Wilson, Abramowitz, Vasilev, Bozgunov, & Vassileva, 2014; Žukauskienė, Laurinavičius, & Čėsnienė, 2010), and attempts have been made to reconcile differing perspectives.

For example, Patrick et al. (2009) proposed a triarchic model, which describes three phenotypic expressions, boldness, meanness, and disinhibition, each of which may be more or less dominant in the different conceptualizations and may therefore explain some of the discrepancies in the research literature. In relation to content validity of the PCL measures, Patrick et al. (2009) propose that boldness in particular may not be fully captured within the related PCL items. That said, the triarchic model is relatively newly developed and yet to be comprehensively empirically tested (Patrick & Drislane, 2015). On balance, there is currently insufficient evidence to reject the two-factor/four-facet model. Correlations between PCL: SV Part 1 and Part 2 scores (Douglas, Yeomans, et al., 2005; Hart et al., 1995; Kruh et al., 2005; Magyar et al., 2010) support the validity of a bi-factorial construct. Further, Rogers and colleagues (2000) tested the sub-criteria (scoring indices specified per item) of the 12 PCL: SV items. They found that sub-criteria converged and discriminated between items congruently, in support of overall construct validity.

Concurrent Validity

In establishing concurrent validity of the PCL: SV its relationship with the PCL-R is of primary importance. Blind independent ratings of the PCL: SV and PCL-R were undertaken in five of the standardization samples. Total scores on the two scales were closely related, with a weighted mean correlation of .80 (range = .55 to .84; Hart et al., 1995). Even stronger correlations were found by Douglas, Yeomans, et al., (2005) in a sample of 188 male offenders (r = .94), and by Guy and Douglas (2006) in a

forensic/psychiatric sample (N = 175, r = .94). The PCL: SV manual further reports higher correlations for Part 1 scores with PCL-R Factor 1 scores than with Total or Factor 2 scores (respective weighted mean correlations = .68, .61, and .40), providing evidence for the validity of Part 1 as a comparable measure of interpersonal and affective traits. Likewise, Part 2 was found to correlate highest with Factor 2 (.81), compared to Total (.78) and Factor 1 (.48). The same patterns were replicated by Douglas, Yeomans, et al. (2005) and Guy and Douglas (2006). Additionally, the classification agreement of the PCL: SV compared to the PCL-R is reported at 90-100% sensitivity and 89-100% specificity (Guy & Douglas, 2006; Pouls & Jeandarme, 2014).

It is argued that, given the characteristic deceitfulness of the psychopathic personality, psychopathy assessment is particularly susceptible to response style bias (Hare, 1985). However, there are several self-report measures demonstrating good psychometric properties, and in particular the Psychopathic Personality Inventory-Revised (PPI-R, Lilienfeld & Widows, 2005) is appropriate for use in correctional settings, with validity scales adequately detecting dissimulation (Anderson, Sellbom, Wygant, & Edens, 2013). The PCL: SV correlates well in forensic samples with the PPI-R (r = .55; Hughes, Stout, & Dolan, 2013), and the pre-revision PPI (r = .62; Kruh et al., 2005). The PCL: SV also correlates highly with the Comprehensive Assessment of Psychopathic Personality (r = .90; Pedersen et al., 2010), and the Hare Self-Report Psychopathy Scale (r = .53; Hart et al., 1995).

Convergent and Discriminant Validity

Given that Part 2 of the PCL: SV measures social deviance, a strong correlation should be expected particularly between Part 2 scores and measures of antisocial personality disorder (APD). This is what was found in the original validation studies; a weighted mean correlation of .72 was reported between Part 2 and APD symptoms, with Total and Part 1 scores correlating with APD at weighted means of .70 and .49 respectively. No subsequent studies have compared PCL: SV scores to APD in a forensic sample, although consistent results were found in a psychiatric sample, selected from referrals following chronic social and behavioral problems where approximately half had been charged or convicted of a serious offence (De Oliveira-Souza, Moll, Ignácio, & Hare, 2008). The Antisocial Features scale of the Personality Assessment Inventory (PAI; Morey, 1991) also correlated highly with the PCL: SV, particularly behavioral rather than interpersonal/affective traits (Edens et al., 2000).

In studies considering other personality functioning theoretically related to psychopathy, PCL: SV associations have been shown with Personality Psychopathology Five (PSY-5; Harkness & McNulty, 1994) domains of Aggressiveness (measuring DSM-5 antagonism) and Disconstraint (disinhibition), versus low levels of Neuroticism/Negative Emotionality (Wygant & Sellbom, 2012). Higher Dominance scores on the Interpersonal Adjective Scales Revised - Big 5 (IASR-B5; Trapnell & Wiggins, 1990) were found among those with higher ratings on the PCL: SV, along with lower levels of Love, Conscientiousness, Openness, and Neuroticism (Hart & Hare, 1994). Grandiose narcissism is related to PCL: SV interpersonal traits (Schoenleber et al., 2011), as is hostile dominance

as measured through the observed response of an individual following an interaction with the person being rated, using Kiesler and Schmidt's (2006) Impact Message Inventory-Circumplex (Podubinski, Lee, Hollander, & Daffern, 2014). Thus, the PCL: SV demonstrates positive and negative correlations with relevant constructs suggesting both convergent and discriminant validity.

Predictive Validity

Although not designed as a risk assessment tool, the PCL-R has been widely incorporated into forensic risk assessment practice, owing to an established positive relationship with future violence and/or reoffending (Salekin et al., 1996). In addition to the strength of association between the PCL-R and the PCL: SV, comparable predictive viability has been empirically established: Campbell et al (2009) meta-analytically compared risk measures with institutional violence as the outcome criterion. A moderate mean weighted effect size was obtained (Z^{+} = .22, CI_{Z+} = .07 to .25), by comparison to instruments including the Historical, Clinical, and Risk Management Violence Risk Assessment (HCR-20; Webster, Douglas, Eaves, & Hart, 1997) and the Level of Service Inventory-Revised (Andrews & Bonta, 1995).

Additional studies have determined that violent reoffending may also be predicted by high PCL: SV scores. Operationalization of recidivism varies across studies, but Receiver Operating Characteristic analyses have produced AUCs (Area Under the Curve) for violent reconviction ranging from .63 to .79 for total PCL: SV scores, and a robust finding was higher AUCs for Part 2 scores than Part 1 scores (.65 to .79 and .62 to .72,

respectively; Douglas, Ogloff, Nicholls, & Grant, 1999; Douglas, Yeomans, et al., 2005; Gray et al., 2007; Ho et al., 2009). In a meta-analysis examining violent reoffending in German-speaking countries, the PCL: SV was found to perform as well as the PCL-R (PCL: SV estimated sensitivity = 28%; specificity = 90%) in the prediction of violent reoffending, including sexual, although it was not specifically able to predict sexual recidivism (Mokros, Vohs, et al., 2014).

Although the PCL: SV appears to perform well in this domain, importantly, it does not necessarily follow that other instruments are inferior. Indeed, consistently across the cited studies, the HCR-20, LSI-R, and Violence Risk Appraisal Guide (VRAG; Quinsey, Harris, Rice, & Cormier, 2006) achieved similar or slightly better results (where instruments include the PCL as a scale item, researchers tended to analyze modified versions to avoid circularity). As such, application of the PCL: SV requires evaluation of its relevance to research or clinical goals, and consideration of both issues of misuse (Hare, 1998), and advantages/disadvantages of alternatives.

Discussion

This critique provides support for the reliability and validity of the PCL: SV as a viable alternative to the full PCL-R with forensic populations. Psychometric properties were found to be comparable to the PCL-R in all aspects. Diagnostic agreement between the two instruments was satisfactory, and importantly, the PCL: SV was shown to perform similarly to the PCL-R in terms of predictive validity in relation to violence risk

assessment. As such, empirical evidence supports the use of the PCL: SV in place of the PCL-R, with implications for researchers and clinicians when resources do not permit administration of the PCL-R. However, results are consistent with previous assertions that predictive power is more strongly related to the social deviancy factor than the interpersonal/affective factor (Skeem et al., 2011). This point should be considered in particular if using the PCL: SV to assist in risk management and reduction decision-making.

The PCL: SV, like the PCL-R, is intended to minimize participation effects (e.g. response style bias) inherent in self-report measures and whilst the PCL measures are not immune to dissimulation (Rogers et al., 2002), particular facets of psychopathy (specifically, the interpersonal and affective traits) appear to be especially problematic to assess using self-report methods (Edens et al., 2000). The PCL: SV has the additional advantage over the PCL-R of more economic administration, and at least for research purposes file data is sufficient for scoring (e.g. Wong, 1988), with the caveat that a possible tendency to underestimate psychopathy should be considered when no interview material is available (Guy & Douglas, 2006; Mokros et al., 2013). Also, the PCL: SV is more amenable than the PCL-R to use notwithstanding the manifestation of antisocial behavior in criminal activity.

Noteworthy from the research drawn upon within this critique, is the absence of published normative data for populations outside of North America and Canada, with the exception of Austria, Germany, and the German-speaking parts of Switzerland (Mokros et al., 2013). There is evidence of close comparability of scores, generally based on PCL-R data,

particularly well established between North American and British or European samples (e.g. Bolt, Hare, & Neumann, 2007), and cut-scores have been suggested for the PCL: SV, lower for European samples than North American samples mirroring the lower cut-score indicated for European PCL-R scores (Dolan & Blackburn, 2005; Urbaniok et al., 2007). However, normative scores determined using meta-analytic methods would be beneficial for more defensible application in forensic-clinical practice as well as to improve the quality of research relying on PCL: SV ratings. This is an imperative goal for future research considering the potentially serious consequences of false positives and false negatives in relation to risk decisions, especially since these error rates are exacerbated in populations with low base rates (Freedman, 2001).

Conclusion

Initial evidence that the PCL: SV has similar psychometric properties to the PCL-R has been supported by further evidence provided by research with forensic samples, and the utility of the PCL: SV as a reliable and valid alternative is supported. Specifically, empirical data accords with contemporary views in relation to psycho-legal decisions including those concerning forensic treatment provision and custodial progression. That is, social deviancy as measured by Part 2 scores contribute to risk assessment and may be an important focus in treatment planning, whereas Part 1 scores provide information that mat be considered primarily a responsivity issue (e.g. Wong, Gordon, Gu, Lewis, & Olver, 2012). However, these conclusions must be balanced against concerns and new perspectives in relation to the assessment of psychopathy more

widely (Skeem et al., 2011), and internationally, including in the UK, there remains a need for robustly ascertained normative data.

Chapter 5.

A Single Case Study of a Sexual Murderer

Abstract

A single case study is presented of a grievance driven sexual murderer. The individual concerned was aged 28 years at the time of the offence, and the victim was an adult (aged 35 years) female stranger. The offender is detained in a secure forensic hospital, and participated in the study having given his informed consent, with the permission of the responsible clinical team. Relevant background information is provided, contextualised within theory and a biopsychosocial formulation is proposed. Progress is reported in relation to intervention through a 20-week intimacy and social skills cognitive behavioural group treatment programme. Improvements were seen in three out of four domains of treatment need identified; distorted attitudes, socio-affective functioning, and self-management. Sexual interests were not directly targeted in the intervention and as such remained an area of outstanding treatment need. Recommendations are offered with the aim of further reducing risk. Implications for policy and future research are also discussed.

Introduction

Client Introduction and Referral Details

Mr. Sutor (name changed to protect anonymity) is a Caucasian male detained under the Mental Health Act 1983 (as amended 2007) in a secure psychiatric hospital. At the age of 28 years, Mr. Sutor was charged with the rape and murder of an adult female who was unknown to him at the time of the offence. He was convicted for manslaughter on the grounds of diminished responsibility having been assessed pre-trial as suffering from a psychopathic disorder sufficient to mitigate his culpability under the Mental Health Act 1983 (at the time of the conviction, a plea of diminished responsibility could be based on the condition of psychopathic disorder, which was a relatively ill-defined categorisation of personality disturbance not necessarily corresponding to psychopathic personality disorder as later defined by Hare, 1991). Despite the diminished responsibility plea being upheld, Mr. Sutor did not receive a hospital order. He was given a life sentence and was detained in prison where he was assessed to have a severe personality disorder, reported to be unlikely to respond to treatment. He was referred to hospital under Section 47/49 of the Mental Health Act following a deterioration in mental state characterised by visual and auditory hallucinations of the victim of the index offence and persecutory beliefs manifesting in a desire to be castrated. Reports at that time suggested a dissocial personality disorder, recurrent depressive disorder and thoughts and behaviours consistent with schizoid personality disorder.

When the present case study was proposed, Mr. Sutor's clinical team had made a referral for group treatment in a CBT programme (group and individual sessions) targeting relationships, sexuality, and interpersonal boundaries. Aims were to improve his interpersonal skills and develop an understanding of the impact of family relationships in particular on psychosocial development, which had been at the core of his therapeutic goals throughout previous psychological assessment and treatment, an overview of which follows in this report. The referral included a need to identify the form that further sexual offending work should take given that Mr. Sutor had continually refused to participate in sexual offending group treatment.

Theoretical Perspectives and Evidence Based Practice

Issues around the identification of sexual murderers and associated research and clinical matters suggest that an idiosyncratic examinatory approach through the use of single case studies might be beneficial in understanding these crimes. Therefore, the present study provides a single case example of a sexual murderer and the assessment of his treatment needs, an evaluation of his intervention progress and a discussion of his remaining areas of risk and future treatment targets.

First, the evidence base informing sexual offending treatment provision generally is reviewed. This is necessary because if referral for offending behaviour treatment (that recognises the sexual element of the crime) is recommended for sexual murderers, typically referral is for sex offender treatment programmes with participation alongside non-homicide sexual offenders (Beech, Oliver, Fisher, & Beckett, 2005). Therefore,

evidence based practice for interventions with sexual murderers draws heavily upon models and theories of sexual offending more widely. However, research focusing specifically on sexual murder must also be considered for a thorough case formulation. Thus, an overview of rape and sexual murder typology research, discussion of the etiopathogenesis of sexual murder, and personality disorder and mental illness issues will also follow.

Models and Theories of Sexual Offending

Criminogenic factors (psychosocial factors related to recidivism risk) in sexual offending appear to include deviant sexual interests, cognitive distortions or offence supportive beliefs, dysfunctional schemas, antisocial lifestyles, deficits in interpersonal skills and problem solving, emotional loneliness and limited or inappropriate intimacy skills, and self-regulation problems (Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2005; Marshall, 1993; Thornton, 2002). Drawing on both dynamic and static risk factors (i.e. those amenable to change and those representing mainly historical markers, respectively) as well as multifactorial theories of sexual offending, Beech and Ward (2004) developed an integrated model of psychological vulnerabilities for sexual offending, contextual or triggering factors and acute dynamic factors (offence-related psychological states) including etiological hypotheses providing a proposed causal association between elements within the model. The authors suggested that an etiological model of risk should comprise of distal factors (early experiences of abuse, rejection, and attachment problems), trait vulnerabilities (static factors such as history of psychosocial problems and

antisocial behaviour and stable dynamic factors such as offence supportive cognitions and maladaptive coping styles), contextual risk factors (e.g. relationship conflict, social dislocation, substance abuse) and state factors (acute dynamic risk; deviant thoughts and fantasies, need for intimacy, physiological arousal/affective states). A particular strength in the model is the mapping of causal mechanisms to domains of risk, which brings together prominent theories of sexual abuse and empirical work on actuarial risk assessment and structured clinical judgement.

Proposed causal mechanisms and pathways informing the etiological model of risk (Beech & Ward, 2004) have informed practice by highlighting intimacy skills as an important treatment target in psychological interventions (Marshall, Anderson, & Fernandez, 1999). Marshall and Barbaree's (1990) integrated theory suggests that developmental adversity in the form of neglect, abuse, or exposure to antisocial or misogynistic behaviour within the home harm the individual's ability to form secure attachments, distress tolerance and social skills, adaptive coping strategies, and prosocial attitudes. This central component of the integrated theory, that sexual offenders characteristically have neglected, violent and disturbed childhoods, has received external empirical support (Craissati, McClurg, & Browne, 2002). Craissati and colleagues (2002) reported greater psychosexual difficulties, deviant offence-related attitudes and recidivism among sexual abusers who experienced emotional abuse, physical neglect and sexual abuse in their own childhoods compared to non-victimised sexual abusers. According to the integrated theory, insecure attachment and subsequent low self esteem, poor coping style and inadequate interpersonal skills

mean that it is more difficult to negotiate the demands of adolescence when it is necessary to learn to discriminate between aggression and sexual urges (Marshall & Barbaree, 1990). A further central tenet of the theory is that the same mid brain regions are associated with both sexual arousal and aggression and due to the hormonal changes in adolescence rather than successful differential recognition of aroused states, a fusion of sex and aggression occurs when antisocial vulnerabilities are present. Although the neurological processes suggested to operate in the development of sexually abusive behaviour are not defined and the theory inadequately describes the fusion of sex and aggression in terms of non-specific neural substrates, attention to the biological and neuropsychological factors in understanding the causal mechanisms in sexually harmful behaviour begins to move beyond a surface level symptomological account and offers a more complete explanation (Ward & Beech, 2006).

Additionally, Marshall and his colleagues comment on conditioning processes in the pairing of sexual arousal and aggression, whereby deviant sexual urges become a conditioned response to rejection and loneliness. The suggestion that classical conditioning, as a result of sexual coping in response to formative experiences of social isolation (due to insecure attachment and social maladjustment) and operant conditioning, as deviant fantasy and masturbation provide both negative reinforcement (alleviation of negative affect) and positive reinforcement (feelings of pleasure and power), appears to offer explanatory power in the development and maintenance of sexually abusive behaviour.

With the aim of preserving the strengths of the integrated theory (Marshall & Barbaree, 1990) as well as drawing from other influential theories (Finkelhor, 1984; Hall & Hirschman, 1991), Ward and Siegert (2002) proposed that four domains of psychological mechanisms (intimacy and social skills deficits, distorted sexual scripts, emotional dysregulation, and cognitive distortions) given different emphases in the competing theories should be considered within a pathways model in which the specific trajectories to offending depends on an interaction between these mechanisms and the distal and proximal factors influencing each type of vulnerability. Conceptualising problematic behaviour within offence pathways usefully combines etiology within a framework for understanding offending as a process occurring over time, or a problem behaviour process (Ward & Hudson, 1996). This process includes the psychological mechanisms associated with bio-psycho-social vulnerabilities (Ward & Siegert, 2002), which translate into an offence chain and future persistence or avoidance.

Hudson, Ward and McCormack (1999) used a grounded theory approach with a sample of 86 sexual offenders to identify offence pathways useful for informing a functional analysis of offending and in identifying the predisposing, precipitating, and perpetuating factors in a cognitive-behavioural formulation of offending behaviour. Hudson et al. (1999) found three major sexual offence pathways, of which perpetrators of offences against adult victims were most frequently classified within a pathway characterised by negative affect throughout the offence process. Offences within this pathway feature implicit planning, in that a sexual assault occurs in the context of grievance thinking and the apparent

absence of premeditated sexual motivation, and negative post-offence affect. For those approaching the offence with positive affect, the explicit goal of sexual activity with the victim appears to be associated with denial of non-consenting sex and positive post-offence evaluations resulting in increased likelihood of repetition of the behaviour. Although this model of the offence process may have clinical utility, arguably the application to adult victim offences is limited since only 16% of the sample had been convicted for a sexual offence involving a victim over 16 years of age.

Typologies of Rape and Sexual Killing

General theories of sexual offending and empirically validated criminogenic treatment targets (the 'need' principle; Andrews & Bonta, 1994; Andrews, Bonta, & Wormith, 2011) are essential for planning interventions but a more specific understanding of an offender's crime is necessary for a robust formulation. Focusing on sexual aggression against women, specifically rapists and sexual murderers, researchers have described various typologies suggesting a pattern of four reasonably consistently observed categories: compensatory, opportunistic, angry, and sadistic (Proulx & Beauregard, 2009).

Compensatory sexual aggressors are those for whom sexual violence appears to be related to a need to compensate for feelings of inadequacy, as in Groth and Birnbaum's (1979) account of the power rapist and Knight and Prentky's (1990) sexual non-sadistic rapist. Rape is seen as an act of power and control in which the perpetrator may be driven by an underlying need for feelings of sexual prowess (Groth & Birnbaum, 1979). Offences of this type are usually premeditated with a specifically targeted

victim selected to satisfy the offender's need for power and domination. Violence is used to gain compliance and is unlikely to escalate beyond that necessary to overpower the victim. Therefore, extreme injuries and fatality are uncharacteristic of this type of offence.

By comparison to the compensatory type, opportunistic sexual aggressors (Beech et al., 2005; Knight & Prentky, 1990; Proulx, St-Yves, Guay, & Ouimet, 1999) are more likely to offend as part of a pervasive antisocial lifestyle in which sexual assault occurs impulsively depending on situational triggers. Opportunistic offenders are often intoxicated at the time of the offence and therefore disinhibited in their antisocial behaviours, which may be sexually aggressive if circumstances arise. Psychologically, this type of offender presents with psychopathic traits, distorted schemas supportive of offending behaviour, and in some cases, deviant sexual fantasies. Like the compensatory sexual aggressor, opportunistic sexual aggressors use violence mainly for instrumental purposes, however, in these cases the offender may kill to silence their victim in an attempt to evade detection.

Sexual aggression characterised by anger has been described as grievance-motivated (Beech et al., 2005), catathymic (Schlesinger, 2007), or in terms of aggressive dyscontrol (Clarke & Carter, 2000). Each of these characterisations represent how this type of sexual violence is predominantly driven by anger and not sexual fantasy. As such, these crimes tend to include expressive violence intended to cause both physical and psychological harm. Attacks are not usually carefully planned, and may escalate in response to victim resistance as the perpetrator reacts with increased anger. Fatal outcomes are likely.

Finally, sadistic sexual aggressors (Groth & Birnbaum, 1979; Knight & Prentky, 1990; Proulx, Blais, & Beauregard, 2007) or compulsive sexual murderers (Schlesinger, 2007) seek to act out their deviant sexual fantasies, often including the torture and degradation of their victims who may be selected because of physical characteristics or for other reasons consistent with the perpetrator's sexual fantasy (for example, the victim may be a prostitute). Violence in these cases is more excessive than necessary to overpower the victim and the outcome may be fatal. Indeed for some, the act of killing is integral to the sexual fantasy (Arrigo & Purcell, 2001; Money, 1990).

The Etiopathogenesis of Sexual Killing

Based on the background characteristics of the FBI serial murder project participants, Ressler, Burgess and Douglas (1988) proposed a five-phase psychosocial motivational model of sexual killing. Although there are significant limitations associated with the research methodology in the development of the model (an unrepresentative sample of 36 perpetrators of single and multiple-victim homicides volunteered to participate in interviews; notably some were described as motivated to participate for some legal advantage, and there is a lack of detailed description in terms of the data gathered), the developmentally detrimental effects of adverse childhood experiences are emphasised. Early trauma and maladjustment is further described in the extant literature particularly relating to the development of deviant sexual fantasy and the significance of this as a predicate to sexual crimes (Maniglio, 2010). Although much of this work either relies upon theoretical

assumptions or suffers similar sampling problems as the Ressler et al. (1988) research (e.g. Arrigo & Purcell, 2001; Hickey, 1997), empirical data is indicative of a cumulative effect of a range of developmental factors (inadequate role-models, victimisation, behavioural problems and maladjustment in childhood and adolescence) in the etiopathogenesis of sexual killing (Nicole & Proulx, 2007). Further, Briken, Habermann, Berner and Hill (2005) found that early behavioural problems were associated with sexual murderers with neurological disorder more so than with those without any such brain abnormality (although causal mechanisms remain unclear). A review of neuroscientific research (Fabian, 2012) suggested that neurological impairments tend to be exhibited in samples of sexual murderers with some similarities to those seen in non-homicidal sexual offenders, but whilst there is substantial evidence of neuropsychological deficit in these populations, the exact relationship between neuropathology and sexually aberrant behaviour is yet to be fully understood.

Mental Illness and Personality Disorder

In a recent literature review, Kerr, Beech and Murphy (2013) found no consistent significant positive association between sexual killing and mental illness, but reported that personality disorders are more frequently found in samples of sexual murderers. Psychopathy appears to be highly prevalent (Kerr et al., 2013), although this finding should be interpreted cautiously in the absence of a systematic quality assessment of the research methodologies employed across studies and the criteria used for determining the presence of psychopathic disorder. Given the nature of

the offences, there may be a risk of bias due to possible overemphasis on the index offence in rating psychopathic personality disorder if standardised assessment tools have not been used consistently, perhaps in studies relying on indirect data or file information where thorough assessment or formal records of diagnoses might not be available to researchers.

Several clinicians and researchers have observed that rather than presenting in a manner consistent with the aggressive, grandiose personality of a psychopath, the personality traits of sexual murderers are often indicative of schizoid or schizotypal disorders; these are instead socially withdrawn individuals, emotionally detached and lacking empathy or remorse as a function of their disturbed interpersonal relations and idiosyncratic thinking, for whom criminally predatory (antisocial, narcissistic) behaviour represents the culmination of maladjusted socialisation and maladaptive coping (Brittain, 1970; Myers & Monaco, 2000; Stone, 2001). Proulx and Sauvêtre (2007) reported DSM-IV diagnoses of borderline personality disorder in 29% of their Canadian sample of 30 non-serial sexual murderers, and antisocial and narcissistic personality disorder in 36% and 25% respectively. They also obtained Millon Clinical Multi-axial Inventory (Millon, 1983) profiles offering (self-reported) assessment of the individuals, as opposed to clinical evaluation of the person possibly biased by offence information, and found dependent, avoidant, passive-aggressive and schizoid disorders most commonly among their participants. Borderline and schizoid personality disorders, as well as antisocial, also appeared to be significantly prevalent

in a sample of 166 sexual murderers in Germany (Hill, Habermann, Berner, & Briken, 2007).

Recognition, then, of the alternative clinical formulations that apply to apparently similar characteristics seen in highly psychopathic offenders compared to more avoidant personality disordered offenders is imperative in understanding the crimes committed by these individuals and their risk assessment and treatment needs. However, caution is also necessary in interpreting research findings and sexual killing research is typically limited by the use of small sample sizes, over-representation of serial murderers, clinical judgement rather than empirical data (e.g. Brittain, 1970; Stone, 2001), and inconsistencies between studies in the mental illness or personality disorder diagnostic criteria used.

Assessment, Analysis and Formulation

Information relied upon for this case study was obtained from medical records including psychiatric reports, psychology files and ward notes. Psychometric assessment and behavioural observation were also used along with interview material and direct consultation with staff.

Prior to the present referral, Mr. Sutor had participated in clinical interviewing for the purpose of history taking but also inviting him to provide his own narrative of events leading up to and including the index offence. The information provided through this method of assessment has utility in forming the basis of formulation, in the gathering of details relating to relevant formative experiences as well as the identification of cognitive distortions (particularly where comparisons can be made to

victim or witness statements). However, unstructured clinical evaluation insufficiently assesses risk compared to actuarial tools (Hanson & Morton-Bourgon, 2009). Conversely, actuarial tools may be more accurate predictors of recidivism risk but their application is at the group level meaning that there are limitations in terms of assessing the individual, and these measures do not provide the dynamic risk information necessary for treatment planning. Therefore, the Risk for Sexual Violence Protocol (RSVP; Hart et al., 2003) was used to identify potential risk factors and their relevance to future risk. The RSVP derives from the SVR-20 (Boer, Hart, Kropp, & Webster, 1997), which is a structured professional judgement instrument found to predict sexual recidivism reasonably well, that is, better than unstructured clinical judgement but with less empirical association to recidivism than actuarial assessment (Hanson & Morton-Bourgon, 2009), with acceptable inter-rater reliability and concurrent validity (Rettenberger, Hucker, Boer, & Eher, 2009). The RSVP was designed for the task of risk formulation as opposed to risk prediction, by providing explicit guidelines for the development of risk scenarios, management strategies, and summary judgements. The strengths of this approach were that the focus of assessment was on criminogenic need, with appropriate emphasis given to psychological adjustment as well as factors such as the relevance of personality disorder to offending behaviour. The main contribution of the RSVP for the present analysis was in highlighting the apparent function of sexual violence and maladaptive coping strategies (as drawn out in the formulation, below). However, a lack of appraisal of non-sexual violence risk is arguably a limitation within this assessment.

Following the referral for group treatment, psychometric evaluation was considered useful to assess treatment targets and to direct the focus of the individual component of the intervention, to optimise responsivity to individual treatment needs. Three measures of relationship health were administered (Appendix E), to assess constructs aligned with the empirical basis of the intervention and factors identified in the sexual killing literature; specifically interpersonal skills, emotional loneliness and limited or inappropriate intimacy skills (Groth & Birnbaum, 1979; Hanson & Morton-Bourgon, 2005). Although the high relevance of the measures used to the treatment targets was seen as a strength, limitations include the inevitable problems of self-report and demand characteristics, confounded by the length of time since incarceration and the effects of institutionalisation on scale constructs. The Experiences in Close Relationships-Revised Questionnaire (ECR-R; Fraley, Waller, & Brennan, 2000) is likely to have been especially problematic in terms of response validity, given that items relate to experiences in emotionally intimate relationships. Instructions were given to respond as accurately as possible, imagining expectations within this type of relationship, but this is likely to have been a particularly difficult task.

There were further limitations with the psychometric measures (see Appendix E), however, in support of the utility of this type of assessment reconviction data suggests that psychometric testing is informative in terms of assessing outcomes of offending behaviour treatment (Wakeling, Beech, & Freemantle, 2013).

Social and Psychosexual Development

Mr. Sutor was born into a large family, the fifth of 8 children. He experienced his parents' relationship as loving but volatile; his mother reportedly suffered emotion regulation difficulties and was frequently violent towards his father and the children. From the age of 5 years, Mr. Sutor's elder siblings sexually abused him. Parental protection was not received, and the abuse continued throughout Mr. Sutor's childhood and adolescence. Mr. Sutor reported victimisation from his brother through penetrative sexual acts and described being forced to enact the 'rape' of his elder sister when he was 15 years of age. Mr. Sutor was not aware of the circumstances that may have led to his siblings' abusive behaviour, and he found it difficult to consider possible causes such as their own mistreatment.

Mr. Sutor did not integrate well with his peers, and regularly truanted from school. This led to further sexual victimisation; aged 8 years he was approached by an adult male in a public toilet and following this, he began selling sexual favours to adult male strangers.

When he was 14 years old, Mr. Sutor committed two separate offences of indecent exposure and in the second instance he also sexually assaulted his victim. His apprehension brought his case to the attention of social services and he was placed under a residential care order. Mr. Sutor described how he hoped that as a result of this, some action would be taken with regards to the abuse that he had been exposed to. However, he recalled that professionals failed to "ask the right questions" and that his father's response was dismissive; he was told to "learn to defend" himself. Shortly after this, Mr. Sutor's mother died of a blood clot. Mr.

Sutor felt that his family held him responsible, having caused his mother undue stress.

Mr. Sutor had some experience of adolescent relationships with females of a similar age (friends of his younger sisters), and as a young adult he had a short-term relationship with a woman, which he believed ended due to his sexual inexperience. He said of this, "I didn't know much about sex and still don't". Shortly after this Mr. Sutor entered into a sexual relationship with a man approximately 20 years his senior. He had by this time frequently engaged in sexual activity with males for financial gain and he saw this relationship, which lasted for several months, as an opportunity to exploit and cause psychological harm by rejecting the man, ending the relationship abruptly when he knew that the man had developed strong affectionate feelings towards him. Mr. Sutor engaged in several other similar relationships with men, wanting to "destroy them". He said that he could sexually offend against female victims who were weaker than him, and he could hurt men by exploiting and humiliating them.

Seeking companionship and what was in his view a traditional marital relationship ("I thought a wife would cook and clean for me"), Mr. Sutor married and fathered a son. He described his marriage as lacking in emotional closeness; he did not love his wife and was disappointed to find that she did not fulfill the home-making role that he had expected of her. As well as a lack of emotional intimacy, Mr. Sutor felt paranoid and jealous within the relationship and he would ruminate angrily. At the same time he was having difficulties maintaining stable employment and he

resigned two jobs at short notice. Mr. Sutor's marriage ended when he went to prison for his first rape offence.

Education and Employment History

Mr. Sutor was isolated from his peer group from an early age. He felt that he was an "outsider", and recalled regularly truanting from school, sometimes walking past the school observing the other children, feeling a sense of injustice. His education was further interrupted following his placement in care, and he left school without qualifications. Subsequently, Mr. Sutor experienced difficulties finding and maintaining stable employment. He worked for a short time in a bakery and in various similar types of employment, but had difficulties coping with the interpersonal demands of the work environment typically resulting in impulsive resignation. Mr. Sutor was imprisoned from age 24 years to age 28 years, and following his release he was unable to gain further employment.

Drug/Alcohol History

Mr. Sutor used alcohol from the age of 15 years and drank moderately to heavily from that time. However, although alcohol misuse may have exacerbated some of Mr. Sutor's interpersonal difficulties it appears that in the six months leading up to the index offence he used low levels of alcohol and substance misuse appears not to be a predominant contributory factor in his offending.

Medical/Psychiatric history

From the available information, it appears that Mr. Sutor had a normal birth and met developmental milestones ordinarily. However, he was enuretic until 9 years of age.

Mr. Sutor's first contact with psychiatric services was following his first offence when he was 14 years of age, however, he did not receive any treatment. It has been recorded that Mr. Sutor has a history of depressive symptoms and during his early twenties, he self-harmed by taking an overdose but he was not diagnosed with an affective or psychotic disorder. A psychiatrist assessing him around that time (again in connection to offending behaviour rather than being referred by mental health services) noted schizoid traits with psychotic potential but suggested that treatment was not feasible and medical recommendations were not made.

When Mr. Sutor was aged in his early thirties, in custody having been convicted for the index offence, he was considered to be suffering from a severe personality disorder, which was thought to be unlikely to respond to treatment. Further symptomatological description was not reported but it is clear that Mr. Sutor's mental state deteriorated precipitating his referral to secure hospital. He was subsequently diagnosed with a dissocial personality disorder, recurrent depressive disorder, and he presented with thoughts and behaviours consistent with schizoid personality disorder.

Forensic History

Prior to the index offence, Mr. Sutor had four sexual convictions and two convictions for non-sexual, non-violent offences. The circumstances of his first offences were that, aged 14 years, he indecently exposed himself to a female stranger and a short time later he committed a second indecent exposure, this time touching the breast of the victim who was an elderly female. He was further convicted for the sexual assault of an adult female stranger when he was 20 years of age, and when he was 24 years of age he received a 6-year custodial sentence when convicted of rape. This offence involved an opportunistic attack on an adult female stranger, in which he pulled the victim into some bushes and forced fellatio and vaginal intercourse.

Mr. Sutor's non-sexual offences relate to two convictions, both when he was aged 21 years, for theft of property, obtaining property by deception, and absconding from bail.

Index Offence

The index offence occurred six months after Mr. Sutor was released from prison having served four years of his sentence for the previous rape offence. During those six months, Mr. Sutor had been feeling increasingly angry. He saw his former wife's sister with his son three months before the index offence, and experienced a sense of loss. At the time of the index offence, he was living in temporary accommodation and was unemployed. He was called in to participate in a police identity parade in the investigation of a rape, which he said made him feel discriminated against, and he thought, "If they think I'm guilty of committing a rape, I

may as well do". On the day of the offence Mr. Sutor went to an area he had often been to when younger, near to the locations of his previous sexual offences, feeling dejected and thinking that he was going to "do something". Early in the afternoon, Mr. Sutor was at a sports field where he found his victim, a 35 year-old female stranger. Mr. Sutor approached the victim from behind, dragged her through a fence into some bushes and raped her. The victim managed to free herself and began to run away. Mr. Sutor ran after her and again overpowered her. He described feeling angry that the victim tried to run away because he felt that this deprived him of control; he thought he should be the first to leave. He also experienced intrusive (seemingly not psychotic) thoughts of his elder brother, and envisaged his face smiling at him as if to say, "you can't get rid of me that easily". He punched and kicked the victim repeatedly until she lost consciousness and was bleeding heavily. Mr. Sutor dragged the victim back into the bushes and strangled her. He reported blunted post-offence affect. He left without attempting to conceal the body and walked to a town a considerable distance away where he stayed for two weeks, homeless, before turning himself in to the police.

Formulation

Consideration of the four domains of psychological mechanisms (intimacy and social skills deficits, distorted sexual scripts, emotional dysregulation, and cognitive distortions) proposed by Ward and Siegert (2002), as distal and proximal vulnerability factors provides a biopsychosocial framework for formulation by situating problem behaviour within the context of predisposing factors, precipitating or antecedent

factors, perpetuating factors, and protective factors (the 'Five Ps' approach, Dudley & Kuyken, 2006). Jones (2011) suggests the use of the Morton (2004) causal modeling framework as a theoretically integrative approach to formulation capable of representing environmental, brain, cognitive (including affective), and behavioural factors in a way that can be clinically useful by drawing attention to the range of factors impacting on the target behaviour. Distal and proximal factors considered in the present case formulation are detailed using a Five Ps approach, and the interactions between them are summarised in a Morton diagram (Figure 2).

Predisposing factors. The chaotic nature of Mr. Sutor's early relationships precluded the kind of nurturing, predictable environment important for the development of self-regulation behaviours and adaptive coping. He received neglectful, frightening parenting, characterised by his mother's emotional dysregulation and insufficient care and attention from both parents, which was likely to have had a detrimental developmental effect (Laulik, Chou, Browne, & Allam, 2013) and may have been associated with the emergence of schizoid personality traits (Leizberg, 1989 reviewed by Laulik et al., 2013). Deprivation of fundamental needs in formative years along with anti-social modeling through exposure to intra-familial violence appeared to be a factor underlying intimacy and social skills deficits (including emotional literacy and empathic concern for others) and emotional dysregulation integral to Mr. Sutor's offence pathway.

These difficulties were manifestly deepened through Mr. Sutor's acute history of sexual abuse. The specific mechanisms through which

sexual victimisation operates in his offence pathway appeared to be in the establishment of maladaptive mistrust-abuse and emotional deprivation schemas (Young, 1990; Young, Klosko, & Weishaar, 2003), which have been empirically observed in sexual abusers with a history of sexual victimisation (Richardson, 2005), and in the development of distorted sexual scripts (Ward & Siegert, 2002). The intra-familial sexual abuse and deprivation of protection Mr. Sutor experienced were hypothesised to be central to his core beliefs, that others will hurt and humiliate and the need for emotional support will not be met. The further impact of his victimisation appeared to be in his developmentally acquired cognitive representations of how to behave in sexual situations (sexual scripts), at an internal level; understanding the physical, emotional, and cognitive cues associated with sex. For Mr. Sutor, sexual arousal may have been classically conditioned to painful emotions (fear, humiliation, anger) such that learning to differentiate between aggression and sexual urges (Marshall & Barbaree, 1990) was unsuccessful. Further, cognitive distortions that originated in abusive experiences included beliefs that women enjoy coercive sex (Mr. Sutor described how he concluded from his abusive experiences with his elder brother and sister that "women must enjoy being raped"). Implicit theories including 'women as sex objects', which can generate cognitions around the unconscious desire of women to be raped (Polaschek & Ward, 2002) have been empirically identified in sexual offenders (Beech et al., 2005), which suggests that this particular cognitive distortion should be considered relevant to the formulation of Mr. Sutor's sexual offending.

As a further distal factor, in addition to the absence of safety, stability, and acceptance within his home environment Mr. Sutor was socially isolated and not able to gain positive interpersonal relationships outside of his family that might have acted as a protective factor. Feelings of defectiveness (Mr. Sutor was hypercritical of himself, perceiving his powerlessness in his victimisation in terms of cowardice) generalised into disconnectedness from peers and social exclusion through truancy as an avoidance coping strategy. The further sexual victimisation that occurred (being paid for sex with adult male strangers) likely reinforced a defectiveness and shame schema (Young, 1990) and fed into the development of harmful sexual scripts. Later experiences of homosexual relationships in which Mr. Sutor gained empowerment through the exploitation and humiliation of these partners reinforced defectiveness/shame schemas and angry, hostile attitudes, as he felt degraded by the sexual acts.

Formulation further requires an understanding of the contributory role of personality traits, characteristic adaptations, narrative identity and relational dynamics as potential contributory factors in offending (Jones, 2011). Indeed, lifestyle instability, in reality a defining feature of personality disorders, has been implicated as one of the most salient recidivism risk factors (Hanson & Morton-Bourgon, 2005). For Mr. Sutor, mistrust-abuse, emotional deprivation and defectiveness/shame schemas were likely related to schizoid traits, manifesting in an approach-automatic offence pathway based on previous experiences and related behavioural scripts activated in high risk situations with minimal attentional involvement (Hudson & Ward, 2000).

Precipitating/antecedent factors. The critical factors precipitating the index offence appeared to be lifestyle instability and social isolation. Triggers of maladaptive schema modes included difficulty securing employment and stable accommodation, and relational exclusion (Mr. Sutor saw his son with his former wife's sister which caused him to feel lonely and disconsolate). Mr. Sutor was angry with his probation officer whom he held responsible for his unsatisfactory living arrangements and in connection to the police identity parade, which he experienced as degrading and unfair. Parallels can be drawn between the angry, socially and emotionally isolated state precipitating the index offence and the antecedents to the previous rape, when Mr. Sutor was having difficulties maintaining stable employment and in his relationship with his then wife, he was feeling rejected, jealous, and angry. The implicit theories of sexual aggressors identified by Polaschek and Ward (2002) include a 'dangerous world' view characterised by core beliefs that others are inherently hostile and uncaring and threats are perceived where evidence is absent or ambiguous. Further, pre-crime anger and social and emotional isolation have been identified in studies examining the circumstances under which fatal injuries are inflicted in the context of sexual violence (Grubin, 1994; Langevin, Ben-Aron, Wright, Marchese & Handy, 1988; Milsom, Beech, & Webster, 2003). For Mr. Sutor, angry, hostile world-views appeared to be dominant psychological processes in the causal pathway to offending behaviour.

Perpetuating factors. Physiological arousal differentially motivates sexual killing depending on whether the perpetrator is compensatory, opportunistic, angry, or sadistic in type (Proulx & Beauregard, 2009). Mr.

Sutor's anger in relation to distal factors (trauma acting as significant maintaining factor in general arousal, without an appropriate means of expression), and in relation to proximal factors increased and maintained his vulnerability to grievance-driven offending. Given the pairing of physiological arousal with negative affective states, Mr. Sutor was not able to distinguish between physical and emotional cues and his sexual scripts led him to look for harmful ways to express his emotions. Thus, his behaviour was consistent with his emotional and arousal response channels. Without congruent cognitions the offence would be less likely to occur. Offence supportive beliefs including the 'women as sex objects' implicit theory (Polaschek & Ward, 2002) permitted Mr. Sutor to engage in an approach-automatic offence (Hudson & Ward, 2000). During the commission of the rape escalating angry responses triggered by the victim's resistance and displaced anger (projection of the image of his brother onto the victim) triggered aggressive dyscontrol characteristic of anger-driven sexual killing (Clarke & Carter, 2000).

Protective factors. Post-offence, Mr. Sutor appeared not to experience the positive affect and negative victim attitudes typical of approach-automatic offences (Hudson & Ward, 2000). These responses appeared relevant to the previous rape, which appeared to negatively reinforce the likely repetition of the behaviour by removing negative affect (rejection and jealousy triggering emotional deprivation schemas), but following the index offence Mr. Sutor reported feeling shock at having killed the victim and fear of further incidents of "losing control" in that way. At the time of the index offence, Mr. Sutor held hostile attitudes towards his probation officer and his readiness in terms of seeking support

appeared to be low. However, more recently through the process of psychological assessment and therapeutic engagement prior to the present intervention, he developed curiosity about his transition from victim to perpetrator and appeared to begin to consider the perspectives of others more, reducing his past tendency to prioritise his own needs over others.

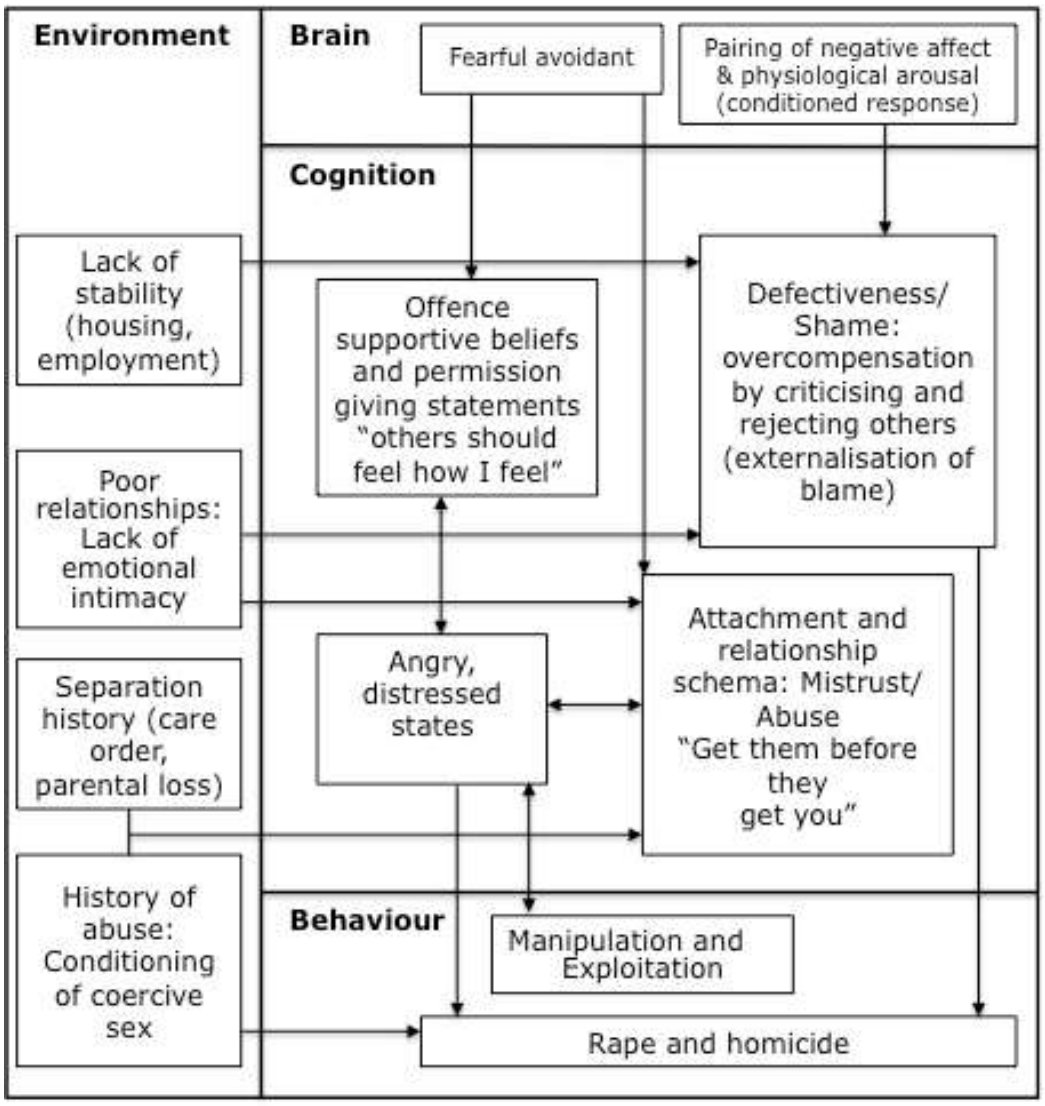


Figure 2. Morton diagram identifying interactions between problem behaviour and predisposing, precipitating and perpetuating factors.

Treatment Needs Analysis

Treatment targets identified within the 'Five Ps' framework and Morton diagram, using Ward and Siegert's (2002) pathways model to organise vulnerabilities associated with interacting psychological mechanisms are presented in Table 15. This analysis maps onto the dynamic risk domains (sexual interests; distorted attitudes, socio-affective functioning; self-management) identified in the Structured Assessment of Risk and Need (SARN; Thornton, 2002), highlighting that Mr. Sutor's areas of risk appeared to relate most saliently with domains two and three, distorted attitudes and socio-affective functioning, respectively.

Table 15.

Treatment Needs Within Ward and Siegert's Pathways Model

Psychological mechanisms	Key statements relevant to vulnerability	Treatment targets
Intimacy and social skills deficits	"Let people get close to you, you get burned" "Their feelings didn't come into it" "If I was more of a man, it wouldn't have happened" "I'll always have anger because of (the abuse), it's part of me"	(1) Lack of emotional intimacy with adults (2) Callousness (3) Dysfunctional self-evaluation (4) Grievance thinking
Emotional dysregulation	"It (anger) was like a fire" "She (victim of first rape) smiled at me, she could see my pain. I thought I'd wipe the smile off her face"	(5) Anger management/poor emotional control (6) Impulsiveness
Cognitive distortions	"I don't think I thought it was rape because my sister made me do it to her. It was normal, women like it" "Others should feel how I feel"	(7) Adversarial sexual attitudes (8) Entitlement beliefs (9) Machiavellianism
Distorted sexual scripts	"Sex wasn't for enjoyment" "I didn't know what I was supposed to be"	(10) Interest in sexualised violence

Intervention

Programme Description and Suitability

The planned intervention was a 20-week cognitive behavioural group treatment programme targeting relationships and intimacy skills, comprising 20 group sessions (each session lasting 90 minutes) and concurrent fortnightly individual sessions of one hour. The group comprises of eight group members and three to four facilitators (with at least two present in group sessions). Each facilitator is paired with up to three group members for individual sessions, so that each group member consistently meets with the same facilitator for the individual component of the programme. Goals for the sessions include: encouraging recognition and understanding of past voices (and how to use them constructively); understanding relationships as systems (in which there are roles and responsibilities); developing fairness to self and others. The reference to intimacy relates to the coverage of a variety of relationships, including those with 'distance' (such as acquaintances) and those with 'closeness' (such as with partners), and the exploration of similarities and differences in the actions of group participants past, present and future.

There are three key areas addressed in the group: relationships, sexuality, and interpersonal boundaries. Module one ('What makes a healthy relationship?') focuses on positive relations with others. Session material includes a discussion of need (including lifetime experiences of unmet needs, developmental effects of unmet needs in early life, and strategies for having needs met in adulthood), specific beliefs and review of the myths and realities that guide relationship formation socially and

culturally, and key relationship-building skills. Complex emotions such as jealousy, rejection, and loneliness are discussed in relation to experiences and coping skills. The second module ('Developing a healthy sexuality') focuses on beliefs about sex and sexual behaviours that impact of the expression of sexuality. Male and female views of sex are explored and safe behaviour in relation to closeness to another person is discussed. The final module ('Knowing my limits and respecting other people's') reviews actions that promote healthy alliances and those that threaten the maintenance of safe boundaries. Materials on the promotion of equality as a guiding principle, the value of mutuality, and the use of relationship 'tools' to promote the resolution of disagreements are used to bring together the overall themes.

The intervention targets three of the four SARN domains. Specifically, sexual preoccupation within the sexual interests domain; adversarial sexual attitudes (including 'women as sex objects'), sense of entitlement, and beliefs that women are deceitful within the offence-supportive attitudes domain; and all areas of the socioaffective domain, namely, dysfunctional self-evaluation, emotional congruence with children, lack of emotional intimacy with adults, callousness, and grievance thinking. Group members with needs in the self-management domain are referred for alternative group and/or individual treatment.

Selection criteria for the programme are that the individual has either committed an offence (sexual or non sexual) in relation to which the relevant treatment targets have been identified, or interpersonal difficulties have significantly prevented the individual from progressing in terms of their therapeutic engagement and risk management care plan.

Given that the programme does not directly invite participants to disclose details of their offending (during group sessions participants are not encouraged to discuss their offending, however, individual sessions are used to address these needs), referral is in some cases a primary stage in treatment planning to include subsequent offence specific therapy (for example, through sexual offending group treatment). The more general approach to the cognitive-behavioural treatment targets is well suited to those for whom the barrier of shame needs to be overcome in order for sexual offending behaviour treatment to be effective (Proeve & Howells, 2002).

The URI group was considered to be well suited to Mr. Sutor's needs, given the treatment targets that have been highlighted and his resistance to other forms of sexual offender treatment. He participated in a group-work suitability assessment, which did not identify any cognitive or other impairment that might affect treatment response, and he gave informed consent to participate in treatment.

Presentation and Group Process

Despite some early reservations about the group as Mr Sutor said that he feels that he is at a stage in his life where he does not anticipate that he would be seeking a close partner-type relationship, he remained open-minded to the possibility that there might be something to be gained from the intervention and he attended all but one of the 20 sessions. Mr Sutor participated in 11 individual sessions with myself. During the first individual session the limits of confidentiality were clarified and informed consent was reiterated.

Mr Sutor tended to approach the group in a somewhat reserved style, generally preferring to share the minimum necessary and keep himself at a safe emotional distance from the rest of the group. During 'check-in' or 'warm-up' exercises Mr Sutor would often say, "I'm fine" or "mustn't grumble"; he did not appear to enjoy being in the spotlight. Tasks designed to build connections between group members were challenging for Mr Sutor as these pushed him to relax his boundaries with others and he found it difficult to let his guard down. As he noted himself in an individual session, he is more comfortable at the group level than on an individual basis and this was evident when in a reflective group exercise Mr Sutor said, "you're a good bunch of guys" but was hesitant to articulate any specific observations about other group members. However, he participated in these tasks and throughout group sessions appeared engaged, not tending to refuse to contribute or otherwise act dismissively.

Mr Sutor offered a supportive presence in the group and his qualities as noted by other group members included his 'level-headedness' and his sense of humour. He listened respectfully to others' opinions and appropriately challenged beliefs that he disagreed with. For these reasons Mr Sutor was a valued group member whose contributions seemed to be welcomed by others. One other member of the group found self-regulation extremely difficult and was quite vociferous. As facilitators, my colleagues and I found it hard to contain this because we noted an acute threat focused schema, which meant very poor tolerance of being challenged in any way; this particular group member required continual validation and was very sensitive to perceived critical judgement from ourselves as well as other group members. Given the importance of group

cohesion for successful outcomes (Beech & Fordham, 1997) there was a concern that an individual dominating voice in the group may detrimentally affect outcomes for the entire group. However, as group sessions progressed we observed a high degree of patience and acceptance from the group as a whole, which was unexpected considering the range of antisocial or otherwise challenging personality traits associated with the diagnosed disorders group members presented with (predominantly dissocial personality disorder, borderline personality disorder, and/or schizoaffective disorder). Although participants' experience of the group environment was not objectively measured qualitative feedback suggested that, overall, group members were supportive of one another and perceived facilitators to be supportive also. They found tasks innovative and they were actively engaged. Mr Sutor commented, "every week I have been forced to think about a problem I have had in my life … every one of those things, yes, that was me … how I've messed up all my relationships … it's been okay … thought provoking".

Mr Sutor also used individual sessions effectively to explore some of the issues that arose, which understandably may have felt over-exposing to discuss in the group context. During individual sessions, a cognitive-behavioural approach complementing group work was taken alongside motivational interviewing and Socratic techniques at times when it appeared that the work was triggering shame responses.

Results

Treatment Outcome

The targets identified within the treatment needs analysis were reviewed to assess Mr. Sutor's progress. Progress notes from group and individual sessions were used along with staff observations of behaviour on the ward and psychometric assessment. Mr. Sutor completed three measures of relationship health pre and post sessions in individual sessions with myself, as documented in Figure 3 (standardised scores calculated so that a score of 50 represents the mean with 10 points indicating a difference of one standard deviation; see Appendix F for raw data). Treatment targets were evaluated under the headings of Ward and Siegert's (2002) four domains of psychological mechanisms:

Intimacy and social skills deficits. Mr. Sutor was observed to be making considerable effort to evaluate how he would like to be perceived by others and to change his approach to his interactions, adopting a position of tolerance and respectfulness rather than generalised anger and resentfulness, indicative of change relevant to the *grievance thinking* treatment target. He developed an understanding of how his experiences in life shaped his interpersonal style, his beliefs about himself and his expectations of others. In particular, he recognised how mistrust had been a pervasive element in all of his relationships. In relation to the treatment need, *lack of emotional intimacy with adults*, post-intervention Mr. Sutor continued to feel safer maintaining his guard in relationships but said that he had learnt that "some people can be trusted". While being alone might be favourable for him, he reported (through interview and psychometric

assessment) loneliness to a lesser extent. There was a shift in the direction of less emotional loneliness as measured by the UCLA loneliness scale (Russell, Peplau, & Cutrona, 1980), which appeared to represent clinically meaningful change based on a difference of more than one standard deviation in standardised scores. Improvements were also seen in interpersonal difficulties as measured by the short version of the Inventory of Interpersonal Problems (IIP-32, Barkham, Hardy, & Startup, 1996), with scores generally much more aligned post-intervention to the normative scores from a community sample. Mr. Sutor described (and demonstrated in the group) using humour to connect with others safely and identified realistic healthy relationship goals for the future, including working towards a quiet and content life in the community and joining a social club to build connections and shared interests with others. Post-intervention assessment indicated that anxiety around finding security in a partner and attachment-related avoidance remained high (scores on the ECR-R increased post-intervention to almost 2 standard deviations from the mean for attachment avoidance indicating significantly greater difficulty in this area compared to the normative sample). This was in line with Mr. Sutor's stated disinterest in forming future intimate relationships given his view that this would not be a realistic goal nor would a partner-type relationship be a priority for him; he said, "I'm not looking for that at this point in my life … an intimate relationship would require complete honesty and I couldn't expect anyone to be able to understand and cope with what I'd have to tell them".

Mr. Sutor reported feeling that long-term supervision will be important for him and that should difficulties arise and he finds himself

feeling less able to cope, he would seek help from his community support team. In the group, Mr. Sutor built upon work completed in previous psychological therapy in which he considered victim issues. Compared to previous reports of feeling oblivious to the similarities between the harm caused to victims and his own traumatic experiences, indeed wanting to cause pain and distress to others in response to his anger and sense of isolation, through the course of the intervention Mr. Sutor reflected on the impact of his actions and commented on 'new me' thoughts such as, "I have become more respectful of other people and their rights to go about their lives without being harmed", suggesting a reduction in risk associated with the treatment need *callous lack of empathy.* In relation to *dysfunctional self-evaluation*, themes of guilt and shame were evident in Mr. Sutor's self-talk, for example in comments such as, "I do not deserve the same (respect and happiness) as other people". Whilst guilt might function as a protective factor, indicative of internalised responsibility for behaviour, shame can have the opposite effect whereby the individual perceives external negative evaluation, triggering externalisation of blame and construction of cognitive distortions that protect fragile self-worth (Proeve & Howells, 2002).

Emotional dysregulation. Mr. Sutor's presentation from the start of the intervention suggested that *anger management/poor emotional control* and *impulsiveness* were complex treatment targets requiring trauma focused therapy aiming to differentiate between hostile world views and the origins of mistrust-abuse and emotional deprivation schemas central to Mr. Sutor's difficulties with the healthy expression of emotions. His schizoid personality traits and hypothesised overactive

behavioural inhibition system (sensitivity to punishment) appeared congruent with pre-intervention problem-level scores on the cold/distant, socially inhibited and nonassertive subscales of the IIP-32. Possibly, these characteristics related to social exclusion and associated problems with emotional competence (Saarni, 1999) and social skills deficits rather than typically avoidant traits, and the anger that he described as integral to his identity related to maladaptive schemas and frequent 'angry child schema mode' activation (Rafaeli, Bernstein, & Young, 2011). During the intervention, Mr. Sutor described a decrease in the intensity of trait anger and was able to partial out affect related to his history of trauma so as to reduce the pervasiveness of anger in his interpersonal relations. Post-intervention psychometric assessment indicated clinically meaningful change, with fewer problems reported with social inhibition and connection with others. Mr. Sutor reported greater thoughtfulness about his behaviour having been surprised to learn that at times, others have been frightened and intimidated by his emotionally dysregulated behaviour. He said, "I try not to lose my temper now because I don't want people to be afraid of me", and he appeared more tolerant of the stressors that have provoked distress, anger and aggression in the past by using perspective taking skills; "I try to understand (antagonisers') difficulties and the possible reasons behind their words and actions that can explain hurtful or irritating behaviour in alternative ways".

Cognitive distortions. Mr. Sutor developed a personal psychosexual development timeline and identified the origins of *adversarial sexual attitudes.* During a group exercise around 'beliefs about sex' he gave counter arguments to cognitive distortions that he may have

previously subscribed to. *Entitlement beliefs* and *Machiavellianism* appeared not to be present according to psychometric evaluation; pre and post treatment scores on domineering/controlling, vindictive/self-centered, and intrusiveness/needy subscales of the IIP-32 were lower than 50 suggesting that this was a low priority treatment need at the time of intervention. Qualitative observation was consistent with this, suggesting change in these treatment needs attributable to previous intervention and other factors such as age and institutionalisation.

Distorted sexual scripts. Whilst a clear understanding had been reached of the role of anger and social and emotional disconnection as drivers in relation to actions at the time of the index offence, Mr. Sutor was less able to explore the links between sexual urges and *interest in sexualised violence*. Given that he was not primarily driven to offend for sexual gratification, it appeared that the sexual nature of his offending was a particularly strong shame response trigger preventing Mr. Sutor from accessing this aspect of insight into his risk. This hypothesis appeared to be supported by Mr. Sutor's tendency to focus on his sense of responsibility for killing his victim and his relapse prevention strategies to avoid reoffending in this way. That is, his commitment to risk reduction was in terms of preventing a further rape offence because of the possibility that this would be a high-risk situation for homicide, which minimised the sexual element of his offending.

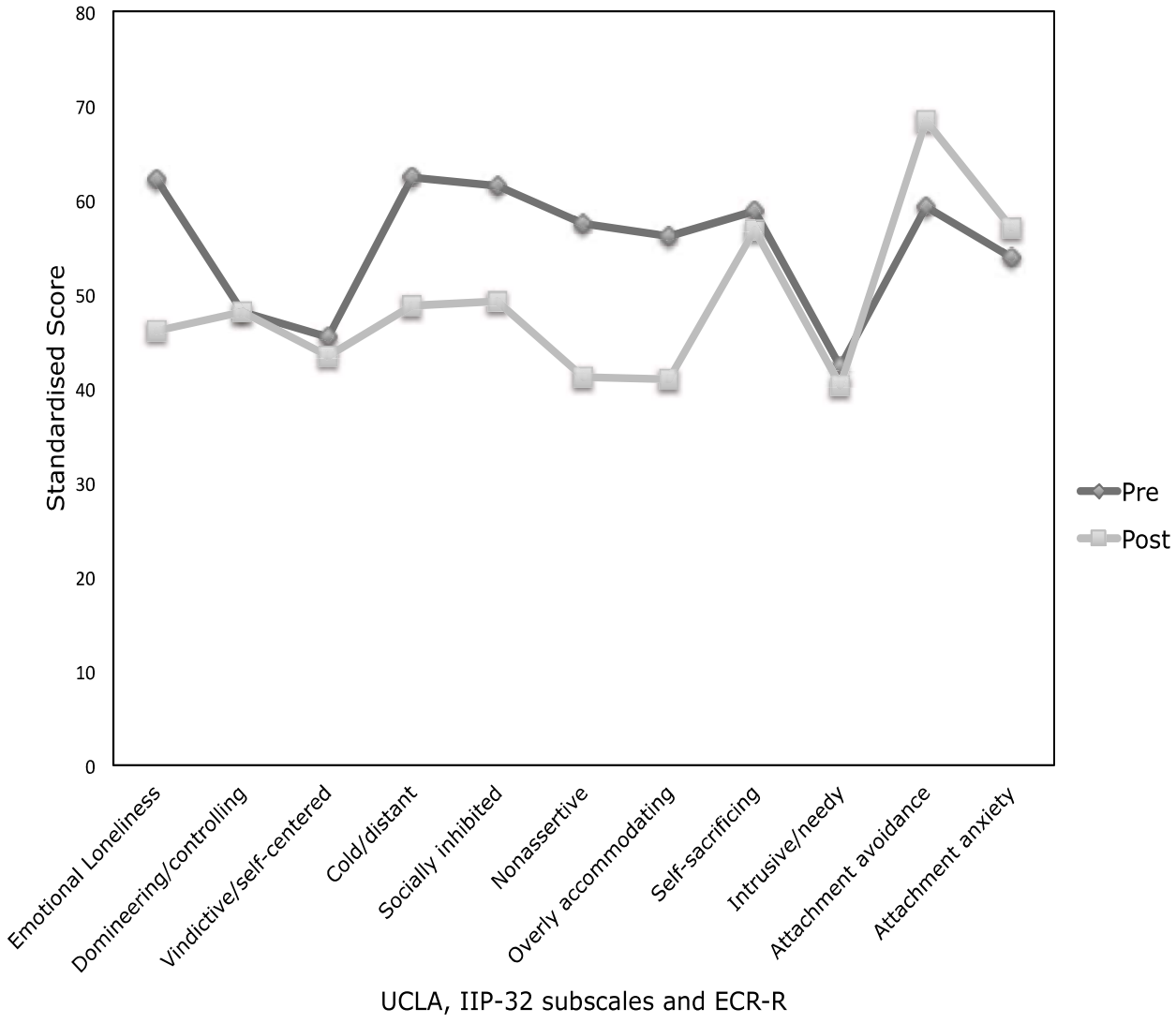


Figure 3. Standardised Pre and Post Treatment Psychometric Scores; Scores >50 Indicate Possible Treatment Need

Follow Up

Mr. Sutor was seen one month after the intervention completed and an end of intervention report was disclosed. He commented that although he was unsure whether he agreed that shame was a barrier for him in exploring risk associated with interest in sexualised violence, he was able to identify with other aspects of the report and recognised that further psychological treatment would be beneficial for the future management of his risk. Given that the intervention was designed to improve social skills and reduce feelings of social isolation, a 'reunion' group is scheduled to offer an opportunity for group members and facilitators to meet and reflect on the shared experience of the intervention, which will allow for further evaluation of sustained change.

Discussion

The present case study took a biopsychosocial approach to formulation, which highlighted empirically identified criminogenic factors (Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2005; Marshall, 1993; Thornton, 2002) relevant to the individual. Intimacy skills have been highlighted as a treatment target likely to be relevant for sexual offenders (Marshall et al., 1999), and the causal mechanisms proposed by multifactorial theories such as Ward and Siegert's (2002) 'pathways model' appeared effective in accounting for the interpersonal difficulties present in the case and their relevance in his trajectory towards offending. Specifically, psychological vulnerability emerging from early victimisation, lack of nurturance and stable caregiving, social exclusion and invalidating

attachment experiences corresponded with apparent mistrust-abuse, emotional deprivation, and defectiveness/shame schemas (Young, 1990; Young, et al., 2003), and schizoid personality disorder traits. Distorted sexual scripts (Ward & Siegert, 2002) appeared to develop as an inevitable sequela to harmful psychosexual developmental experiences. Difficulty discriminating between aggression and sexual arousal may have been underlying the sexualisation of violent offending behaviour (Marshall & Barbaree, 1990), if not due to neurophysiological pairing of these states, perhaps through classical and operant conditioning processes. The interaction of these factors with pro-offending cognitive distortions, in the presence of lifestyle instability proximal factors, was considered to heighten the risk of offending, culminating in the index offence.

In relation to theories of sexual killing specifically, the case characteristically represents the grievance driven, expressively violent offence, which is not sexually motivated and homicide occurs largely as a result of situational factors such as victim resistance and aggressive dyscontrol (Beech et al., 2005; Clarke & Carter, 2000; Schlesinger, 2007). Indeed, it was noted that the victim's attempt to escape triggered the escalation from what began as a rape, to a fatal assault. Like perpetrators categorised as 'angry' in research, problems with the expression of anger and emotional isolation were significant contributory factors in the offence pathway (Grubin, 1994; Langevin et al., 1988; Milsom et al., 2003).

The intervention explicitly targeted empirically derived treatment needs as discussed herein, and further strengths were in the behavioural and cognitive skills training, tasks relevant to group-members' needs, and participatory learning alongside adaptation of services to individual

differences, as discussed in the 'what works' literature (McGuire, 2001). Examples of how responsivity was integral to the group process included the provision of additional one-to-one support where needed (most group members presented with histories of trauma), careful planning of small-group tasks to manage dominant voices, and the use of visual, audio, and kinaestetic modes of presentation. Additionally, schema therapy techniques such as empathic confrontation were built into the delivery style; although the presence of cognitive distortions may be indicative of treatment need, the underlying cognitive processes or schemas should also be recognised (Mann, 2004). Further, and specifically relevant to Mr. Sutor, shame, early maladaptive schemas, and schizoid personality traits may be moderating factors in involvement in group therapies and resistance to critical self-reflection (Lord & Perkins, 2014). A schema therapy approach may therefore be effective in sexual offender treatment. However, this needs to be balanced against programme drift (loss of integrity as interventions diverge from evidence-based design), as well as the necessity for facilitators to have the appropriate training and competency to meet appointed objectives by adopting suitable methods. On balance these principles were upheld, however, most of the facilitators involved in the present intervention (myself included) were not trained in the delivery of schema therapy but relied on independent reading and observation of more experienced psychologists. Therefore, there were limitations in the extent to which schema therapy techniques were employed. Overall, the intervention adhered to a cognitive-behavioural model.

The analysis of outcomes in the present case suggested a reduction in risk associated with intimacy and social skills, emotional dysregulation, and cognitive distortion vulnerabilities. It should be noted that change in these areas is likely to be at least partially attributable to previous psychological therapy and even assessment; participation in the RSVP, for example, may have been experienced as an opportunity to begin to understand the personal transition from victim to abuser. Moreover, although the index offence was not explicitly sexually motivated, it appeared that the pairing of sexual arousal to violence and coercion remained an outstanding area of treatment need, which the present intervention was not well suited to address. My view, and that of the facilitating team, was that feelings of shame may prevent further exploration of this aspect of risk and a compassion focused cognitive behavioural therapy (Lee, 2005) may be a valuable next step.

As a final reflection, from a research perspective the case highlights the methodological problems inherent in research in the absence of legal categorisation or academic consensus around the term 'sexual murderer'. In this case, the sexual element of the offence was clearly evident; the offence started out as a rape. The question this raises is whether the 'angry' perpetrator, for whom killing is incidental to the primary goal of rape, is representative of 'sexual murderers'. Researchers need to be clear on this point and operationalise terms more critically than has been typical in this field of study.

Chapter 6.

Discussion

Four studies examined psychological and criminality factors associated with diverse types of sexual murderers. A systematic literature review found support for three overarching themes underlying sexual murder: Sexualisation of murder, murder as a result of grievance, and murder consequential to rape. This specific focus of the systematic review, determining empirically supported typologies of sexual murder, was considered necessary following previously asserted limitations in the extant sexual murder literature (Kerr & Beech, 2015; Maniglio, 2010). Review of widely cited texts (Holmes & Holmes, 2009; Schlesinger, 2004; Ressler et al., 1988) indicated that although various experts observed some consistent themes, a need existed to clarify the current state of scientific knowledge. It was concluded that the overarching themes appearing in the literature are valid, but further research is needed to improve the reliability of behavioural and psychosocial characteristics defining each subtype. Specifically, replication studies are needed including crime scene factors as well as pre-and post-crime behaviours, and biopsychosocial factors require further attention.

Amid a recent trend towards designing studies that use typologies to advance the empirical evidence base (Beauregard & Martineau, 2016b; Higgs et al., 2015; Lussier & Cale, 2014), a primary study was carried out adopting a similar approach. Due to limitations in the reliability of behavioural and psychological characteristics associated with the three subtypes, as highlighted by the systematic review, objective

operationalisation for research purposes remains problematic. Therefore, the previously proposed operationalisation of post mortem sexual interference as a proxy to delineate cases (Higgs et al., 2015) was used in an empirical study of the developmental and criminal histories of sexual murderers and rapists. This approach has an empirical basis, as post mortem sexual interference was one of the few behavioural indicators of sexualised murder identified in the systematic review. Subgroups of sexual murderers who had, and who had not, engaged in post mortem sexual interference, were compared to a sample of rapists whose offences had attracted a life or indeterminate sentence. Results suggested differential psychosocial responses to childhood adversity and different trajectories through adulthood and involvement in criminal activity that was predictive of eventually committing a sexual murder and engaging in post mortem sexual interference, a sexual murder without post mortem sexual interference, or non-homicidal rape. This research contributes to current theoretical understanding of sexual murder, and the debate as to the uniqueness of sexual murder versus the hypothesised continuum of sexual aggression (Healey et al., 2016; Oliver et al., 2007; Proulx et al., 2007; Salfati & Taylor, 2006). The present research highlights how existing models apply to some but not all sexual murderers. Based on present findings, a new model of sexual aggression with fatal and non-fatal outcomes is proposed (Figure 4).

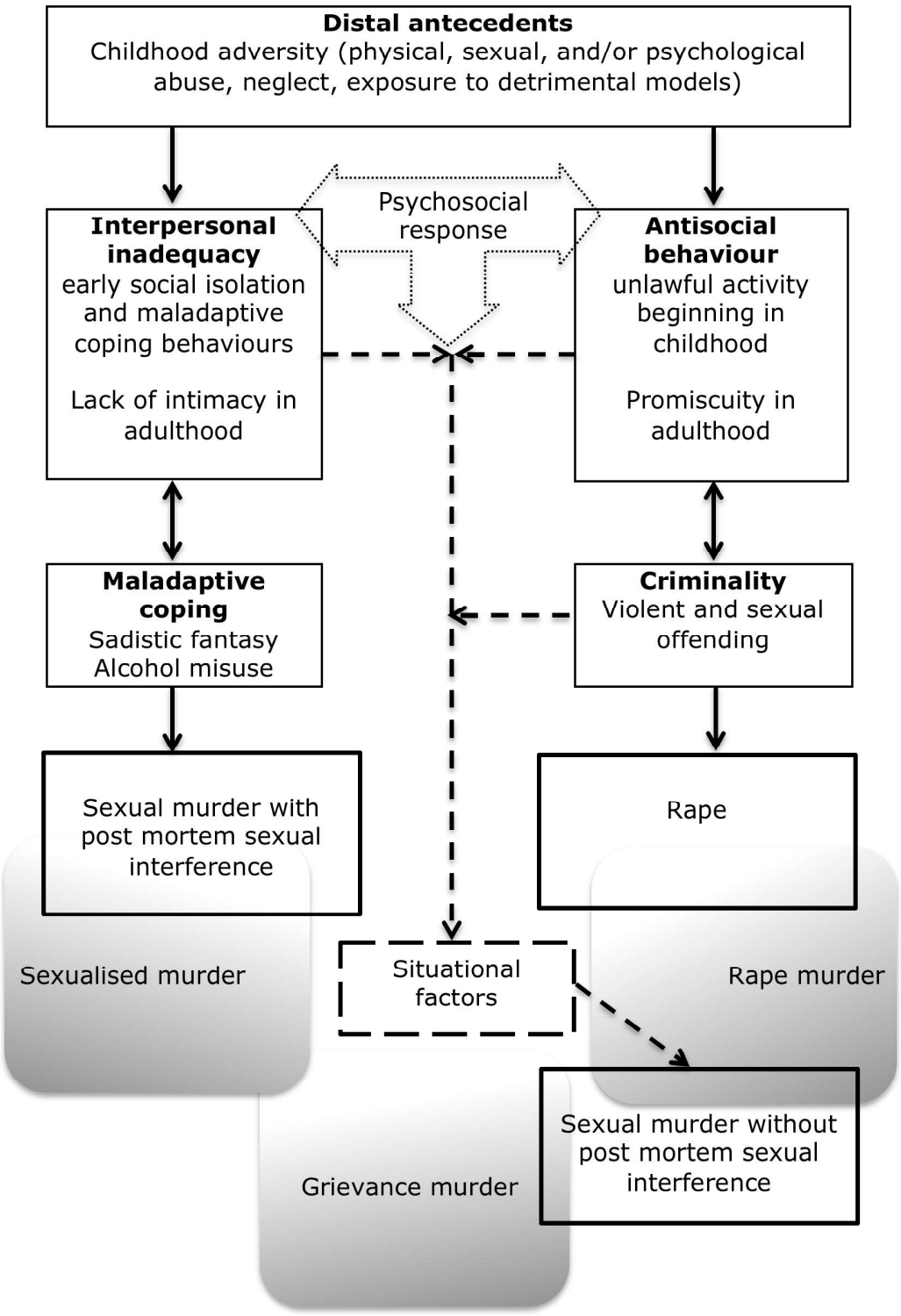


Figure 4. Differential motivational model of sexual aggression with fatal and non-fatal outcomes.

Consistent with the trauma-control model (Hickey, 2002) and the motivational model (Burgess et al., 1986; Ressler et al., 1988), childhood adversity (such as physical, sexual, and psychological abuse or neglect) is a common vulnerability factor for sexual murderers, and rapists. However, the present model demonstrates how differential psychosocial responses and subsequent trajectories, differing based on experiences in intimate relationships and criminal careers, predict offence outcomes. There are two relatively clear pathways, shown on either side of the model, resulting in either sexual murder involving post mortem sexual interference, or rape. There is a third pathway which is less clear: Perpetrators of sexual murder who did not engage in post mortem sexual interference appeared to share some similarities with both post mortem sexual interference sexual murderers, and rapists. As such, these offences are depicted in the model using a broken line, and it is hypothesised that situational factors may be particularly relevant to the risk of fatal outcomes in these offences (Beauregard & Mieczkowski, 2012).

Further, figure 4 shows the hypothesised convergence between the proposed model and established typologies of sexual murder. Sexual murder with post mortem sexual interference relates definitively to sexualised murder. Likewise, sexual murder without post mortem sexual interference is aligned to rape murder, although this subtype also overlaps with non-homicide rape, because fatal outcomes are dependent upon situational factors. Grievance murder appears more alike non-PMSI sexual murder than PMSI sexual murder because of the absence of sadistic fantasy reported by these offenders, and because the offences may be more contingent upon situational factors (since these offences tend to be

unplanned). However, it is possible that sexual arousal becomes associated with violence in some cases; hence there is some overlap with sexualised murder shown in the model.

None of the outcomes that the model seeks to explain were strongly associated with psychopathy as indicated by higher scores in one group than the others on the PCL: SV (Hart et al., 1995) in the primary study reported. In order to further examine this area of the research, psychometric properties of the PCL: SV were examined in a critique of the tool. Evidence was found indicative of good reliability and validity, and results favoured the use of the PCL: SV as an alternative to the PCL-R (Hare, 2004). As such, it does not appear that a limitation was introduced within the primary study by the restriction to the use of the PCL: SV, as opposed to other psychopathy measures such as the PCL-R or self-report instruments that would have required direct participation. Indeed, one of the major advantages of the PCL: SV over the PCL-R is the reduced demand on resources, especially administration time. This was a relevant factor in the present research because no other measure of psychopathy would have been feasible with the available data sources.

Finally, a case study illustrated forensic case formulation and outcomes following intervention with a sexual murderer who had perpetrated an offence fitting the description of a grievance murder. The proposed model can be applied to the case study. Indeed, the case illustrates responses to early trauma with factors antecedent to a grievance murder in some ways similar to those found in PMSI sexual murderers, but more so to those found among rapists. Developmental inadequacy, particularly early social isolation, was evident in the case

history, but there was no indication of retreating into sadistic fantasies and persistently depending upon alcohol as a coping strategy. Instead, chronic sexual offending culminated in a sexual murder that escalated from rape following a disproportionately aggressive response to actions of the victim. As such, the grievance murderer presented is typical of the non-PMSI sexual murderer.

Conclusion

The overall aim of this thesis was to contribute to a field of research lacking a substantiated multifactorial theoretical model. Towards that goal, systematic review and primary empirical research results were used to develop a new differential motivational model of sexual aggression with fatal and non-fatal outcomes. Further, a case study was presented which demonstrates the application of the model. However, the model is preliminary and requires external validation. In particular, it will be important to further examine how accurately the model maps onto subtypes of offence as hypothesised. Also, the model would benefit from evidence from behavioural genetics and neuropsychology, and it is also limited in its explanatory depth. Further research is needed to refine elements such as the precise psychological mechanisms underlying the diverse types of sexual murder.

Until relatively recently, there were fewer than 50 empirical studies in the domain (Chan & Heide, 2009), and previous researchers have commented on the need for studies using larger samples with more equal numbers of sexual murderers compared to non-homicide sexual aggressors, due to a common limitation of small samples in previous

research and a tendency for comparison studies to include a larger proportion of non-homicide sexual aggressors than sexual murderers (Chan, 2015). Therefore, given that the present research entailed the development and analysis of one of the largest datasets collated in the field to date, and does not suffer the problem of unequal groups, advances have been made in overcoming some of the limitations that have been articulated. The most salient implication of the present research is in the empirical contribution to theory development. The results of the systematic review, and the proposed differential motivational model offer new avenues of inquiry for future research, and have the capacity to be informative for forensic practitioners providing interventions with perpetrators of sexual murder. In order to continue to advance scientific understanding of this crime, international collaboration would be a worthwhile endeavour that would allow the construction of a considerably larger dataset, offering opportunities for model testing using a much wider number of variables and the most robust statistical techniques.

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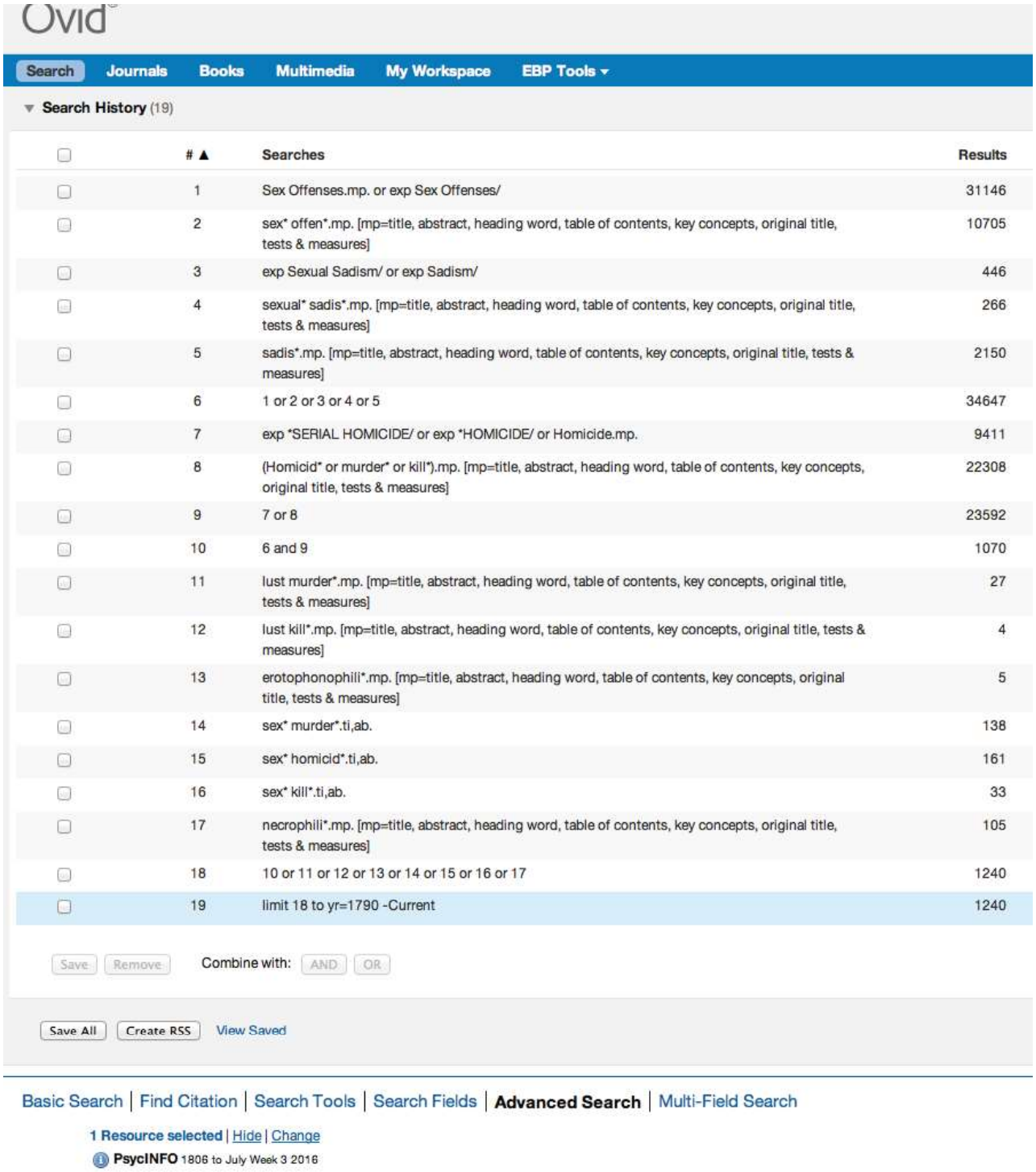
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Appendix A. Systematic review search syntax and results



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Search | Journals | Books | Multimedia | My Workspace | EBP Tools

Search History (19)

# ▲	Searches	Results
1	Sex Offenses.mp. or exp Sex Offenses/	31146
2	sex* offen*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	10705
3	exp Sexual Sadism/ or exp Sadism/	446
4	sexual* sadis*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	266
5	sadis*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2150
6	1 or 2 or 3 or 4 or 5	34647
7	exp *SERIAL HOMICIDE/ or exp *HOMICIDE/ or Homicide.mp.	9411
8	(Homicid* or murder* or kill*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	22308
9	7 or 8	23592
10	6 and 9	1070
11	lust murder*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	27
12	lust kill*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	4
13	erotophonophili*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	5
14	sex* murder*.ti,ab.	138
15	sex* homicid*.ti,ab.	161
16	sex* kill*.ti,ab.	33
17	necrophili*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	105
18	10 or 11 or 12 or 13 or 14 or 15 or 16 or 17	1240
19	limit 18 to yr=1790 -Current	1240

Save | Remove | Combine with: AND | OR

Save All | Create RSS | View Saved

Basic Search | Find Citation | Search Tools | Search Fields | **Advanced Search** | Multi-Field Search

1 Resource selected | Hide | Change

PsycINFO 1806 to July Week 3 2016

Search History: Web of Science™ Core Collection

Set	Results	Save History / Create Alert	Open Saved History
# 18	760	#15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1 **Refined by: WEB OF SCIENCE CATEGORIES:** (CRIMINOLOGY PENOLOGY OR PSYCHIATRY OR PSYCHOLOGY MULTIDISCIPLINARY OR MEDICINE LEGAL OR SOCIAL SCIENCES BIOMEDICAL OR LAW OR NEUROSCIENCES OR PSYCHOLOGY APPLIED OR POLITICAL SCIENCE OR PSYCHOLOGY BIOLOGICAL OR HUMANITIES MULTIDISCIPLINARY OR PSYCHOLOGY CLINICAL OR PSYCHOLOGY DEVELOPMENTAL OR SOCIOLOGY OR CLINICAL NEUROLOGY OR PSYCHOLOGY SOCIAL OR CULTURAL STUDIES OR PSYCHOLOGY EXPERIMENTAL OR MULTIDISCIPLINARY SCIENCES OR BEHAVIORAL SCIENCES OR SOCIAL SCIENCES INTERDISCIPLINARY OR PSYCHOLOGY OR SOCIAL ISSUES OR PATHOLOGY OR PSYCHOLOGY PSYCHOANALYSIS) AND **DOCUMENT TYPES:** (ARTICLE OR BOOK OR REPRINT OR PROCEEDINGS PAPER OR EDITORIAL MATERIAL OR BOOK CHAPTER OR MEETING ABSTRACT OR CORRECTION OR CORRECTION ADDITION) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 17	968	#15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1 **Refined by: WEB OF SCIENCE CATEGORIES:** (CRIMINOLOGY PENOLOGY OR PSYCHIATRY OR PSYCHOLOGY MULTIDISCIPLINARY OR MEDICINE LEGAL OR SOCIAL SCIENCES BIOMEDICAL OR LAW OR NEUROSCIENCES OR PSYCHOLOGY APPLIED OR POLITICAL SCIENCE OR PSYCHOLOGY BIOLOGICAL OR HUMANITIES MULTIDISCIPLINARY OR PSYCHOLOGY CLINICAL OR PSYCHOLOGY DEVELOPMENTAL OR SOCIOLOGY OR CLINICAL NEUROLOGY OR PSYCHOLOGY SOCIAL OR CULTURAL STUDIES OR PSYCHOLOGY EXPERIMENTAL OR MULTIDISCIPLINARY SCIENCES OR BEHAVIORAL SCIENCES OR SOCIAL SCIENCES INTERDISCIPLINARY OR PSYCHOLOGY OR SOCIAL ISSUES OR PATHOLOGY OR PSYCHOLOGY PSYCHOANALYSIS) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 16	1,840	#15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 15	22	TS=(sadis* NEAR/5 kill*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 14	37	TS=(sadis* NEAR/5 murder*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 13	21	TS=(sadis* NEAR/5 homicid*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 12	78	TI=(necrophili*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 11	1	TI=(erotophonophili*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 10	981	#9 AND #8 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 9	64,830	TI=(murder* OR kill* OR homicid*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 8	265,550	TI=(sex* OR sadis* OR lust OR serial) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 7	23	TS=(lust kill*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 6	127	TS=(necrophili*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 5	33	TS=(lust murder*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 4	2	TS=(erotophonophili*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 3	319	TS=(sex* NEAR/5 murder*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 2	574	TS=(sex* NEAR/5 kill*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	
# 1	384	TS=(sex* NEAR/5 homicid*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1970-2016*	

# ▲	Searches	Results
1	▶ Sex Offenses.mp. or exp *Sex Offenses/	16864
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3	▶ exp Sexual Sadism/ or exp Sadism/	561
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5	▶ sadis*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	789
6	▶ 1 or 2 or 3 or 4 or 5	17999
7	▶ Homicide.mp. or exp *Homicide/	20297
8	▶ (Homicid* or murder* or kill*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	202038
9	▶ 7 or 8	208092
10	▶ 6 and 9	561
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12	▶ lust kill*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	0
13	▶ erotophonophili*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	1
14	▶ sex* murder*.ti,ab.	50
15	▶ sex* homicid*.ti,ab.	74
16	▶ sex* kill*.ti,ab.	18
17	▶ necrophili*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]	65
18	▶ 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17	651

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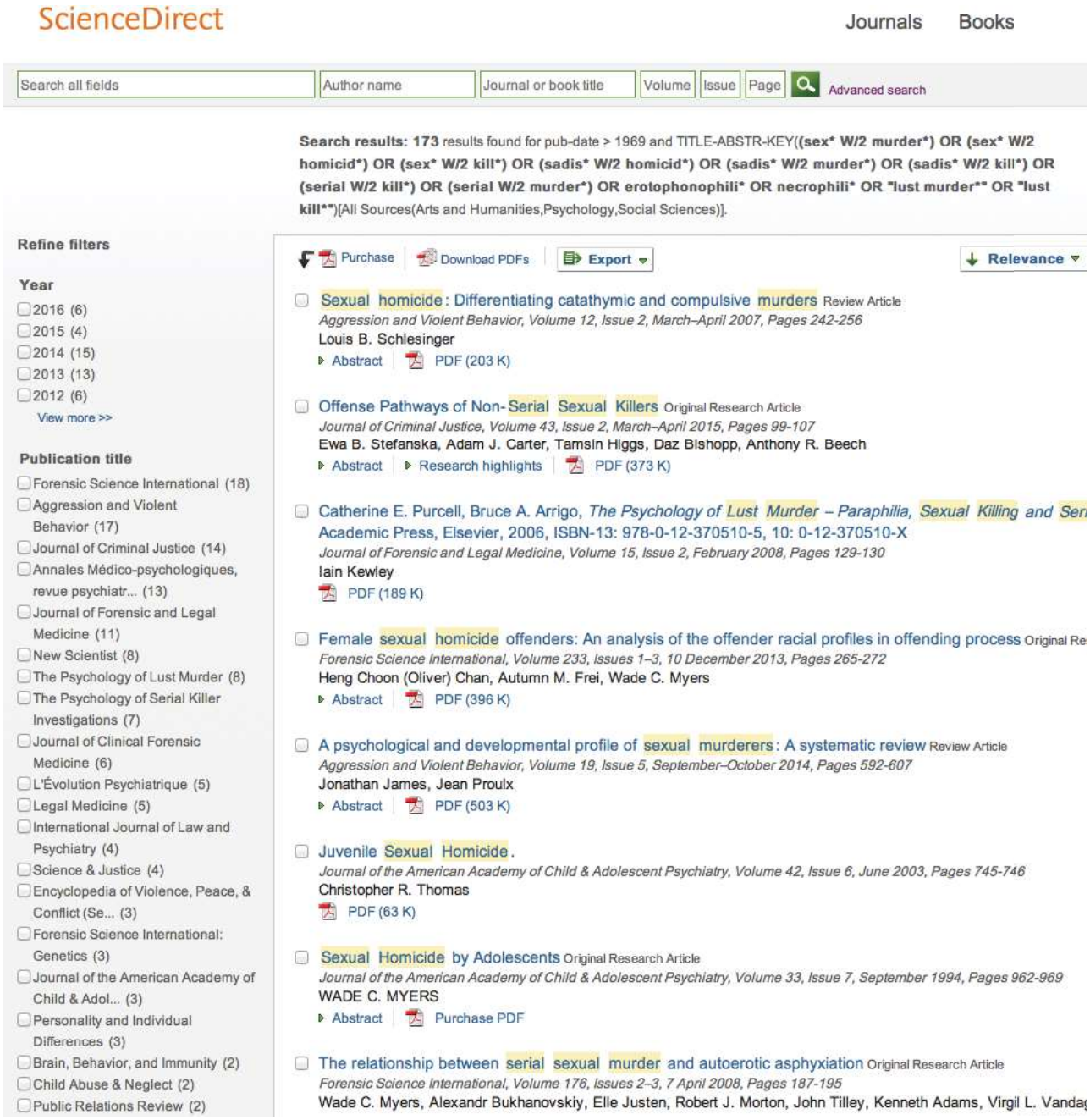
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Select / deselect all | Search with AND | Search with OR | Delete Searches

	Search ID#	Search Terms	Search Options	Actions
☐	S2	TX ("sex* murder*" or "sex* kill*" or "sex* homicid*" or "sadis* murder*" or "sadis* kill*" or "sadis* homicid*" or "lust murder*" or "lust kill*" or "serial murder*" or "serial kill*" or "serial homicide*" or erotophonophili* or necrophili*) OR (S1)	**Search modes** - Boolean/Phrase	View Results (25)
☐	S1	TI (sex* or sadis* or lust or serial) AND TI (murder* or homicid* or kill*) OR SU ("sex* murder*" or "sex kill*" or "sex* homicid*" or "sadis* murder*" or "sadis* kill*" or "sadis* homicid*" or "lust murder*" or "lust kill*" or erotophonophili* or necrophili*) OR TI (erotophonophili* or necrophili*)	**Search modes** - Boolean/Phrase	View Results (13)



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- 2015 (4)
- 2014 (15)
- 2013 (13)
- 2012 (6)

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- Aggression and Violent Behavior (17)
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Louis B. Schlesinger
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Offense Pathways of Non-Serial Sexual Killers Original Research Article
Journal of Criminal Justice, Volume 43, Issue 2, March–April 2015, Pages 99-107
Ewa B. Stefanska, Adam J. Carter, Tamsin Higgs, Daz Bishopp, Anthony R. Beech
Abstract | Research highlights | PDF (373 K)

Catherine E. Purcell, Bruce A. Arrigo, *The Psychology of Lust Murder – Paraphilia, Sexual Killing and Ser*
Academic Press, Elsevier, 2006, ISBN-13: 978-0-12-370510-5, 10: 0-12-370510-X
Journal of Forensic and Legal Medicine, Volume 15, Issue 2, February 2008, Pages 129-130
Iain Kewley
PDF (189 K)

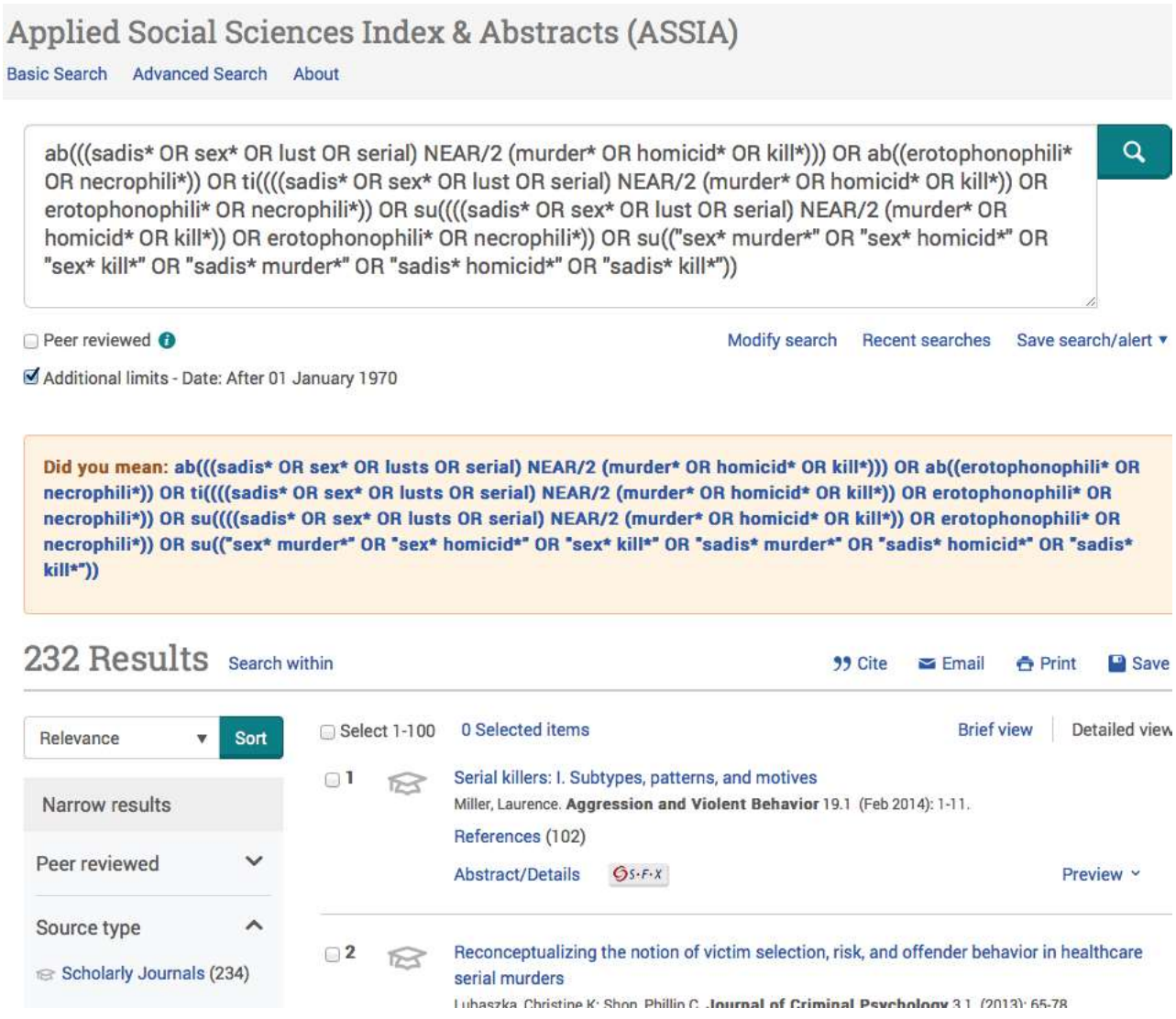
Female sexual homicide offenders: An analysis of the offender racial profiles in offending process Original Re
Forensic Science International, Volume 233, Issues 1–3, 10 December 2013, Pages 265-272
Heng Choon (Oliver) Chan, Autumn M. Frei, Wade C. Myers
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A psychological and developmental profile of sexual murderers: A systematic review Review Article
Aggression and Violent Behavior, Volume 19, Issue 5, September–October 2014, Pages 592-607
Jonathan James, Jean Proulx
Abstract | PDF (503 K)

Juvenile Sexual Homicide.
Journal of the American Academy of Child & Adolescent Psychiatry, Volume 42, Issue 6, June 2003, Pages 745-746
Christopher R. Thomas
PDF (63 K)

Sexual Homicide by Adolescents Original Research Article
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WADE C. MYERS
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The relationship between serial sexual murder and autoerotic asphyxiation Original Research Article
Forensic Science International, Volume 176, Issues 2–3, 7 April 2008, Pages 187-195
Wade C. Myers, Alexandr Bukhanovskiy, Elle Justen, Robert J. Morton, John Tilley, Kenneth Adams, Virgil L. Vanda



Applied Social Sciences Index & Abstracts (ASSIA)

Basic Search Advanced Search About

ab(((sadis* OR sex* OR lust OR serial) NEAR/2 (murder* OR homicid* OR kill*))) OR ab((erotophonophili* OR necrophili*)) OR ti((((sadis* OR sex* OR lust OR serial) NEAR/2 (murder* OR homicid* OR kill*)) OR erotophonophili* OR necrophili*)) OR su((((sadis* OR sex* OR lust OR serial) NEAR/2 (murder* OR homicid* OR kill*)) OR erotophonophili* OR necrophili*)) OR su(("sex* murder*" OR "sex* homicid*" OR "sex* kill*" OR "sadis* murder*" OR "sadis* homicid*" OR "sadis* kill*"))

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232 Results Search within Cite Email Print Save

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Peer reviewed

Source type

Scholarly Journals (234)

1 Serial killers: I. Subtypes, patterns, and motives

Miller, Laurence. **Aggression and Violent Behavior** 19.1 (Feb 2014): 1-11.

References (102)

Abstract/Details Preview

2 Reconceptualizing the notion of victim selection, risk, and offender behavior in healthcare serial murders

Lubaszka, Christine K; Shon, Phillip C. **Journal of Criminal Psychology** 3.1 (2013): 65-78

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all(((sadis* OR sex* OR lust OR serial) NEAR/2 (murder* OR homicid* OR kill*))) OR all((erotophonophili* OR necrophili*))

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Publication date

1971 - 2016 (decades)



1 A psychoanalytical approach to serial killers

Pistorius, Micki. University of Pretoria (South Africa), ProQuest Dissertations Publishing, 1996. 0597835.

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2 Using sexually-related crime scene characteristics to profile male serial killers: A question of motivation

Bronswick, Amy Lynne. Alliant International University, Fresno, ProQuest Dissertations Publishing, 2001. 3043029.

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3 Serial killing myths versus reality: A content analysis of serial killer movies made between 1980 and 2001

COS Conference Papers Index

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person

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Ingham, Anthea Margaret (1)
Scott, Beth Emily (1)
GOGUELAT, Thierry (1)
BARROCO, Michel Henri (1)
HIEGEL, Etienne (1)
Gresswell, D.M. (1)
Downing, L.M. (1)
Hodge, S. (1)
Carter, Adam John (1)

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University of Birmingham (2)
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Liverpool Univ. (United K... (2)
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University of Aberdeen (1)
Universite Henri Poincare... (1)
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05Q - Psychology (6)
05L - Literature, mass me... (4)
05E - History (4)
05I - Law, law enforcemen... (2)
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060 - Biological and medi... (1)
05K - Linguistics (1)
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Associated Terms
Welfare studies (3)

Multiple murder in England and Wales 1982-1991 An analysis
Gresswell, D.M. ;
1994 ; U - Thesis

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Dammann, Klaus ; Rychlewski, Hanna ;
2000 ; I - Miscellaneous

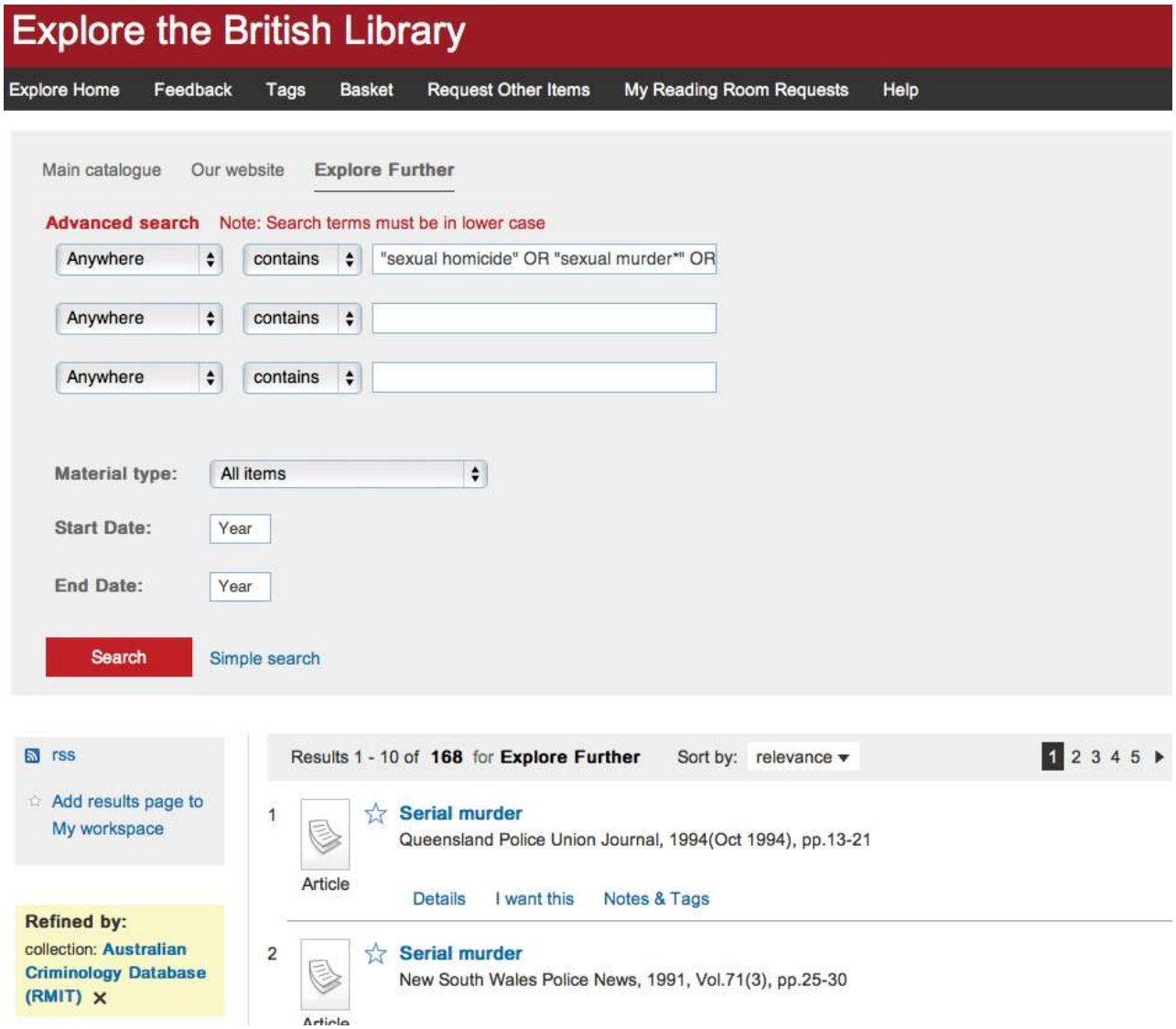
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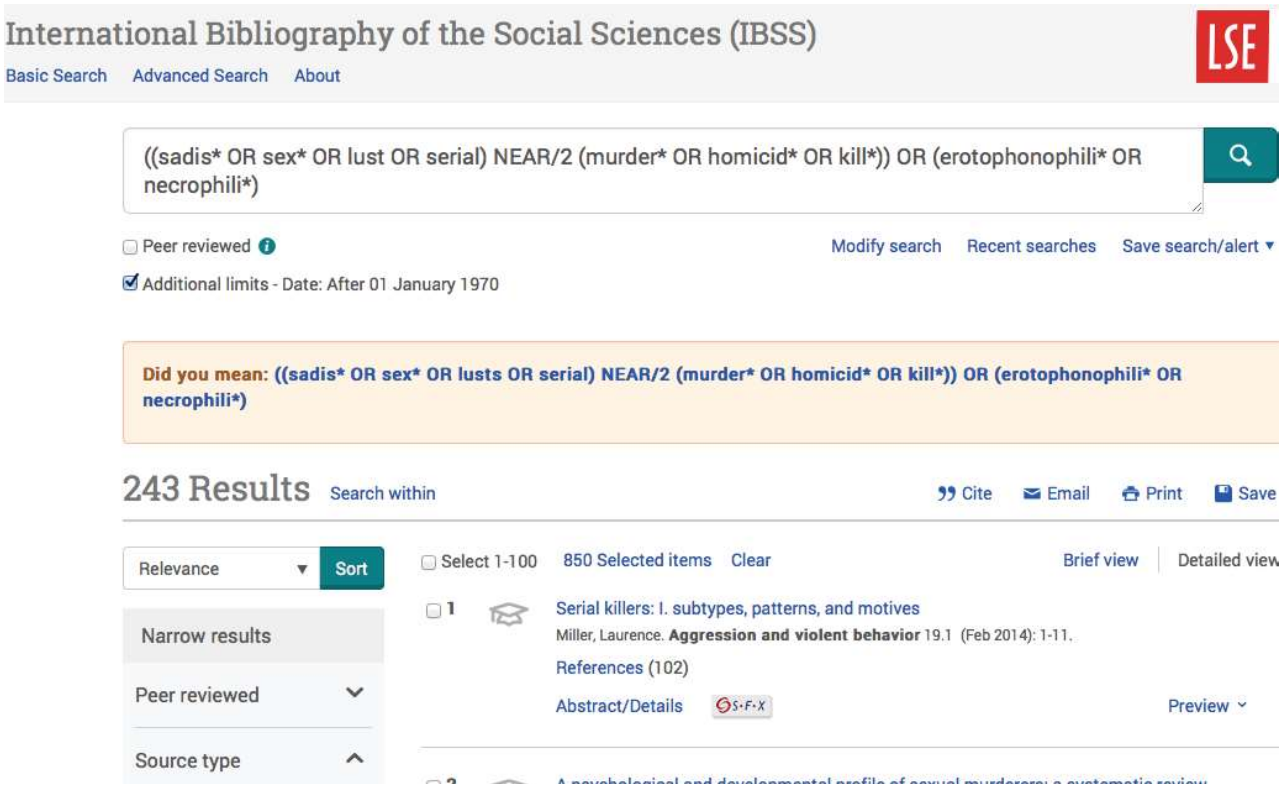
Juvenile Agressiveness and Violence in Contemporary French ...
GOGUELAT, Thierry ;
2008 ; U - Thesis

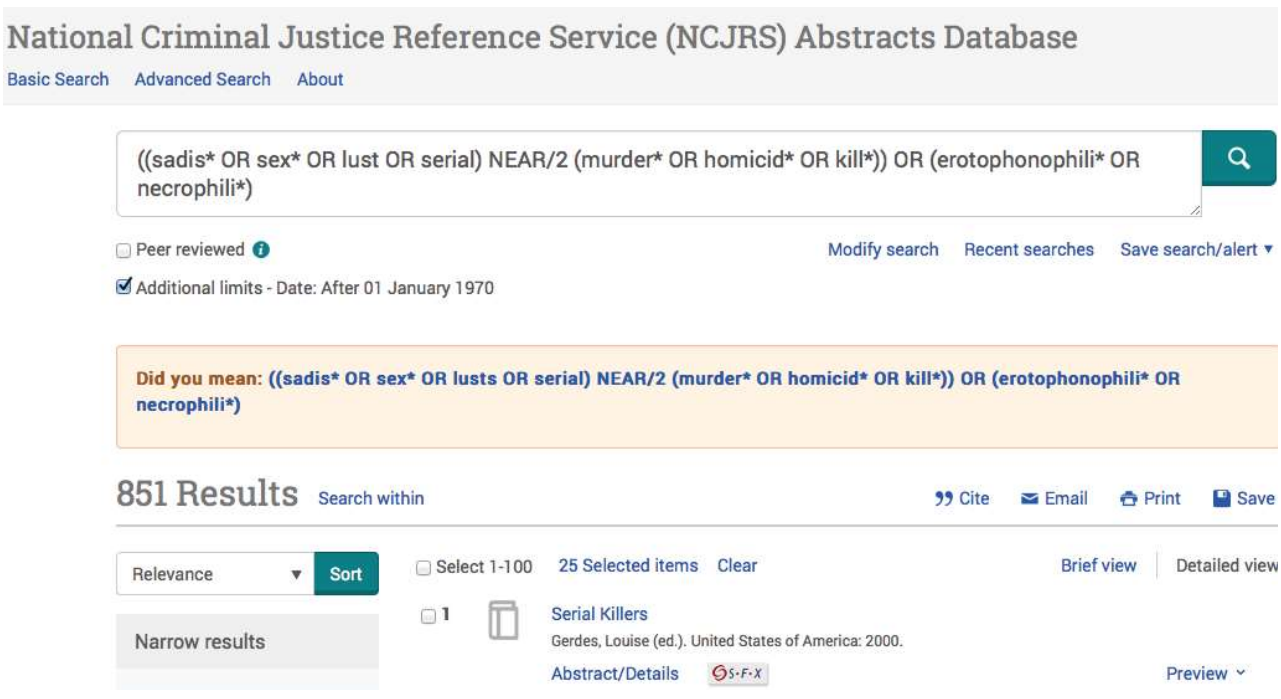
The serial killer : clinical and psychopathological approach
HIEGEL, Etienne ;
2001 ; U - Thesis

Psychopathology of criminal and deviant existential trajectories ...
LE BAS, Pascal ;
2011 ; U - Thesis

Desire and immobility Situating necrophilia in ...


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Anywhere
contains
"sexual homicide" OR "sexual murder*" OR
Anywhere
contains
Anywhere
contains
Material type:
All items
Start Date:
Year
End Date:
Year
Search
Simple search
rss
Add results page to My workspace
Refined by:
collection: Australian Criminology Database (RMIT)
Results 1 - 10 of 168 for Explore Further
Sort by:
relevance
1 2 3 4 5
1
Article
Serial murder
Queensland Police Union Journal, 1994(Oct 1994), pp.13-21
Details
I want this
Notes & Tags
2
Article
Serial murder
New South Wales Police News, 1991, Vol.71(3), pp.25-30


International Bibliography of the Social Sciences (IBSS)
Basic Search
Advanced Search
About
LSE
((sadis* OR sex* OR lust OR serial) NEAR/2 (murder* OR homicid* OR kill*)) OR (erotophonophili* OR necrophili*)
Peer reviewed
Modify search
Recent searches
Save search/alert
Additional limits - Date: After 01 January 1970
Did you mean: ((sadis* OR sex* OR lusts OR serial) NEAR/2 (murder* OR homicid* OR kill*)) OR (erotophonophili* OR necrophili*)
243 Results
Search within
Cite
Email
Print
Save
Relevance
Sort
Select 1-100
850 Selected items
Clear
Brief view
Detailed view
Narrow results
Peer reviewed
Source type
1
Serial killers: I. subtypes, patterns, and motives
Miller, Laurence. Aggression and violent behavior 19.1 (Feb 2014): 1-11.
References (102)
Abstract/Details
Preview


National Criminal Justice Reference Service (NCJRS) Abstracts Database
Basic Search
Advanced Search
About
((sadis* OR sex* OR lust OR serial) NEAR/2 (murder* OR homicid* OR kill*)) OR (erotophonophili* OR necrophili*)
Peer reviewed
Modify search
Recent searches
Save search/alert
Additional limits - Date: After 01 January 1970
Did you mean: ((sadis* OR sex* OR lusts OR serial) NEAR/2 (murder* OR homicid* OR kill*)) OR (erotophonophili* OR necrophili*)
851 Results
Search within
Cite
Email
Print
Save
Relevance
Sort
Select 1-100
25 Selected items
Clear
Brief view
Detailed view
Narrow results
1
Serial Killers
Gerdes, Louise (ed.). United States of America: 2000.
Abstract/Details
Preview

Appendix B. Systematic review: Articles excluded following full text review

First author, date	Reason for exclusion
Beauregard, 2007	Uses results of Beauregard & Proulx (2002)
Benezech, 1997	Clinical typology
Bennell, 2013	Validation study, finds lack of support for Keppel & Walter (1999), does not present alternative
Bloomfield, 2006	Does not present data on subtypes
Briken, 1999	Does not present a typology and serial cases cannot be distinguished
Briken, 2000	Does not present a typology
Brittain, 1970	Clinical typology
Burgess, 1997	Part of FBI project
Burgess, 1986	Part of FBI project
Burgess, 2000	Part of FBI project
Carter, 2001	Conference presentation of Clarke & Carter (2001)
Carter, 2009	Does not present a typology
Clarke, 2001	Clinical typology
Cusson, 2007	Does not present a typology
Dvorianchikov, 2000	Compares offenders with 'aggressive and sadistic desire' to those without but unclear how this is defined and lack of sample details
Fisher, 2007	Uses results of Beech et al. (2005)
Fisher, 2007	Uses results of Beech et al. (2005)
Folino, 2000	Case examples, no group level data
Godwin, 2000	Serial cases could not be distinguished
Hazelwood, 1980	Discusses lust killing differentiated from sadistic

	based on case reviews
Hill, 2006	Does not present a typology
Holmes, 1985	Expert opinion
Holmes, 1988	Expert opinion
Holzer, 1971	Single case report
Keppel, 1999	Theoretical
Kerr, 2015	Does not present a typology
Miller, 2014	Not a primary study
Myers, 2002	Unclear method (cases "naturally sorted into four categories")
Myers, 2006	Does not present subtype data
Ressler, 1986	Part of FBI project
Ressler, 1988	Part of FBI project
Rigonatti, 2006	Does not present a typology
Schlesinger, 2004	Clinical typology
Schlesinger, 2007	Clinical typology (kept at abstract stage to verify if new data since 2004 publication)
Sewall, 2013	Unreliable data (TruTV, Wikipedia)
Smith, 2011	Does not present a typology
Stone, 2001	Unreliable data (commercial texts)
Stone, 1998	Unreliable data (commercial texts)
Stone, 1998	Unreliable data (commercial texts)
Wilson, 2003	Does not present subtype data

Appendix C. Systematic review: Quality assessment and data extraction forms

Quality assesment

Authors: Publication date: Title:				
	Y	**N**	**?**	**Comments**
Screening questions				
Was the sample adequately described?				
Were the study aims clear?				
Was an appropriate design/methodological approach used?				
Sampling and selection bias				
Was there an appropriate system for selecting cases?				
Was there a power calculation/sufficient *N* for the study design?				
Was the sample representative of the defined population?				
Were there special sampling criteria (e.g. high PCL-R scores)?				
Risk of selection bias	**Low**	**High**	**?**	
Measurement/Classification bias				
Were cases classified into groups using a reliable procedure?				
Were classification criteria clear? (i.e. were there problems classifying cases?)				
Were measurement procedures reliable/the same for all groups?				
Risk of classification bias	**Low**	**High**	**?**	
Outcome bias				
Were measures objective?				

Were measures consistent? (i.e. the same across groups?)				
Was data sufficient to support the findings?				
Have confounding factors been taken account of in the design/analysis?				
Risk of measurement bias	**Low**	**High**	**?**	

Data extraction

General Information			
Date of data extraction:		Reviewer ID:	
Author:		Publication date:	
Title:		Country:	
Source (journal?):		Notes:	
Specific Information			
Study characteristics			
Research questions/ aims/hypotheses			
Study design			
Participants (inclusion criteria: males age 10+)			
Gender		Age (Range/Mean)	
Total *N*		Victims (M/F, age)	
Setting (e.g. prison/hospital)		Attrition	
Groups identified (angry, sadistic etc) and *n* per group			
Method and results			
Measures/Data sources			
Analysis (including statistical corrections for confounding variables)			
How was missing data dealt with?			

Subtypes of sexual killer identified	Variable or characteristic associated with each type	Frequency/Percentage (per group), if reported
Strengths		
Weaknesses/limitations		

Appendix D. SPSS command and output files

Syntax and output shown here for main analysis (final model, PMSI sexual murder reference group). For complete SPSS files, please see supplied CD-ROM.

```
NOMREG Sample (BASE=FIRST ORDER=ASCENDING) WITH
D56AntiSoc DIS Sad D62Alc D71RapeFan LackIntimacy
    C77Violnt C79Sex
  /CRITERIA CIN(95) DELTA(0) MXITER(100)
MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0)
RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=CLASSTABLE PARAMETER SUMMARY LRT CPS
STEP MFI.
```

Case Processing Summary

		N	Marginal Percentage
Sample	PMSIO	87	34.7%
	NonPMSI SK	92	36.7%
	Rape	72	28.7%
Valid		251	100.0%
Missing		2	
Total		253	
Subpopulation		230[a]	

a. The dependent variable has only one value observed in 218 (94.8%) subpopulations.

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	529.006			
Final	408.750	120.256	16	.000

Pseudo R-Square

Cox and Snell	.381
Nagelkerke	.429
McFadden	.219

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	418.252	9.503	2	.009
D56AntiSoc	410.000	1.251	2	.535
DIS	411.214	2.465	2	.292
Sad	430.384	21.634	2	.000
D62Alc	415.335	6.585	2	.037
D71RapeFan	411.311	2.561	2	.278
LackIntimacy	438.208	29.458	2	.000
C77ViolnI	420.917	12.167	2	.002
C79Sex	429.167	20.417	2	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

Parameter Estimates

Sample[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
NonPMSI SK	Intercept	.432	.490	.777	1	.378			
	D56AntiSoc	.414	.371	1.246	1	.264	1.513	.731	3.131
	DIS	-.012	.095	.015	1	.903	.988	.820	1.191
	Sad	-3.320	1.060	9.812	1	.002	.036	.005	.289
	D62Alc	-.609	.347	3.075	1	.080	.544	.275	1.074
	D71RapeFan	.212	.449	.223	1	.637	1.236	.513	2.979
	LackIntimacy	-.150	.155	.931	1	.334	.861	.635	1.167
	C77ViolInt	.114	.070	2.656	1	.103	1.121	.977	1.285
	C79Sex	.232	.145	2.558	1	.110	1.261	.949	1.677
Rape	Intercept	1.611	.552	8.513	1	.004			
	D56AntiSoc	.240	.443	.293	1	.588	1.271	.533	3.031
	DIS	-.182	.128	2.034	1	.154	.833	.649	1.071
	Sad	-.980	.637	2.368	1	.124	.375	.108	1.307
	D62Alc	-1.059	.432	6.006	1	.014	.347	.149	.809
	D71RapeFan	.764	.498	2.351	1	.125	2.146	.809	5.694
	LackIntimacy	-.976	.211	21.354	1	.000	.377	.249	.570
	C77ViolInt	.220	.074	8.968	1	.003	1.247	1.079	1.440
	C79Sex	.491	.149	10.866	1	.001	1.634	1.220	2.188

a. The reference category is: PMSIO.

Classification

Observed	Predicted			
	PMSIO	NonPMSI SK	Rape	Percent Correct
PMSIO	47	34	6	54.0%
NonPMSI SK	21	57	14	62.0%
Rape	11	19	42	58.3%
Overall Percentage	31.5%	43.8%	24.7%	58.2%

Appendix E. Case Study: Psychometric battery

The University of California Los Angeles Loneliness Scale (UCLA)

The UCLA (Russell, Peplau, & Cutrona, 1980) is a nineteen-item measure, on a four point likert scale. Items assess the extent to which respondents believe they have meaningful relationships, have people close to them or are lonely. Higher scores suggest fewer close, meaningful relationships and greater loneliness. The UCLA has good internal consistency (α = .95) and satisfactory test-retest reliability (*r* = .79; Rallings & Webster, 2001).

The Inventory of Interpersonal Problems Short Version (IIP-32)

The IIP-32 (Barkham, Hardy, & Startup, 1996) is a short form developed in the UK of the much longer 127-item IIP scale. It identifies respondents' most salient self-reported interpersonal difficulties in their recent experience across diverse interpersonal situations. The authors report adequate internal consistency (α = .87) and test-retest reliability (*r* = .70).

Experience in Close Relationships Scale (ECR-R)

The ECR-R (Fraley, Waller & Brennan, 2000) is a 36-item questionnaire designed to assess individual differences with respect to attachment-related anxiety (i.e., the extent to which respondents are insecure vs. secure about the extent to which their partner's availability and responsiveness) and attachment-related avoidance (i.e., the extent to which respondents are uncomfortable being close to others vs. secure depending on others). A high score denotes an increased tendency towards the respective attachment style. The ECR-R has been shown to

have good internal consistency on both the *avoidance* (α = .93) and *anxiety* (α = .94) subscales, and latent variable path analyses suggested high temporal stability with repeated measures of each subscale sharing around 86% of their variance (Sibley & Liu, 2004).

Normative samples and standardisation of psychometric scores

There were limitations associated with the normative sample data available, particularly for the IIP-32 and ECR-R, which rely on non-clinical, non-forensic samples likely to be unrepresentative compared to a forensic psychiatric population. Arguably, this is problematic in terms of detecting clinically significant scores and reasonable criteria of change.

Appendix F. Case study: Psychometric data

Pre and Post Treatment Psychometric Assessment Scores and Normative Sample Scores (Standard Deviations in Parenthesis)

Scale	Pre	Post	Normative
UCLA[a]	47	32	35.65 (9.35)
IIP-32[b]			
Domineering/controlling	4	4	4.9 (4.5)
Vindictive/self-centered	3	2	5.3 (5.1)
Cold/distant	13	5	5.7 (5.9)
Socially inhibited	13	6	6.5 (5.7)
Nonassertive	12	2	7.4 (6.1)
Overly accommodating	11	3	7.8 (5.3)
Self-sacrificing	13	12	8.2 (5.5)
Intrusive/needy	2	1	5.7 (4.8)
ECR-R[c]			
Attachment avoidance	3.94	5.0	2.88 (1.15)
Attachment anxiety	4.17	4.56	3.64 (1.33)

[a] Normative sample of adult males aged 30-39 years (*N*=131). In a sample of adult male offenders (*N*=98) the mean score was 42.5 with a standard deviation of 8.8 (Russell, Peplau, & Cutrona, 1980).

[b] Normative scores from a community sample (*N*=800), males and females (Horowitz, Alden, Wiggins, & Pincus, 2000)

[c] Normative scores from a non-clinical, non-forensic (*N*=4840) sample (Fraley, Waller, & Brennan, 2000)