Article

Sexual Sadism and Psychopathy in Sexual Homicide Offenders: An Exploration of Their Associates in a Clinical Sample

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Abstract

Sexual sadism and psychopathy are often considered synonymous with sexual homicide, but there is limited research on their associates in sexual homicide offenders. Associates of dimensional measures of sexual sadism (Sexual Sadism Scale; SeSaS) and psychopathy (Psychopathy Check List–Revised [PCL-R] total, Factor 1, and Factor 2) were examined in 51 male Scottish cases. Over a third were *DSM-IV* (*Diagnostic and Statistical Manual of Mental Disorders-IV*) sexual sadists, just under a third screened in with the SeSaS, and a quarter were "Hare psychopaths." Sexual sadism and PCL-R measures were moderately associated. Sexual sadism predicted control, sexual deviance, and unusual behaviour at crime scenes; attempted homicide and having a co-accused; and multiple sexual homicides and previous sexual offending. PCL-R Factor 1 predicted violent, exploitative, and evading detection behaviours at crime scenes; completed homicide; and previous violent offending. PCL-R Factor 2 predicted impulsive behaviours at crime scenes, substance misuse, and previous general offending. Psychopathy and sexual sadism play key roles in sexual homicide, interact with each other, and determine different aspects of offences and offenders.

Keywords

sexual homicide, sexual sadism, psychopathy, sexual violence, murder

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Introduction

Sexual sadism and psychopathy have been considered primary underlying psychopathologies in sexual homicide offenders (Meloy, 2000), especially in serial cases (Geberth & Turco, 1997; Myers, Reccoppa, Burton, & McElroy, 1993). The sexually sadistic psychopath, the archetypal cold-blooded predator driven by a sexual compulsion to inflict pain, suffering, and death, is often invoked. But, relatively little is known about the roles played by sexual sadism and psychopathy in sexual homicide. This article attempts to contribute to this understanding, by examining the associates of sexual sadism and psychopathy in a clinical sample.

Sexual Sadism

Sexual sadism, first named and clinically described by von Kraft-Ebbing (1886), involves sexual pleasure from inflicting pain and suffering on others. It is recognised as a sexual deviation or paraphilia in diagnostic classifications (American Psychiatric Association [APA], 2013; World Health Organization, 2018). Different conceptualisations emphasize different aspects: (a) power and control, (b) degradation and humiliation, (c) physical pain, or (d) aggression and violence (Grubin, 1994b; Yates, Hucker, & Kingston, 2008). It is often considered in forensic contexts, relating to sexual aggression and killing. However sadomasochism, including masochism (i.e., deriving sexual pleasure from being made to suffer or experience pain), is well recognized as a consensual sexual practice, and those who practice BDSM (bondage and discipline, domination and submission, sadism and masochism) rightly oppose pathologising consenting and mutual practices (Langridge, Richards, & Barker, 2007). Diagnostic systems have struggled with which aspects to include or consider central, to demarcate between pathological and nonpathological forms, to link or unlink it with masochism, to define in a way that is useful in forensic contexts, and to provide clear and reliable criteria. Recent iterations of *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; APA, 2013) and *International Classification of Diseases* (*ICD*; World Health Organization, 2018) are similar, emphasizing sexually arousing fantasies, urges or behaviours involving the pain and suffering of others, and include that there should be personal distress, poor functioning, or harm of others without consent. However, *DSM* diagnosis has poor reliability and questionable validity (Marshall & Kennedy, 2003; Marshall, Kennedy, & Yates, 2002; Marshall, Kenneday, Yates, & Serran, 2002; Marshall & Yates, 2004; Nitschke, Mokros, Osterheider, & Marshall, 2013), potentially due to rarity; reliance on self-report; lack of comprehensive case material; emphasis on arousal, fantasies, and urges rather than objective behaviour; clinicians ignoring *DSM* criteria by using idiosyncratic approaches; counter-transference, with disgusting and violent offences labelled sadistic; sexual offences often involving power, control, and humiliation; and dimensionality with arbitrary thresholds. A dimensional approach using objective behaviour appeared appropriate (Marshall & Hucker, 2006), eventuating in the Sexual Sadism Scale (SeSaS), part one of which is an 11-item scale of severe sexual

sadism (Nitschke et al., 2013; Nitschke, Osterheider, & Mokros, 2009). It has been validated in a number of countries (Gonçalves, Rossegger, Gerth, Singh, & Endrass, 2018; Longpré, Proulx, & Brouillette-Alarie, 2018; Mokros, Schilling, Eher, & Nitschke, 2012; Mokros, Schilling, Weiss, Nitschke, & Eher, 2014; Nitschke, Osterheider, & Mokros, 2009; Stefanska, Nitschke, Carter, & Mokros, 2019) and measures the severe end of the Agonistic Continuum of coercive, controlling, aggressive, and injurious sexual behaviour (Knight, Sims-Knight, & Guay, 2013).

Sexual Sadism and Sexual Homicide

Many initial descriptions of sexual sadism were in the context of sexual killing, but early descriptions recognised not all sexual killings were lust murders (De River, 1949; von Hirschfeld, 1944; von Kraft-Ebbing, 1886), with some motivated by anger (Revitch, 1957, 1965) and others incidental to the sexual assault (Podolsky, 1966; Rada, 1978), echoing current sexual homicide typologies (Higgs, Carter, Tully, & Browne, 2017). The role of sexual sadism in serial murder has been emphasized (Dietz, Hazlewodd, & Warren, 1990; Geberth & Turco, 1997; Myers et al., 1993).

Empirically, 25% to 50% of sexual killers are sexually sadistic (Firestone, Bradford, Greenberg, & Larose, 1998; Grubin, 1994a; Hill, Haberman, Berner, & Briken, 2006; Langevin, Ben-Aron, Wright, Marchese, & Handy, 1988; Myers, Chan, Vo, & Lazarou, 2010; Proulx, Blais, & Beauregrd, 2007; Reale, Beauregard, & Martineau, 2017a; Stefanska et al., 2019). Higher rates have been found in sexual murderers than in other sexual offenders (Chan, 2015; Chan & Beauregard, 2016; Chan & Heide, 2016; Darjee & Baron, 2018; Firestone et al., 1998; Grubin, 1994a; Koch, Berner, Hill, & Briken, 2011; Langevin et al., 1988; Oliver, Beech, Fisher, & Beckett, 2007; Proulx, Beauregard, Cusson, & Nicole, 2007; Stefanska, Beech, & Carter, 2016; Vettor, Beech, & Woodham, 2014). Even higher rates have been found in serial sexual killers (Campos & Cusson, 2007; James, Lussier, & Proulx, 2018; James & Proulx, 2014; Prentky et al., 1989).

Two studies have compared sexually sadistic and nonsexually sadistic sexual killers (Hill et al., 2006; Reale, Beauregards, & Martineau, 2017a, 2017b), while five other studies have compared sadists and nonsadists in mixed samples including sexual murderers (Gratzer & Bradford, 1995; Healey, Lussier, & Beauregard, 2013; Langevin, Bain, Ben-Aron, Coulthard, & Day, 1985; Marshall, Kennedy, & Yates, 2002; Proulx, Blais, & Beauregrd, 2007).

Hill et al. (2006) studied 166 sexual homicide offenders and found *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; APA, 1994) sadism (n = 61), associated with personality disorders; previous similar behaviour; unprovoked, purposeful, prepared, and longer offences; childhood enuresis/encopresis, isolation, and physical abuse; sexual masochism; previous sexual offences; and multiple sexual homicides.

Reale et al. (2017a) used the Revised Sexual Homicide Crime Scene Rating Scale for Sexual Sadism (SAD-SEX-SH-R; Myers, Beauregard, & Menard, 2013), which

has eight items very similar to those in the SeSaS (the SeSaS items not covered are sexual arousal, nonsexual mutilation, and held captive) to identify sexual sadism. Each item of the SAD-SEX-SH-R is usually coded on a 3-point scale (0 = *absence*, 1 = *some indication*, 2 = *presence*) with a score of 6 or more indicating severe sexual sadism, but Reale et al. (2017a) coded items dichotomously as absent or present. They studied 350 sexual homicide cases and found sexual sadists (n = 128) were more likely to use various precautions to avoid detection and select a deserted location, and despite having less time to body recovery, sadists were more likely to see their case remain unsolved. In the same sample, Reale et al. (2017b) cluster analysed SAD-SEX-SH-R items, finding three groups: sadists (36.6%), mixed (28.0%), and nonsadists (35.4%). The sadists more often had deserted crime scenes, removed or destroyed evidence, acted upon the victim or environment, or took other precautions.

Langevin et al. (1985) studied 20 sexual aggressors (half of whom were sexual murderers) and found sexual sadism (admitting sadistic fantasies or presumed to have them from offences; n = 9) was associated with no differences in phallometric responses; having less sexual experience, knowledge, and drive; less nondeviant sexual experiences; threatening and frightening victims; sexually inadequacy, lower sexual desire, and fearing being homosexual; difficulty speaking to women and anger towards women; brain abnormalities, rarely consuming drugs, not being intoxicated, and not being psychopathic (by self-report measure); punishment for enuresis and tantrums as children; and collecting weapons and less violence to others day-to-day.

Gratzer and Bradford (1995) studied 34 sexual murderers and 23 sexual aggressors, and found sadism (using *Diagnostic and Statistical Manual of Mental Disorders* [3rd ed., rev.; *DSM-III-R*; APA, 1987] criteria; n = 28) associated with childhood physical abuse; transvestism, voyeurism, and exhibitionism; offences involving planning, torture, injurious blows, and various coercive and sexual acts; detachment during offences and sexual dysfunction; and antisocial personality disorder and neurological abnormalities.

Marshall, Kennedy, & Yates, 2002, in a study of 59 sexual aggressors (17 of whom were sexual murderers), using *DSM-III-R* or *DSM-IV* criteria applied by psychiatrists, found sadism (n = 41) associated with no greater likelihood of antisocial personality disorder but more likely additional personality disorders; less phallometric response to violent rapes, and reporting murderous fantasies; similar sexual and nonsexual criminal records; and less torture, blows to victims, and coercion.

Proulx, Blais, & Beauregrd (2007) studied 40 sexual murderers and 101 sexual aggressors and found sadism (n = 43), based on behavioural indicators from the Massachusetts Treatment Center: Rapist Version 3 (MTC: R3) criteria (Knight & Prentky, 1990), associated with humiliation and sexual behaviours before 18 years (using pornography, visiting strip clubs, compulsive masturbation, and deviant sexual fantasies); lower self-esteem, nightmares, isolation, and tantrums as adolescents; no differences in criminal careers, but greater phallometric response to humiliation rape and physical violence rape; avoidant, schizoid, and schizotypal personality scales of the Millon Clinical Multiaxial Inventory (MCMI); in the 48 hr pre-offence conflicts with women, anger, and deviant sexual fantasies; planning,

victim selection, kidnapping, bondage, weapon use, expressive violence, humiliation, mutilation, torture, and object insertion; and strangulation, leaving bodies naked, postmortem sex, and postmortem mutilation.

Healey et al. (2013) studied 86 sexual murderers and 182 sexual aggressors, and found sadism (*DSM-III-R, n* = 19) associated with premeditation, restraints, mutilation, and humiliation, but not selecting victims, kidnapping, force, specific victim characteristics, weapon use, or longer duration. Only one variable associated with sadism (mutilation) was associated with fatality, whereas humiliation was negatively associated with fatality, and four not associated with sadism (force, specific characteristics, weapon use, and long duration) were associated with fatality, indicating associates of sexual sadism and homicide were different.

Discrepant findings may reflect different definitions of sadism, poor diagnostic reliability, different sample proportions of killers, nonrepresentativeness of samples, different sources of information, and different ascertainment and coding of variables. Notably, most relied on *DSM* or subjective criteria, and none analysed sadism dimensionally.

Psychopathy

Psychopathy is a constellation of personality traits reflecting dominance, manipulativeness, callousness, impulsivity, and antisociality (Patrick, 2018). The most commonly used and researched measure is the Psychopathy Check List–Revised (PCL-R; Hare, 2003). The PCL-R has 20 items each scored 0, 1, or 2, giving a total score out of 40. In North America, a cut-off of 30 determines psychopathy, although in Scotland, and perhaps Europe, a score of 25 may define an equivalent level of the latent trait due to cultural differences (Cooke & Michie, 1999). Psychopathy has four underlying facets or two factors (Hare & Neumann, 2005). Facet 1 is the interpersonal domain of dominance and manipulativeness, Facet 2 is the emotional domain of callousness, Facet 3 is the behavioural domain of impulsivity, and Facet 4 is the social deviance domain of antisociality. Factor 1 (emotional and interpersonal aspects) is made up of Facets 1 and 2, and Factor 2 (behavioural and social deviance) is made up of Facets 3 and 4. Factor 1 is highly correlated with narcissistic personality disorder and Factor 2 with antisocial personality disorder. Psychopathy is associated with chronic and violent offending, recidivism, and poor response to interventions and management (Patrick, 2018).

Psychopathy and Sexual Homicide

Rates of psychopathy in sexual killers are from one in five to half of cases. Porter, Woodworth, Earle, Drugge, and Boer (2003) studied 38 sexual homicide offenders, with a mean PCL-R score of 26.5 (range = 12-35), and 18 (47%) scoring 30 or more. Psychopathy was associated with more gratuitous and sadistic violence, but sadistic violence's definition did not include sexual aspects. PCL-R scores were higher than in nonsexual killers. Hill, Habermann, Berner, and Briken (2007) studied 166 sexual

murderers, finding an average PCL-R score of 16.5, with 30 (18%) scoring 25 or above, and association between multiple sexual homicide and higher PCL-R. Comparing the same sample with 56 nonhomicidal sexual offenders, PCL-R total and Factor 2 were significantly higher in sexual murderers (Firestone et al., 1998; Koch et al., 2011). Firestone et al. (1998) reported a mean PCL-R score of 26.6 in 17 child sexual killers, significantly higher than in 35 extrafamilial child molesters, particularly for Factor 1. Using the PCL: SV, the screening version of the PCL-R in 66 French sexual murderers, Proulx, James, Siwic, and Beauregard (2018) found more than half reached the European cut-off to screen for psychopathy. No studies have examined the associates of psychopathy and its factors or facets in sexual homicide, or have used the PCL-R dimensionally.

Sexual Sadism and Psychopathy

The interaction between sexual sadism and precursors of psychopathy in predisposing to homicidal sexual violence was recognised by von Krafft-Ebing (1886):

> Sadistic acts vary in monstrousness with variation in the power of the perverse instinct over the individual afflicted, and with variation in the strength of opposing ideas that may be present, which almost always are more or less weakened by original ethical defect, hereditary degeneracy, or moral insanity. Thus there arises a long series of forms which begins with capital crime and ends with silly acts which afford the perverse desires of the sadistic individual merely symbolic satisfaction. (p. 30)

Meloy (1997) stated that despite the lack of empirical studies, convergence between sexual sadism and psychopathy was

> . . . strongly suggestive and expectable: both the psychopath and the sexual sadist share a desire to control and dominate their objects, a chronic emotional detachment that dehumanizes their objects, an aggressive narcissism that makes them feel entitled to do what they want to their objects, and a mendacity that both delights them and facilitates the abduction of their victims. (p. 632)

Kirsch and Becker (2007) proposed that although both psychopathy and sexual sadism manifested empathy deficits due to abnormalities processing and experiencing emotions, psychopaths failed to recognise and respond to distress, while sadists recognised this distress but responded positively. It has been proposed that serial sexual murderers invariably manifest psychopathy and sexual sadism (Geberth & Turco, 1997; Meloy, 2000), and both discriminate multiple from single sexual killers (Hill et al., 2007; James et al., 2018; James & Proulx, 2014), as well as rapists from sexual murderers (see above).

Studies have shown a significant but moderate association between psychopathy and sexual sadism, in sexual offenders (Mokros, Osterheider, Hucker, & Nitschke, 2011) and sexual murderers (Hill et al., 2006). Mokros et al. (2011) found that although PCL-R and SeSaS scores were moderately correlated, PCL-R items and SeSaS items

fell on two orthogonal dimensions, so they were separate dimensional latent variables. Only one item (PCL-R callousness) was shared between the psychopathy and sexual sadism dimensions. Examining the PCL-R facets, findings were compatible with a path model where Facets 2 and 4 are precursors to sexually sadistic conduct, that is, these facets may play an aetiological role in sexual sadism or in the manifestation of sexually sadistic behaviour (see below). Robertson and Knight (2014) also found sexual sadism (using the Multidimensional Inventory of Development, Sex, and Aggression [MIDSA] Sexual Sadism Scale) and PCL-R ratings co-varied but were not coextensive in sexual offenders, with particular associations between sadism and Facets 1 and 4. Longpré, Guay, and Knight (2018) described three personality-based pathways to sexually sadistic offending: disinhibition (PCL-R Factor 2), schizoid (no PCL-R equivalent), and narcissistic-meanness (PCL-R Factor 1).

Self-report studies have examined psychopathy and nonsexual sadism. In nonoffenders, Reidy, Zeichner, and Seibert (2011) found Factor 1 psychopathy and sadism independently predicted unprovoked aggression. Similarly Međedović (2017), in offenders, found abnormalities in response to positive emotions in trait sadism: positive emotions were facilitated by violent and suppressed by peaceful visual stimuli. He found sadism correlated with interpersonal manipulation, callousness, erratic lifestyle, antisocial behaviour, and disintegration/schizotypy.

So there are several potential explanations why psychopathy and sexual sadism associate and interact to manifest sexual violence:

(1) *Definitional or conceptual overlap*: Empathy deficits, dominance, and use of violence instrumentally occur in both, with the concepts of trait sadism and sadistic personality, versus sexual sadism, muddying the relationship. Poor diagnostic reliability of sexual sadism may result from this.
(2) *They are part of the same construct*: Perhaps sexual sadism and psychopathy just represent different aspects of the same underlying condition or disorder. This is not supported empirically (Mokros et al., 2011; Robertson & Knight, 2014).
(3) *Sadistic personality disorder*: Nonsexual sadistic personality traits (cruelty, domination, and control) may associate with both sexual sadism and psychopathy. There is support for this proposition (Hill et al., 2006), but sadistic personality lacks empirical support as a concept (Widiger, 1995).
(4) *Aetiological predisposition to both*: Similar underlying developmental factors may predispose to both psychopathy and sexual sadism, for example, childhood adversity.
(5) *Aetiological predisposition of one to the other*: Psychopathy may predispose to sexual sadism or vice versa. There is potential support for the former (Mokros et al., 2011; Robertson & Knight, 2014), but not the latter.
(6) *Predisposition to manifesting sexual violence*: Psychopathy may predispose to expressing sexual sadism as overt sexual violence, with callousness and/or disinhibition facilitating acting out pleasurable sexually stimulating acts causing others harm. There is empirical support for this proposition (Longpré, Guay, & Knight, 2018; Mokros et al., 2011; Robertson & Knight, 2014).

With regard to sexual offending generally, two key concepts organising risk factors are antisociality and sexual deviance (Hanson & Morton-Bourgon, 2005). Psychopathy and sexual sadism seem like the most extreme variants of these.

Aims

The aims were to, in a sample of sexual homicide offenders, quantify sexual sadism and psychopathy, determine the association between the two, and identify variables associated with each. Sexual sadism was measured categorically (*DSM-IV*) and dimensionally (SeSaS), and psychopathy and its factors were measured dimensionally using the PCL-R. Dimensional measurement was favoured, due to overwhelming evidence that latent constructs are dimensional. Variables examined were (a) clinical, (b) sexual homicide offence, (c) criminal history, and (d) sexual violence risk factors. These variables have been examined in previous studies (see above) and are of relevance to practice.

It was hypothesized as follows:

Hypothesis 1: Measures of psychopathy and sexual sadism would be correlated.
Hypothesis 2: Sexual sadism would associate with crime scene indicators of sexual arousal to inflicting suffering (controlling, sexually intrusive, violent, and degrading acts) and a longitudinal pattern of deviant sexual behaviour (chronic sexual offending).
Hypothesis 3: Psychopathy would associate with indicators of manipulation (planning and detection avoidance attempts), callousness (extreme violence, using victims instrumentally, and other violent offending), impulsivity (substance misuse, reckless crime scene behaviours, unstable lifestyle), and antisociality (general offending).
Hypothesis 4: Sexual sadism would primarily associate with indicators of severe sexual deviance, while psychopathy would primarily associate with indicators of extreme antisociality.

Method

Setting and Sample

The 51 cases had been charged with murder, culpable homicide, attempted murder or assault to the danger of life, and referred to forensic mental health clinicians in Edinburgh, Scotland, from 2000-2014 (Darjee & Baron, 2018). Sexual homicides occurred from 1956-2012. Assessments were for courts, release decision making, or following release to the community. Offences met at least one criterion of Ressler, Burgess, and Douglas (1988): (a) victim found partially or totally naked, (b) genitals are exposed, (c) body found in a sexually explicit position, (d) object has been inserted into a body cavity (anus, vagina, mouth), (e) evidence of sexual contact, or (f) evidence of substitute sexual activity (e.g., masturbation and ejaculation at crime scene) or of sadistic sexual fantasies (e.g., genital mutilation).

Assessment Procedure

Clinical assessments involved one or two clinicians (psychiatrists and/or psychologists). When one, cases were discussed with a second who checked assessment data. Assessments involved clinical interviews, interviews with others (e.g., relatives and staff from other agencies), and examining records (from police, community corrections, prisons, courts, and mental health services). Data regarding offences, demographics, criminal histories, and mental health histories were collected from these sources. The clinicians rated a number of measures and criteria.

Measures and Criteria

PCL-R. Psychopathy was assessed using the PCL-R. All information about a case was used to rate the 20 items and ascertain total, Factor 1, and Factor 2 scores (Hare, 2003).

DSM-IV. Clinical diagnoses were made using *DSM-IV*. So criteria for sexual sadism were as follows (APA, 1994):

> (a) Over a period of at least 6 months, recurrent, intense sexually arousing fantasies, sexual urges, or behaviours involving acts (real, not simulated) in which the psychological or physical suffering (including humiliation) of the victim is sexually exciting to the person.
> (b). The fantasies, sexual urges, or behaviours cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

SeSaS. The SeSaS assesses sexual sadism based on crime scene behaviour, using witness statements, police reports, and other sources (Nitschke, Osterheider, & Mokros, 2009). Eleven Part 1 items are sexual arousal during offence, power/domination, torture, humiliation, genital mutilation, other mutilation, gratuitous violence, object insertion, ritualistic conduct, confinement, and keeping trophies/records. Three Part 2 items are planned conduct, sadistic acts beyond offences, and arousability to sadistic fantasies or acts. Each item is rated yes or no, using specific criteria in a coding manual. Four or more on Part 1 suggest sexual sadism. In practice, if 4 or more on Part 1 is achieved, considering Part 2, and case features, the clinician forms a judgement whether sexual sadism is present. For this study, Part 1 was used to dimensionally rate sexual sadism.

Risk for Sexual Violence Protocol (RSVP). The RSVP is a structured professional-judgement risk assessment (Hart, Kropp, & Laws, 2003). Twenty-two items cover five domains: (a) sexual violence history, (b) psychological adjustment, (c) mental disorder, (d) social adjustment, and (e) response to management. In practice, each item is rated considering three time frames: past (prior to the last 12 months), recently (the last 12 months), and looking forward (rating relevance to future risk). Each rating is made on a 3-point scale (*yes, partial*, or *no*). For this study, only whether items were

present in the past or recently were considered, not future relevance. Past and recent ratings were combined as "ever-present" ratings covering the person's life up to the assessment.

In a study of sexual aggressors overlapping with the current sample and carried out in the same setting with assessments by the same clinicians (Darjee et al., 2016), the interrater reliability of the 22 individual RSVP item ratings and PCL-R ratings were found to be almost perfect (intraclass correlation coefficient [ICC] > .81) or substantial (ICC = .61-.80).

Analyses

SeSaS and three PCL-R ratings (total, Factor 1, and Factor 2) were examined for associations with demographic, homicide offence, victim, clinical, criminal history, and RSVP rating variables. SeSaS is continuous but was not normally distributed ($Z_{skewness} = 3.703$, $Z_{kurtosis} = 1.261$, Shapiro–Wilk: statistic = 0.814, $df = 0.51$, $p < .000$), while PCL-R total ($Z_{skewness} = -0.372$, $Z_{kurtosis} = -1.212$; Shapiro–Wilk: statistic = 0.977, $df = 0.51$, $p = .408$) Factor 1 ($Z_{skewness} = -1.216$, $Z_{kurtosis} = -0.0740$; Shapiro–Wilk: statistic = 0.956, $df = 0.47$, $p = .074$), and Factor 2 ($Z_{skewness} = 0.326$, $Z_{kurtosis} = -1.257$; Shapiro–Wilk: statistic = 0.965, $df = 0.47$, $p = .166$) are continuous and were normally distributed. Most variables examined were categorical and dichotomous, but some were ordinal (e.g., RSVP item ratings), and others continuous (e.g., no. of convictions).

To examine associates of SeSaS, Mann–Whitney *U* tests compared SeSaS scores in each of the two groups for dichotomous categorical variables, and Kendall's tau correlations were used for ordinal and continuous variables. To examine associates of PCL-R total and factor scores, independent-samples *t* tests compared PCL-R means in each of the two groups for dichotomous categorical variables, and Kendall's tau correlations were used for ordinal and continuous variables.

Effect size measures reported are theta (θ) for Mann–Whitney *U* tests (Newcombe, 2006a, 2006b) and Cohen's *d* (*d*) for *t* tests. Kendall's tau (τ) is an effect size measure. The values for small, medium, or large effect sizes are different for each of these—*d*: small = 0.2, medium = 0.5, large = 0.8; τ: small = .07, medium = .16, large = .25 (Gilpin, 1993); θ: small = 0.56, medium = 0.64, large = 0.7 (Newcombe, 2006a, 2006b). For θ, 0.5 represents no effect, so small, medium, and large negative effect levels are 0.44, 0.36, and 0.3, respectively. For other effective sizes, negative effects had the same numerical value as positive ones.

Variables were considered associated with a measure of sexual sadism or psychopathy if the effect size was medium or large with at least marginal statistical significance ($p < .10$). To clarify whether sexual sadism or psychopathy was the primary associate of relevant variables, where both were found to be associated with a variable, logistic regression was undertaken, entering SeSaS and PCL-R as independent predictors and the relevant variable as the dependent variable. A further regression for each of these "predictions" was also undertaken including in addition an interaction variable (SeSaS × PCL-R), to test for synergism.

Results

Sample Characteristics

All were White males averaging 26.3 (range = 15-53) years old at offence. Thirty-six (70.6%) killed and 15 (29.4%) attempted to. Ten (19.6%) had a co-accused and 11 (23.6%) committed more than one sexual homicide. Forty-one (80.4%) had female victims, 38 (74.5%) had adult victims, and 14 (27.4%) had child or adolescent victims. Most victims were strangers (32; 62.7%). Thirty (58.8%) offenders were intoxicated with alcohol and 37 (72.5%) used a weapon. The method of killing, or attempt, was strangulation or asphyxiation in 23 (45.1%), stabbing or cutting in 14 (27.5%), and blunt force trauma in 15 (29.4%). The most common sexual behaviours were vaginal rape (22; 43.1%), fondling (20; 39.2%), digital penetration (19; 37.3%), and anal rape (16; 31.4%). Primary motivation for the offence was sadistic for 19 (37.3%), anger for 19 (37.9%), and incidental for 13 (25.4%). Ten (19.6%) had major mental illness, three (5.9%) intellectual disability, 46 (90.2%) probable or definite personality disorder, and 29 (56.9%) a paraphilia. The most prevalent mental illness was schizophrenia (6; 11.8%). The most prevalent personality disorders were antisocial (32; 66.7%), narcissistic (32; 66.7%), schizoid (21; 43.8%), paranoid (12; 25.0%), and obsessive-compulsive (10; 20.8%). The most prevalent paraphilias were sexual sadism (20; 39.2%) and paedophilia (13; 25.5%). Prior to the homicide, 34 (66.7%) had a conviction, 24 (47.1%) for sexual, and 28 (54.9%) for violent offending.

Sexual Sadism and Psychopathy in the Sample

SeSaS and DSM-IV *sexual sadism.* The median SeSaS score was 2 (range = 1-9), and 15 (29.4%) scored 4 or more, the suggested cut-off for screening. Twenty (39.2%) had *DSM-IV* sadism. In terms of positive predictive value, 12 (80%) of the 15 cases scoring 4 or more on the SeSaS were *DSM-IV* sadists. Regarding negative predictive value, 28 (77.8%) of the 36 cases scoring below 4 were not *DSM-IV* sadists. Sensitivity was 60.0% and specificity 90.3%.

PCL-R. Mean PCL-R was 21.6 (SD = 8.9, range = 3-38) and 12 (24.0%) cases, scoring more than 30, were "Hare Psychopaths." Using the lower cut-off of 25, suggested for Scotland, 18 (35.3%) were psychopaths. Factors 1 and 2 were available for 47 cases. The mean of Factor 1 was 10.1 (SD = 4.2, range = 0-16), and the mean of Factor 2 was 9.8 (SD = 5.7, range = 0-20).

Association between sexual sadism and psychopathy. PCL-R total was moderately and significantly associated with SeSaS ($\tau = .22$, $p = .04$) and *DSM-IV* sadism (M PCL-R in *DSM-IV* sadists = 27.0, in nonsadists = 19.0, $\theta = 0.72$, $p = .01$) with *DSM-IV* more strongly correlated with Factor 2 (Factor 1: $\theta = 0.64$, $p = .06$; Factor 2: $\theta = 0.70$, $p = .02$) and SeSaS more strongly with Factor 1 (Factor 1: $\tau = .24$, $p = .03$; Factor 2: $\tau = .17$, $p = .13$). The number of cases ascertained as "sexually sadistic

psychopaths" depended on which measure of sadism and which PCL-R cut-off were used: three (5.9%) using SeSaS ≥4 and PCL-R ≥30; six (11.8%) with *DSM-IV* and PCL-R ≥30; eight (15.7%) with SeSaS ≥4 and PCL-R ≥25; and 12 (23.6%) with *DSM-IV* and PCL-R ≥25. Two of the three cases meeting the narrowest definition were serial killers (three plus victims). One of the other two serial killers was not sexually sadistic but scored 38 on the PCL-R, while the other was highly sadistic but scored 22 on the PCL-R.

Associates of Sexual Sadism (SeSaS Score)

DSM-IV *diagnoses.* SeSaS score was positively associated with obsessive-compulsive personality disorder; negatively with paranoid, schizotypal, and histrionic personality disorders; and not associated with any personality disorder, antisocial personality disorder, borderline personality disorder, or narcissistic personality disorder (Table 1). There was a small nonsignificant negative relationship with major mental illness and intellectual disability.

Sexual crime scene behaviours. Most sexual crime scene behaviours had at least a small association with SeSaS score (Table 2). Significant associations were found with anal intercourse, fellatio, breast sucking, ejaculating on victims, inserting objects, and stripping victims nude. There was no association with postmortem sex.

Nonsexual aspects of sexual homicides. SeSaS was associated with unusual behaviours (bizarre, ritualistic, biting, trophies), controlling behaviours (restraints, blindfold/gag, held captive), genital mutilation and dismemberment, and attempted (vs. completed) murder and forensic awareness (Table 3). As indicated in Table 3, it should be noted that five of these variables are very similar to SeSaS items. SeSaS was associated with stranger victims, multiple sexual homicides, and having a co-accused.

Criminal history. SeSaS was associated with number of sexual ($\tau = .35$, $p < .00$) and violent ($\tau = .33$, $p < .00$) offences, but not with number of nonsexual nonviolent offences ($\tau = .11$, $p = .37$).

RSVP items. SeSaS was associated with chronicity, escalation, and psychological coercion of sexual violence; attitudes that condone sexual violence; sexual deviation, psychopathy, not having major mental disorder, and violent or suicidal ideation; not having intimate or nonintimate relationship problems; and problems with planning (Table 4).

Associates of Psychopathy (PCL-R Total, Factor 1, and Factor 2)

DSM-IV *diagnoses.* Total, Factor 1, and Factor 2 were positively associated with any personality disorder, antisocial personality disorder, and narcissistic personality disorder, but negatively with paranoid and avoidant personality disorders (Table 1). Total and Factor 2 were negatively associated with schizoid and schizotypal, and just Factor

Table 1. Association Between *DSM-IV* Paraphilias and Personality Disorders and SeSaS and PCL-R in 51 Sexual Homicide Offenders.

	SeSaS ($N = 51$)			PCL-R total ($N = 51$)			PCL-R Factor 1 ($N = 47$)			PCL-R Factor 2 ($N = 47$)		
DSM-IV diagnosis variables (no. of cases with that variable)[a]	*Mdn* score in those with variable	*Mdn* score in those without variable	θ	*M* score in those with variable	*M* score in those without variable	*d*	*M* score in those with variable	*M* score in those without variable	*d*	*M* score in those with variable	*M* score in those without variable	*d*
Paraphilia												
Any paraphilia (29)	1.0	3.0	0.68**	24.0	18.4	0.62*	11.4	8.6	0.69*	10.6	8.9	0.31
Paedophilia (13)	2.0	2.0	0.48	22.7	21.2	0.17	11.3	9.7	0.37	9.6	9.9	0.07
Sexual sadism (20)	1.0	5.0	0.78**	25.7	18.9	0.76*	11.4	9.2	0.53†	12.2	8.2	0.71*
Personality disorder[b]												
Any (46)	2.5	1.0	0.64	23.0	8.2	1.70**	11.0	2.6	1.98**	10.5	4.6	1.03*
Paranoid (12)	1.0	3.0	0.33*	18.2	22.6	0.50	8.8	10.5	0.40	8.3	10.4	0.37
Schizoid (22)	2.0	2.0	0.52	18.1	24.2	0.69*	9.4	10.7	0.32	7.8	11.6	0.67*
Schizotypal (9)	2.0	2.5	0.35†	14.2	23.1	1.00**	8.4	10.5	0.48†	5.0	11.0	1.05**
Antisocial (35)	3.0	1.0	0.59	25.4	13.3	1.36**	6.7	12.1	1.17**	12.1	4.9	1.27**
Borderline (6)	2.5	2.0	0.45	22.3	21.5	0.10	10.2	10.1	0.03	12.0	9.6	0.43†
Histrionic (4)	3.0	2.0	0.36	21.8	21.6	0.02	9.8	10.1	0.09	10.5	9.8	0.13
Narcissistic (33)	3.0	1.5	0.48	24.4	16.3	0.91**	11.7	7.3	1.04**	11.1	7.7	0.60*
Avoidant (9)	2.0	2.0	0.41	13.3	23.3	1.12**	7.9	10.6	0.64*	4.9	11.0	1.08 **
Obsessive-compulsive (10)	3.0	2.0	0.65†	18.7	22.3	0.40	10.9	9.9	0.25	6.9	10.6	0.66*

†$p<0.10$, *$p<0.05$, **$p<0.01$.

Note. DSM = Diagnostic and Statistical Manual of Mental Disorders; SeSaS = Sexual Sadism Scale; PCL-R = Psychopathy Check List–Revised.

[a]The number in brackets is the number of cases, of the 51 sexual homicide offenders, where this particular variable was present.

[b]There were no cases of dependent personality disorder.

Table 2. Association Between Sexual Aspects of Sexual Homicide Offences and SeSaS and PCL-R in 51 Sexual Homicide Offenders.

	SeSaS ($N = 51$)			PCL-R total ($N = 51$)			PCL-R Factor 1 ($N = 47$)			PCL-R Factor 2 ($N = 47$)		
Sexual offence variables (no. of cases with that variable)[a]	*Mdn* score in those with variable	*Mdn* score in those without variable	θ	*M* score in those with variable	*M* score in those without variable	*d*	*M* score in those with variable	*M* score in those without variable	*d*	*M* score in those with variable	*M* score in those without variable	*d*
Vaginal intercourse (23)	3.0	2.0	0.55	21.0	22.0	0.12	9.6	10.4	0.20	8.6	10.7	0.38
Anal intercourse (16)	3.0	2.0	0.63*	22.8	21.0	0.20	9.5	10.3	0.19	11.4	9.1	0.41
Fellatio (7)	6.0	2.0	0.68*	23.0	21.3	.019	9.9	10.1	0.06	11.3	9.6	0.30
Cunnilingus (3)	3.0	2.0	0.54	21.3	21.6	0.03	12.5	10.0	0.60	5.5	10.0	0.80
Digital penetration (19)	3.0	2.0	0.59	20.6	22.1	0.17	9.6	10.4	0.18	9.4	10.1	0.12
Masturbation (9)	4.0	2.0	0.62	23.3	21.2	0.23	10.8	10.0	0.19	11.1	9.6	0.28
Fondling (20)	3.0	2.0	0.58	22.3	21.1	0.13	10.4	9.9	0.14	10.3	9.5	0.14
Sucked breast (7)	6.0	2.0	0.77**	24.9	21.0	0.44	10.0	10.1	0.02	13.6	9.2	0.78†
Ejaculation on victim (7)	5.0	2.0	0.77**	24.9	21.0	0.44	12.1	9.7	0.57†	10.6	9.7	0.15
Object inserted (6)	4.5	2.0	0.65	17.6	22.1	0.51	7.5	10.5	0.70†	9.2	9.9	0.13
Postmortem sex (4)	2.0	2.0	0.36	17.0	22.0	0.55	9.3	10.1	0.19	5.0	10.2	0.91
Clothing removed (18)	4.0	2.0	0.65*	22.5	21.1	0.16	11.4	9.2	0.52†	9.7	9.9	0.05

†$p<0.10$, *$p<0.05$, **$p<0.01$.

Note. SeSaS = Sexual Sadism Scale; PCL-R = Psychopathy Check List–Revised.

[a]The number in brackets is the number of cases, of the 51 sexual homicide offenders, where this particular variable was present.

Table 3. Association Between Nonsexual Aspects of Sexual Homicide Offences and SeSaS and PCL-R in 51 Sexual Homicide Offenders.

	SeSaS ($N = 51$)			PCL-R total ($N = 51$)			PCL-R Factor 1 ($N = 47$)			PCL-R Factor 2 ($N = 47$)		
Nonsexual offence variables (no. of cases with that variable)[a]	*Mdn* in those with variable	*Mdn* in those without variable	θ	*M* in those with variable	*M* in those without variable	*d*	*M* in those with variable	*M* in those without variable	*d*	*M* in those with variable	*M* in those without variable	*d*
Bizarre behaviour (4)	7.5	2.0	0.77*	24.6	21.3	.37	10.0	10.1	.02	13.5	9.5	.71
[b]Ritualistic behaviour (9)	6.0	2.0	0.82**	24.2	21.0	.35	11.2	9.8	.33	11.6	9.4	.38
Biting (5)	6.0	2.0	0.80**	26.2	21.1	.58†	12.0	9.9	.51	13.2	9.4	.67
[b]Trophies taken (3)	3.5	2.0	0.72†	25.7	21.3	.49	11.7	10.0	.40	12.0	9.7	.41
Restraints (19)	3.0	2.0	0.66†	19.2	23.0	.42	9.1	10.7	.40	8.4	10.7	.41
Blind fold or gag (8)	5.5	2.0	0.85**	22.2	21.5	.08	9.9	10.1	.06	11.5	9.5	.36
[b]Held captive (17)	6.0	2.0	0.84**	23.4	20.6	.31	11.2	9.4	.43	10.9	9.2	.29
[b]Genital mutilation (8)	6.0	2.0	0.72*	21.6	21.6	.00	9.6	10.2	.13	11.1	9.6	.28
[b]Dismemberment (4)	6.0	2.0	0.77*	32	20.7	1.27*	16	9.5	1.53**	13.5	9.5	.71
Attempted homicide (15)	4.0	2.0	0.73**	20.1	22.2	.23	8.3	10.9	.61*	10.7	9.4	.22
Forensic awareness (3)	6.0	2.0	0.72†	32.3	20.9	1.28*	15.3	9.7	1.33**	14.0	9.6	.79
Property stolen (14)	2.0	2.0	0.47	26.7	19.6	.79*	11.9	9.3	.60†	13.6	8.2	.96**
Stranger victim (32)	3.0	1.0	0.68*	23	19.2	.43	11.2	7.9	.77*	10.2	9.2	.17
Multiple victims (12)	3.0	2.0	0.69*	22.7	21.2	.17	11.6	9.6	.48	9.2	10.0	.64
Alcohol intoxication (30)	2.0	3.0	0.45	22.7	20.0	.30	10.0	10.3	.07	11.1	8.0	.54*
Drug intoxication (4)	2.0	2.0	0.46	33.9	20.5	1.50**	13.5	9.8	.88*	18.5	9.0	1.67**
At least one other offender involved (10)	5.5	2.0	0.76**	26.3	20.4	.66†	11.6	9.7	.46	13.5	8.8	.82*

†$p<0.10$, *$p<0.05$, **$p<0.01$.

Note. SeSaS = Sexual Sadism Scale; PCL-R = Psychopathy Check List–Revised.

[a]The number in brackets is the number of cases, of the 51 sexual homicide offenders, where this particular variable was present.

[b]These variables are identical to or very similar to items of the SeSaS, so an association with SeSaS score is expected.

Table 4. Association Between RSVP Items and SeSaS and PCL-R in 51 Sexual Homicide Offenders.

RSVP items (22 items separated into their five domains A-E)	SeSaS ($N = 51$) τ	PCL-R total ($N = 51$) τ	PCL-R Factor 1 ($N = 47$) τ	PCL-R Factor 2 ($N = 47$) τ
A. Sexual violence history				
1. Chronicity	.39**	.18	.21†	.06
2. Diversity	.01	.16	.13	.11
3. Escalation	.20	.09	.06	.01
4. Physical coercion	.03	.05	.03	.00
5. Psychological coercion	.19	.14	.10	.16
B. Psychological adjustment				
6. Denial/minimisation	.12	.08	.15	−.03
7. Attitudes condoning	.21†	.32*	.33*	.20
8. Self-awareness	−.15	−.05	.04	−.14
9. Stress/coping	−.04	−.24*	−.48**	−.07
10. Child abuse	.05	.24*	.06	.37**
C. Mental disorder				
11. Sexual deviance	.40**	.13	.16	.02
12. Psychopathy	.21†	.83**	.66**	.64**
13. Major mental disorder	−.28*	−.26*	−.16	−.27*
14. Substance abuse	−.07	.26*	.02	.42**
15. Violent or suicidal ideation	.33**	.47**	.44**	.44**
D. Social adjustment				
16. Intimate relationships	−.21†	−.11	−.21	−.08
17. Nonintimate relationships	−.25*	−.01	−.03	−.03
18. Employment	−.15	.22†	−.01	.33*
19. Nonsexual criminality	.12	.46**	.32*	.48**
E. Manageability				
20. Planning	.17	.41**	.30*	.41**
21. Treatment	.05	.22†	.18	.21†
22. Supervision	.09	.48 **	.32*	.50 **

†$p < 0.10$. *$p < 0.05$. **$p < 0.01$.
Note. RSVP = Risk for Sexual Violence Protocol; SeSaS = Sexual Sadism Scale; PCL-R = Psychopathy Check List–Revised.

2 negatively with obsessive-compulsive personality disorder.

Sexual crime scene behaviours. Factor 1 was associated with performing cunnilingus, ejaculating on victims, stripping victims nude; Factor 2 with breast sucking, not performing cunnilingus; and PCL-R total and Factor 2 were negatively associated with object insertion and post-mortem sex (Table 2).

Nonsexual aspects of sexual homicide. PCL-R Factor 2 was associated with alcohol intoxication, all three PCL-R measures with drug intoxication, and total and Factor 2

with co-accused (Table 3). Factor 1 was associated with completed versus attempted homicide, Factor 2 with using blunt force and bizarre behaviour, and all three were associated with biting, dismemberment, and forensic awareness. Factor 1 was associated with stranger victims.

Criminal history. PCL-R total, Factor 1, and Factor 2 were all associated with number of general offences (total: $\tau = .47$, $p < .00$; Factor 1: $\tau = .30$, $p = .01$; Factor 2: $\tau = .53$, $p < .00$) and number of violent offences (total: $\tau = .34$, $p < .00$; Factor 1: $\tau = .35$, $p < .00$; Factor 2: $\tau = .26$, $p = .02$), but not with number of sexual offences (total: $\tau = .10$, $p = .38$; Factor 1: $\tau = .15$, $p = .20$; Factor 2: $\tau = -.07$, $p = .57$). Factor 1 was more strongly associated with violent offending, and Factor 2 with general offending.

RSVP items. All three were associated with attitudes that condone sexual violence, violent/suicidal ideation, nonsexual criminality, unmanageability (problems with planning, treatment, and supervision), and not having major mental disorder (Table 4). Factor 1 alone (or with total score) was associated with chronicity of sexual violence, not having problems with stress or coping, sexual deviance, and not having problems with intimate relationships. Total score alone was associated with diversity of sexual violence, while Factor 2 (on its own or with total score) was associated with being a victim of abuse in childhood, substance misuse, and problems with employment.

Variables Related to Both Sexual Sadism and Psychopathy

The following variables were associated with both SeSaS and PCL-R: co-accused, object insertion (negatively with psychopathy), postmortem sex (negatively with both), breast sucking (Factor 2), bizarre behaviour (Factor 2), biting, dismemberment, forensic awareness, stranger victim (Factor 1), personality disorders, violent offences, chronicity of sexual violence, attitudes that condone sexual violence (Factor 1), major mental disorder (negatively with both), violent/suicidal ideation, and problems with planning. When both SeSaS and PCL-R (or Factor 1 for stranger victim and attitudes that condone, or Factor 2 for breast sucking and bizarre behaviour) were used as predictors in logistic regression, the following were found to be primarily associated with SeSaS (i.e., SeSaS remained significant while PCL-R was no longer so): co-accused—SeSaS: $\text{Exp}(B) = 1.51$, $p = .01$, PCL-R: $\text{Exp}(B) = 1.07$, $p = .21$; object insertion—SeSaS: $\text{Exp}(B) = 1.66$, $p = .02$, PCL-R: $\text{Exp}(B) = 0.88$, $p = .07$; breast sucking—SeSaS: $\text{Exp}(B) = 1.60$, $p = .01$, PCL-R Factor 2: $\text{Exp}(B) = 1.12$, $p = .23$; bizarre behaviour—SeSaS: $\text{Exp}(B) = 1.85$, $p = .02$, PCL-R Factor 2: $\text{Exp}(B) = 1.09$, $p = .55$; biting—SeSaS: $\text{Exp}(B) = 1.69$, $p = .01$, PCL-R: $\text{Exp}(B) = 1.05$, $p = .48$; chronicity of sexual violence—SeSaS: $\text{Exp}(B) = 1.47$, $p = .04$, PCL-R: $\text{Exp}(B) = 1.03$, $p = .41$; and not having major mental disorder—SeSaS: $\text{Exp}(B) = 0.65$, $p = .18$, PCL-R: $\text{Exp}(B) = 0.96$, $p = .42$.

The following were primarily associated with PCL-R or one of its factors (i.e., PCL-R variable remained significant while SeSaS was no longer so): drug

intoxication—PCL-R: Exp(B) = 1.48, p = .03, SeSaS: Exp(B) = 0.73, p = .38; dismemberment—PCL-R: Exp(B) = 1.27, p = .05, SeSaS: Exp(B) = 1.35, p = .23; forensic awareness—PCL-R: Exp(B) = 1.27, p = .07, SeSaS: Exp(B) = 1.21, p = .49; personality disorders—PCL-R: Exp(B) = 1.42, p = .04, SeSaS: Exp(B) = 3.59, p = .26; violent offending history—PCL-R: Exp(B) = 1.11, p = .01, SeSaS: Exp(B) = 1.06, p = .70; attitudes that condone sexual violence—PCL-R: Exp(B) = 1.09, p = .02, SeSaS: Exp(B) = 1.01, p = .93; violent/suicidal ideation—PCL-R: Exp(B) = 1.17, p = .00, SeSaS: Exp(B) = 1.25, p = .19; and stranger victim—PCL-R Factor 1: Exp(B) = 0.82, p = .02; SeSaS: Exp(B) = 0.95, p = .70. SeSaS × PCL-R interaction terms were not significant in any regression models, indicating lack of evidence for a synergistic effect.

Discussion

Main Findings

Over a third were *DSM-IV* sadists and just under a third SeSaS sadists, with a strong correlation between these two. The proportion diagnosed by *DSM-IV* is in the middle of that reported in previous studies (Firestone et al., 1998; Grubin, 1994a; Hill et al., 2006; Langevin et al., 1988; Proulx, Blais, & Beauregrd, 2007; Myers et al., 2010), and the number identified by the SeSaS is almost identical to a large U.K. sample (Stefanska et al., 2019). Strong correlations between *DSM* and SeSaS accord with other studies of sexual offenders (Gonçalves et al., 2018; Nitschke et al., 2009) and sexual homicide offenders (Stefanska et al., 2019). Whether those with *DSM-IV* sadism who screened out with SeSaS were missed or misdiagnosed is unclear. Few cases without *DSM-IV* sadism screened in, but misdiagnosis may have been an issue, given the poor reliability of *DSM* diagnosis (Marshall & Kennedy, 2003; Marshall & Yates, 2004; Marshall, Kennedy, & Yates, 2002; Nitschke et al., 2013). The sensitivity, specificity, and strong correlations found using the SeSaS indicate convergent validity with *DSM-IV*, but the latter cannot be considered the gold standard.

A quarter were Hare psychopaths scoring 30 or more on the PCL-R, although a third reached the alternative cut-off of 25 in Scotland. These accord with rates reported elsewhere, lower than French (Proulx et al., 2018) and Canadian (Porter et al., 2003) samples, similar to another Canadian sample (Firestone et al., 1998), and higher than a German sample (Hill et al., 2007). There were moderate significant correlations between measures of sexual sadism and of psychopathy, particularly Factor 1 with SeSaS and Factor 2 with *DSM-IV*. Other studies have reported similar moderate associations in sexual offenders (Longpré, Guay, & Knight, 2018; Mokros et al., 2011; Robertson & Knight, 2014). The association found in the current study is unlikely due to conceptual or definitional overlap, or due to the two being aspects of the same underlying construct, given the nature of the measures used and the different associates of SeSaS and PCL-R found. Only a minority of cases were "sexually sadistic psychopaths," between 1 in 20 and a quarter depending on criteria. Two of four serial

killers fulfilled all of the definitions of sexually sadistic psychopath, while the other two fulfilled none of them. Some of the single sexual killers caught by the narrower definitions may be potential serial killers whose series were prematurely aborted by arrest and intervention, but perhaps not all serial sexual killers are sexually sadistic psychopaths (Geberth & Turco, 1997; Myers et al., 1993).

Sexual sadists more often had a co-accused. The presence of a co-accused has not often been examined in other studies. However, comparing the current sample with rapists, Darjee and Baron (2018) found an association between sexual homicide and a co-accused; Häkkänen-Nyholm, Repo-Tiihonen, Lindberg, Salenius, and Weizmann-Henelius (2009) found sexual homicides more often involved a co-accused than nonsexual homicides; Dietz et al. (1990) reported many of their sexually sadistic offenders had a co-accused; and Skott, Beauregard, and Darjee (2019) found most female sexual homicide offenders acted with a male co-accused who was invariably the primary offender. It may seem counter-intuitive that an intimate hands-on offence, in offenders often described as isolated loners, involves acting with others. Although dominance and manipulation of a co-accused as indicated by Factor 1 psychopathy played a role, Factor 1 dropped out when regressed suggesting sexual sadism itself drove this association. The other possibility is a group effect, whereby two or more offenders acting together are more likely to inflict behaviours that look sadistic, leading to a behavioural rating of sadism, although it was group dynamics rather than sexual sadism which drove the behaviour (Woodhams, Cooke, Harkins, & Silva, 2012).

Crime scenes of sadists were characterised by intrusive sexual behaviours (concurring Proulx et al., 2007; with Gratzer & Bradford, 1995), unusual behaviours (concurring with some findings of Gratzer & Bradford, 1995; Healey et al., 2013; Hill et al., 2006; but contrasting with Marshall, Kennedy, & Yates, 2002), controlling behaviours (concurring with Gratzer & Bradford, 1995; Proulx, Blais, & Beauregrd, 2007; but contrasting Healey et al., 2013; with Marshall et al., 2005), and genital mutilation (concurring with Healey et al., 2013; Proulx, Blais, & Beauregrd, 2007). The findings regarding sexual behaviour contrast with the lack of association with sexual behaviours, but association with violent behaviours, in Robertson and Knight's (2014) study of sexual offenders. Perhaps in sexual homicide, general sexual behaviours are associated with sexual sadism, while in nonhomicidal sexual offenders, they are not. This could be due to any sexual behaviour being degrading in the context of a homicidal assault, being indicative of sexual arousal to the homicidal violence, or due to an association between sexual deviance and sexual preoccupation in sexual sadists (Briken, Habermann, Kafka, Berner, & Hill, 2006). Sadists more often committed attempted murder (concurring with Healey et al., 2013, and with Healey, Beauregard, Beech, & Vettor, 2016). As sexual sadists get sexual pleasure from inflicting prolonged suffering on a victim, killing a victim may be an anti-climax and not the primary focus. Sadism was negatively associated with post-mortem sexual behaviours (contrasting with Proulx, Blais, & Beauregrd, 2007), questioning the view that post-mortem sexual interference indicates sexually sadism (Higgs, Carter, Stefanska, & Glorney, 2017), although such behaviour does not seem to indicate true necrophilia (i.e., a sexual

interest in corpses) either (Rosman & Resnick, 1989; Stein, Schlesinger & Pinizotto, 2010). Sexual sadism was associated with patterns of offending characterised by chronic and escalating sexual offending involving psychological coercion (concurring with Hill et al., 2006; but contrasting with Marshall et al., 2002; Proulx, Blais, & Beauregrd, 2007). The association with multiple sexual homicides concurs with other findings (Hill et al., 2006; James et al., 2018; James & Proulx, 2014) highlighting sexual sadism is a risk factor for repeat sexual murder.

Some, nonsexual, associates of sexual sadism dropped out on adjusting for psychopathy (drug intoxication, forensic awareness, dismemberment, stranger victims, personality disorder, history of violent offending, violent ideation, and problems in relationships) indicating these variables may manifest in sadists due to the latter's association with psychopathy, while the previously identified ones were primarily associated with sexual sadism.

Personality disorder generally (Hill et al., 2006; Marshall et al., 2005), antisocial personality disorder (Gratzer & Bradford, 1995), and avoidant, schizoid, and schizotypal disorders (Proulx, Blais, & Beauregrd, 2007) were associated with sexual sadism in other studies, while here sadism was associated with obsessive-compulsive personality disorder, and negatively with paranoid, schizotypal, histrionic, and avoidant personality disorders. The inconsistent findings may be due to different approaches to diagnosis using different criteria and ascertainment methods, inclusion of nonhomicide cases in some samples, or problems with reliably diagnosing personality disorders. Including the PCL-R associations with sexual sadism in the current study, the disinhibited (i.e., Factor 2 or antisocial) and the narcissistic-mean (i.e., Factor 1) groups, described by Longpré et al. (2018), were found, but not the introverted or schizoid group (also described by Proulx, Blais, & Beauregrd, 2007). In addition, the findings regarding obsessive-compulsive personality disorder and Factor 1, indicating dominance, meanness, and control, fit with previous findings regarding sadistic personality disorder (Hill et al., 2006).

Forensic awareness and planning have been associated with sexually sadistic homicides (Hill et al., 2006; Reale et al., 2017a, 2017b; Ressler et al., 1988), but the current findings point to this being mediated through Factor 1 psychopathy, rather than being intrinsic to sexual sadism. Rather than being sexually pleasurable, dismemberment was a means to get rid of a dead body. It may be that criminal versatility found in sexual sadists (DeLisi et al., 2017) is due to the association with psychopathy rather than due to sexual sadism itself.

Variables associated with psychopathy were those more strongly associated with Factor 1, those more strongly associated with Factor 2, those associated with both, and those dropping out on adjusting for sadism. Factor 1 was associated with exploitative and violent crime scene behaviours, history of nonsexual violence, completed rather than attempted homicide, post-crime behaviours indicating planning and attempts to evade detection (forensic awareness, dismemberment, and moving body), attacking stranger victims, having pro-offending attitudes, and not having problems with stress or coping. These variables reflect callousness with easy recourse to violence, lack of anxiety, planning, and exploitation.

Factor 2 was associated with alcohol intoxication, use of blunt force, previous general offending, history of suffering child abuse, substance misuse, and employment difficulties. These variables reflect impulsivity and poor self-regulation. Both Factors 1 and 2 were associated with nonsexual criminality, personality disorders, and management problems, as reported in other samples of offenders (Patrick, 2018). Associates of psychopathy which dropped out on adjusting for sadism were co-accused, biting, multiple sexual homicides, chronicity of sexual violence, and RSVP sexual deviance, potentially meaning these variables manifest in more psychopathic offenders due to the association with sexual sadism, while the previous ones were primarily associated with psychopathy. Notably, these variables seem to reflect a chronic pattern of sexual deviance, with callousness and/or impulsivity acting as disinhibitors leading to the manifestation of sexual sadism, rather than motivating sexually deviant behaviour themselves. Like Porter et al. (2003), gratuitous violence was associated with psychopathy, but sexually sadistic violence was not specifically so. However, Porter et al. (2003) examined sadistic, rather than sexually sadistic behaviours, when they found their association.

Implications

Sexual sadism and psychopathy are key psychopathologies predisposing to sexual homicide and are the most extreme forms of sexual deviance and antisociality, respectively, leading to the most extreme type of sexual violence. Sexual sadism, Factor 1 (callousness and manipulation) and Factor 2 (impulsivity and antisocial behaviour) are each associated with different crime scene factors, criminal history factors, sexual violence risk factors, and other clinical factors. They are best viewed, analysed, and assessed dimensionally rather than categorically. The core of sexual sadism is sexual pleasure gained through experiencing the domination, degradation, and suffering of others, leading to the compulsion to commit sexual violence, manifested in chronic and escalating sexual offending, multiple sexual homicides, and crime scenes characterised by controlling, sexually intrusive, ritualistic behaviours, leading to the death (or near death) of victims. Aspects of psychopathy, such as callousness, manipulativeness, and impulsivity, may disinhibit the expression of sexual sadism, but psychopathy and sexual sadism are distinct, although associated. The core of Factor 1 is callousness and manipulation—these traits being associated with chronic violence, crime scene violence and killing, exploitation of victims, and efforts to plan and avoid detection. The association between Factor 1 and sadism may account for forensic awareness and detection avoidance seen more often in sexually sadistic offenders. The core of Factor 2 is impulsivity and antisocial behaviour—these traits manifesting in disinhibited and generally antisocial behaviour at crime scenes, in criminal histories, and in general lifestyles. The differential associates of the factors of psychopathy accord with recent research on the specific associates of facets of psychopathy in offenders more generally (Hare, 2016).

In terms of clinical practice recommendations, the SeSaS is the screening tool of choice to ascertain the presence and degree of sexual sadism using crime scene behavioural indicators, given its apparent reliability, validity and utility, and the lack of these when using alternative approaches, such as *DSM* diagnosis and phallometry. Sexual

sadism and psychopathy must be assessed in sexual homicide offenders to inform risk assessment, treatment planning, progression and release decision making, and eventually, where appropriate, community management. Predictive validity studies have found weak or nonexistent relationships between sexual sadism and recidivism (Eher et al., 2016; Hill, Habermann, Klusmann, Berner, & Briken, 2008; Kingston, Seto, Firestone, & Bradford, 2010), but are confounded by nonrelease of sadists and interventions used. The association in this study with chronic sexual violence and multiple sexual homicides supports the contention that sexual sadism is an important risk factor for serious sexual violence and is an important treatment target through the use of antilibidinal drugs (Darjee & Baron, 2018) and psychological treatment (Hill et al., 2008). Factor 2 is associated with repeat offending of any type and has shown a stronger association with general and violent recidivism in samples of offenders (Hare, 2016). But Factor 1 would appear important with regard to serious harm, disinhibiting the manifestation of sexual sadism and proneness to manipulate and deceive. Psychopathy is a key responsivity factor which interferes with supervision and treatment. Relatively rare sexually sadistic psychopaths are often serial killers or potential serial killers, need to be managed with extreme caution, and may never be safe for community release. During a police investigation, crime scene indicators of sexual sadism may indicate that a perpetrator is more likely to have a co-accused, to have sexual convictions, and to commit a further offence. Indicators of psychopathy, especially Factor 1, may suggest particular interview strategies taking into account grandiosity, deceitfulness, and lack of empathy.

Further research is warranted examining the interaction of psychopathy and sexual sadism in sexual murderers, to help develop theoretical understanding of this rare, but extreme and concerning behaviour. Dimensional and valid measures of sexual sadism and psychopathy, such as the SeSaS and PCL-R, should be used in larger samples to further psychopathological understanding of aspects of sexual homicide.

Methodological Considerations

Small sample sizes beset research on sexual homicide, although the sample size here is larger than that in the only other study of psychopathy in sexual killers, similar to most other studies of sexual homicide, but smaller than two studies examining associates of sexual sadism in sexual homicide. The sample was primarily men who had committed single sexual homicides against adult females, but included cases with male victims, child victims, and multiple victims. The proportion of these was similar to those in large samples in Germany (Hill et al., 2007) and Canada (Beauregard & Martineau, 2013), and in a larger Scottish sample (Skott, Beauregard, & Darjee, 2018), indicating the sample was probably representative of sexual homicide offenders in Westernized jurisdictions. Unlike other samples, serial killers were neither overrepresented nor excluded. Nonfatal homicidal cases were included, as the difference between fatality and nonfatality may be slim, and those who inflict life-threatening harm are more similar to sexual homicide cases than to rapists (Darjee & Baron, 2018). There was no coding or collection of developmental (e.g., child and adolescent

behaviours and experiences) and many proximal lifestyle factors (e.g., precrime anger, conflicts, and fantasies), which may have helped elucidate further associates of sadism and psychopathy. Repeated comparisons may have thrown up chance findings unreflective of the population of sexual homicide offenders, but the small sample size may also have led to type II errors.

Conclusion

The results supported the hypotheses: measures of psychopathy and sexual sadism were significantly, but moderately, correlated; sexual sadism did associate with crime scene indicators of sexual arousal to inflicting suffering (controlling, sexually intrusive, violent, and degrading acts) and a longitudinal pattern of deviant sexual behaviour (chronic sexual offending); psychopathy was associated with indicators of manipulation (planning and detection avoidance attempts), callousness (extreme violence, using victims instrumentally, and other violent offending), impulsivity (substance misuse, reckless crime scene behaviours, unstable lifestyle), and antisociality (general offending); sexual sadism was primarily associated with indicators of severe sexual deviance, while psychopathy was primarily associated with indicators of extreme antisociality.

This is the first study using dimensional measures of sexual sadism and psychopathy to explore their associates in sexual homicide. Sexual homicide offenders manifest a high degree of sexual sadism and psychopathy, which are moderately correlated, but associated with different aspects of sexual homicide offences, criminal histories, clinical characteristics, and sexual violence risk factors. The associates of sexual sadism, Factor 1 psychopathy, and Factor 2 psychopathy reflect the core of these three distinct psychopathologies (sexual pleasure derived from inflicting suffering on others, callousness/manipulativeness, and impulsivity), which all play important roles in the aetiology of sexual homicide. They deserve close attention in sexual murder cases and in further research on the phenomenon of sexual homicide.

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References

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., Rev.). Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Publishing.

Beauregard, E., & Martineau, M. (2013). A descriptive study of sexual homicide in Canada: Implications for police investigations. *International Journal of Offender Therapy and Comparative Criminology*, *57*, 1454-1476.

Briken, P., Habermann, N., Kafka, M. P., Berner, W., & Hill, A. (2006). The paraphilia-related disorders: An investigation of the relevance of the concept in sexual murderers. *Journal of Forensic Sciences*, *51*, 683-688.

Campos, E., & Cusson, M. (2007). Serial killers and sexual murderers. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 175-190). Chichester, UK: John Wiley.

Chan, O. (2015). Understanding sexual homicide offenders: An integrated approach. Springer.

Chan, H. C., & Beauregard, E. (2016). Non-homicidal and homicidal sexual offenders: Prevalence of maladaptive personality traits and paraphilic behaviors. *Journal of interpersonal violence*, *31*(13), 2259-2290.

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

Cooke, D. J., & Michie, C. (1999). Psychopathy across cultures: North America and Scotland compared. *Journal of Abnormal Psychology*, *108*(1), 58-68.

Darjee, R., & Baron, E. (2018). Recent research on sexual homicide in Scotland: Characteristics, crime scene themes and comparison with non-homicidal sexual aggressors. In J. Proulx, E. Beauregard, A. J. Carter, A Mokros, R. Darjee, & J. James (Eds.), *Routledge international handbook of sexual homicide studies* (pp. 196-218). Abingdon, UK: Routledge.

Darjee, R., Russel, K., Forrest, L., Milton, E., Savoie, V., Baron, E., & Stobie, S. (2016). *Risk for Sexual Violence Protocol: A real world study of the reliability, validity and utility of a structured professional judgement instrument in the assessment and management of sexual offenders in South East Scotland*. Paisley, UK: Risk Management Authority.

DeLisi, M., Drury, A., Elbert, M., Tahja, K., Caropreso, D., & Heinrichs, T. (2017). Sexual sadism and criminal versatility: Does sexual sadism spillover into nonsexual crimes? *Journal of Aggression, Conflict and Peace Research*, *9*(1), 2-12.

De River, P. (1949). *The sexual criminal*. Springfield, IL: Charles C. Thomas.

Dietz, P. E., Hazelwood, R. R., & Warren, J. (1990). The sexually sadistic criminal and his offences. *Bulletin of the American Academy of Psychiatry and Law*, *18*, 163-178.

Eher, R., Schilling, F., Hansmann, B., Pumberger, T., Nitschke, J., Habermeyer, E., & Mokros, A. (2016). Sadism and violent reoffending in sexual offenders. *Sexual Abuse*, *28*(1), 46-72.

Firestone, P., Bradford, J. M., Greenberg, D. M., & Larose, M. R. (1998). Homicidal sex offenders: Psychological, phallometric and diagnostic features. *Journal of American Academy of Psychiatry and Law*, *26*, 537-542.

Geberth, V. J., & Turco, R. N. (1997). Antisocial personality disorder, sexual sadism, malignant narcissism, and serial murder. *Journal of Forensic Science*, *42*(1), 49-60.

Gilpin, A. R. (1993). Table for conversion of Kendall's Tau to Spearman's Rho within the context of measures of magnitude of effect for meta-analysis. *Educational and Psychological Measurement*, *53*, 87-92.

Gonçalves, L. C., Rossegger, A., Gerth, J., Singh, J. P., & Endrass, J. (2018). Sexual sadism among sex offenders in Switzerland. *Sexual Abuse*. Advance online publication. doi:10.1177/1079063218800473

Gratzer, T., & Bradford, J. M. (1995). Offender and offense characteristics of sexual sadists: A comparative study. *Journal of Forensic Science*, *40*(3), 450-455.

Grubin, D. (1994a). Sexual murder. *The British Journal of Psychiatry*, *165*, 624-629.

Grubin, D. (1994b). Sexual sadism. *Criminal Behaviour and Mental Health*, *4*(1), 3-9.

Häkkänen-Nyholm, H., Repo-Tiihonen, E., Lindberg, N., Salenius, S., & Weizmann-Henelius, G. (2009). Finnish sexual homicides: Offence and offender characteristics. *Forensic Science International*, *188*, 125-130.

Hanson, R. K., & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology*, *73*, 1154-1163.

Hare, R. D. (2003). *The Hare Psychopathy Checklist—Revised manual* (2nd ed.). Toronto, Ontario, Canada: Multi-Health Systems.

Hare, R. D. (2016). Psychopathy, the PCL-R, and criminal justice: Some new findings and current issues. *Canadian Psychology/psychologie canadienne*, *57*(1), 21-34.

Hare, R. D., & Neumann, C. S. (2005). Structural models of psychopathy. *Current Psychiatry Reports*, *7*(1), 57-64.

Hart, S., Kropp, P. R., & Laws, D. R. (2003). *The Risk for Sexual Violence Protocol (RSVP): Structured professional guidelines for assessing risk of sexual violence*. Vancouver, British Columbia, Canada: The Institute Against Family Violence.

Healey, J., Beauregard, E., Beech, A., & Vettor, S. (2016). Is the sexual murderer a unique type of offender? A typology of violent sexual offenders using crime scene behaviors. *Sexual Abuse: A Journal of Research and Treatment*, *28*, 512-533.

Healey, J., Lussier, P., & Beauregard, E. (2013). Sexual sadism in the context of rape and sexual homicide: An examination of crime scene indicators. *International Journal of Offender Therapy and Comparative Criminology*, *57*, 402-424.

Higgs, T., Carter, A. J., Tully, R. J., & Browne, K. D. (2017). Sexual murder typologies: A systematic review. *Aggression and violent behavior*, *35*, 1-12.

Higgs, T., Carter, A. J., Stefanska, E. B., & Glorney, E. (2017). Toward identification of the sexual killer: A comparison of sexual killers engaging in post-mortem sexual interference and non-homicide sexual aggressors. *Sexual Abuse*, *29*, 479-499.

Hill, A., Haberman, N., Berner, W., & Briken, P. (2006). Sexual sadism and sadistic personality disorder in sexual homicide. *Journal of Personality Disorder*, *20*, 671-684.

Hill, A., Habermann, N., Berner, W., & Briken, P. (2007). Psychiatric disorders in single and multiple sexual murderers. *Psychopathology*, *40*, 22-28.

Hill, A., Habermann, N., Klusmann, D., Berner, W., & Briken, P. (2008). Criminal recidivism in sexual homicide perpetrators. *International Journal of Offender Therapy and Comparative Criminology*, *52*(1), 5-20.

Hirschfeld, M. (1944). *Sexual anomalies and perversions*. London, England: Francis Aldor.

James, J., Lussier, P., & Proulx, J. (2018). Serial and non-serial sexual murderers: An exploratory study of developmental antecedents. In J. Proulx, E. Beauregard, A. J. Carter, A Mokros, R. Darjee, & J. James (Eds.), *Routledge international handbook of sexual homicide studies* (pp. 196-218). Abingdon, UK: Routledge.

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

Kingston, D. A., Seto, M. C., Firestone, P., & Bradford, J. M. (2010). Comparing indicators of sexual sadism as predictors of recidivism among adult male sexual offenders. *Journal of Consulting and Clinical Psychology*, *78*, 574-584.

Kirsch, L. G., & Becker, J. V. (2007). Emotional deficits in psychopathy and sexual sadism: Implications for violent and sadistic behavior. *Clinical psychology review*, *27*(8), 904-922.

Knight, R. A., & Prentky, R. A. (1990). Classifying sexual offenders: The development and corroboration of taxonomic models. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault* (pp. 23-52). New York, NY: Plenum Press.

Knight, R. A., Sims-Knight, J., & Guay, J. P. (2013). Is a separate diagnostic category defensible for paraphilic coercion? *Journal of Criminal Justice*, *41*, 90-99.

Koch, J., Berner, W., Hill, A., & Briken, P. (2011). Sociodemographic and diagnostic characteristics of homicidal and nonhomicidal sexual offenders. *Journal of Forensic Sciences*, *56*, 1626-1631.

Langevin, R., Bain, J., Ben-Aron, M. K., Coulthard, R., Day, D., Handy, L., Heasman, G., Hucker, S. J., Purins, J. E., Roper, V., Russon, A. E., Webster, C. D., & Wortzman, G. (1985). Sexual aggression: constructing a predictive equation. In R. Langevin (Ed.), *Erotic preference, gender identity and aggression in men: new research studies* (pp. 39-76). Hillsdale, NJ: Lawrence Erlbaum.

Langevin, R., Ben-Aron, M. H., Wright, P., Marchese, V., & Handy, L. (1988). The sex killer. *Annals of Sex Research*, *1*, 263-301.

Langridge, D., Richards, C., & Barker, M. (2007). *Safe, sane and consensual: Contemporary perspectives on sadomasochism*. Berlin, Germany: Springer Verlag GMBH.

Longpré, N., Guay, J. P., & Knight, R. A. (2018). The developmental antecedents of sexual sadism. International handbook of sexual homicide. In J. Proulx, E. Beauregard, A. J. Carter, A. Mokros, R. Darjee, & J. James (Eds.), *Routledge international handbook of sexual homicide studies* (pp. 196-218). Abingdon, UK: Routledge.

Longpré, N., Proulx, J., & Brouillette-Alarie, S. (2018). Convergent validity of three measures of sexual sadism: Value of a dimensional measure. *Sexual Abuse*, *30*, 192-208.

Marshall, W. L., & Hucker, S. J. (2006). Issues in the diagnosis of sexual sadism. *Sexual Offender Treatment*, *1*(2), 1-4.

Marshall, W. L., & Kennedy, P. (2003). Sexual sadism in sexual offenders: An elusive diagnosis. *Aggression and Violent Behavior*, *8*(1), 1-22.

Marshall, W. L., Kennedy, P., & Yates, P. (2002). Issues concerning the reliability and validity of the diagnosis of sexual sadism applied in prison settings. *Sexual Abuse: A Journal of Research and Treatment*, *14*, 301-311.

Marshall, W. L., Kennedy, P., Yates, P., & Serran, G. (2002). Diagnosing sexual sadism in sexual offenders: Reliability across diagnosticians. *International Journal of Offender Therapy and Comparative Criminology*, *46*, 668-677.

Marshall, W. L., & Yates, P. (2004). Diagnostic issues in sexual sadism among sexual offenders. *Journal of Sexual Aggression*, *10*(1), 21-27.

Međedović, J. (2017). Aberrations in emotional processing of violence-dependent stimuli are the core features of sadism. *Motivation and Emotion*, *41*, 273-283.

Meloy, J. R. (1997). The psychology of wickedness: Psychopathy and sadism. *Psychiatric Annals*, *27*, 630-633.

Meloy, J. R. (2000). The nature and dynamics of sexual homicide: An integrative review. *Aggression and Violent Behavior*, *5*(1), 1-22.

Mokros, A., Osterheider, M., Hucker, S. J., & Nitschke, J. (2011). Psychopathy and sexual sadism. *Law and Human Behavior*, *35*, 188-199.

Mokros, A., Schilling, F., Eher, R., & Nitschke, J. (2012). The Severe Sexual Sadism Scale: Cross-validation and scale properties. *Psychological Assessment*, *24*, 764-769.

Mokros, A., Schilling, F., Weiss, K., Nitschke, J., & Eher, R. (2014). Sadism in sexual offenders: Evidence for dimensionality. *Psychological Assessment*, *26*(1), 138-147.

Myers, W. C., Beauregard, E., & Menard, W. (2013, October). *A revised sexual homicide crime scene rating scale for sexual sadism* (SADSEX-SH-R). Paper presented at 44th Annual Meeting of American Academy of Psychiatry and the Law, San Diego, CA.

Myers, W. C., Chan, H. C. O., Vo, E. J., & Lazarou, E. (2010). Sexual sadism, psychopathy, and recidivism in juvenile sexual murderers. *Journal of Investigative Psychology and Offender Profiling*, *7*, 49-58.

Myers, W. C., Reccoppa, L., Burton, K., & McElroy, R. (1993). Malignant sex and aggression: An overview of serial sexual homicide. *Journal of the American Academy of Psychiatry and the Law Online*, *21*, 435-451.

Newcombe, R. (2006a). Confidence intervals for an effect size measure based on the Mann-Whitney statistic. *Part 1: General Issues and Tail-Area-Based Methods. Statistics in Medicine*, *25*, 543-557.

Newcombe, R. (2006b). Confidence intervals for an effect size measure based on the Mann-Whitney statistic. *Part 2: General Issues and Tail-Area-Based Methods. Statistics in Medicine*, *25*, 559-573.

Nitschke, J., Blendl, V., Ottermann, B., Osterheider, M., & Mokros, A. (2009). Severe sexual sadism—An underdiagnosed disorder? Evidence from a sample of forensic inpatients. *Journal of Forensic Sciences*, *54*, 685-691.

Nitschke, J., Mokros, A., Osterheider, M., & Marshall, W. L. (2013). Sexual sadism: Current diagnostic vagueness and the benefit of behavioural definitions. *International Journal of Offender Therapy and Comparative Criminology*, *57*, 1441-1453.

Nitschke, J., Osterheider, M., & Mokros, A. (2009). A cumulative scale of severe sexual sadism. *Sexual Abuse: A Journal of Research and Treatment*, *21*, 262-278.

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

Patrick, C. (2018). *Handbook of psychopathy* (2nd ed.). New York, NY: Guilford Press.

Podolsky, E. (1966). Sexual violence. *Medical Digest*, *34*, 60-63.

Porter, S., Woodworth, M., Earle, J., Drugge, J., & Boer, D. (2003). Characteristics of sexual homicides committed by psychopathic and nonpsychopathic offenders. *Law and Human Behavior*, *27*, 459-470.

Prentky, R. A., Burgess, A. W., Rokous, F., Lee, A., Hartman, C., Ressler, R., & Douglas, J. (1989). The presumptive role of fantasy in serial sexual homicide. *American Journal of Psychiatry*, *146*, 887-891.

Proulx, J., Beauregard, E., Cusson, M., & Nicole, A. (2007). *Sexual murderers: A comparative analysis and new perspectives*. Chichester, UK: John Wiley.

Proulx, J., James, J., Siwic, M., & Beauregard, E. (2018). Sexual murderers of children: psychopathological and modus operandi factors. In J. Proulx, E. Beauregard, A. J. Carter, A. Mokros, R. Darjee, & J. James (Eds.), *Routledge international handbook of sexual homicide studies* (pp. 196-218). Abingdon: Routledge.

Proulx, J., Blais, E., & Beauregrd, E. (2007). Sadistic sexual offenders. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 51-69). Chichester, UK: John Wiley.

Rada, R. T. (1978). Psychological factors in rapist behavior. In R. T. Rada (Ed.), *Clinical aspects of the rapist* (pp. 21-58). New York, NY: Grune & Stratton.

Reale, K., Beauregard, E., & Martineau, M. (2017a). Is investigative awareness a distinctive feature of sexual sadism? *Journal of Interpersonal Violence*. Advance online publication. doi:10.1177/0886260517698824

Reale, K., Beauregard, E., & Martineau, M. (2017b). Sadism in sexual homicide offenders: Identifying distinct groups. *Journal of Criminal Psychology*, *7*, 120-133.

Reidy, D. E., Zeichner, A., & Seibert, L. A. (2011). Unprovoked aggression: Effects of psychopathic traits and sadism. *Journal of personality*, *79*(1), 75-100.

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

Revitch, E. (1957). Sex murder and sex aggression. *The Journal of the Medical Society of New Jersey*, *54*, 519-523.

Revitch, E. (1965). Sex murder and the potential sex murderer. *Diseases of the Nervous System*, *26*, 640-648.

Robertson, C. A., & Knight, R. A. (2014). Relating sexual sadism and psychopathy to one another, non-sexual violence, and sexual crime behaviors. *Aggressive Behavior*, *40*(1), 12-23.

Rosman, J. P., & Resnick, P. J. (1989). Sexual attraction to corpses: A psychiatric review of necrophilia. *Bulletin of the American Academy of Psychiatry and the Law*, *17*, 153-163.

Skott, S., Beauregard, E., & Darjee, R. (2018). Sexual and nonsexual homicide in Scotland: Is there a difference? *Journal of Interpersonal Violence*. Advance online publication. doi:10.1177/0886260518774303.

Skott, S., Beauregard, E., & Darjee, R. (2019). Female sexual homicide offenders: A descriptive and comparative study. *Journal of Forensic Sciences*, *64*, 154-162.

Stefanska, E. B., Beech, A. R., & Carter, A. J. (2016). A systematic review of the literature comparing male non-serial sexual killers and sexual aggressors: Examining homogeneous and heterogeneous characteristics of these groups. *Journal of Sexual Aggression*, *22*, 323-341.

Stefanska, E. B., Nitschke, J., Carter, A. J., & Mokros, A. (2019). Sadism among sexual homicide offenders: Validation of the Sexual Sadism Scale. *Psychological Assessment*, *31*, 132-137. Retrieved from http://psycnet.apa.org/record/2018-51563-001

Stein, M. L., Schlesinger, L. B., & Pinizzotto, A. J. (2010). Necrophilia and sexual homicide. *Journal of Forensic Sciences*, *55*, 443-446.

Vettor, S., Beech, A. R., & Woodham, J. (2014). Rapists and sexual murderers: Combined pathways to offending. In J. Proulx, E. Beauregard, P. Lussier, & B. Leclerc (Eds.), *Pathways to sexual aggression* (pp. 285-315). Abingdon, UK: Routledge.

von Krafft-Ebing, R. (1886). *Psychopathia sexualis*. New York, NY: Arcade.

Widiger, T. A. (1995). Deletion of self-defeating and sadistic personality disorders. In W. J. Livesley (Ed.), *Diagnosis and treatment of mental disorders. The DSM-IV personality disorders* (pp. 359-373). New York, NY: Guilford Press.

Woodhams, J., Cooke, C., Harkins, L., & Silva, T. D. (2012). Leadership in multiple perpetrator stranger rape. *Journal of Interpersonal Violence*, *27*, 728-752.

World Health Organization. (2018). *International Classification of Diseases, 11th revision*. Geneva, Switzerland: Author.

Yates, P. M., Hucker, S. J., & Kingston, D. A. (2008). Sexual sadism: Psychopathology and theory. In D. R. Laws & W. T. O'Donohue (Eds.), *Sexual deviance: Theory, assessment, and treatment* (pp. 213-230). New York, NY: Guilford Press.