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Sexual homicide in Australia and New Zealand: a description of offenders, offences and victims

Michaela Eichinger[a] and Rajan Darjee[b,c]

[a]*Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, Netherlands;* [b]*Centre for Forensic Behavioural Science, Swinburne University of Technology, Melbourne, VIC, Australia;* [c]*Victorian Institute of Forensic Mental Health (Forensicare), Melbourne, VIC, Australia*

The field of sexual homicide research is relatively recent, with many existing studies limited by small sample sizes and sampling bias. In Australia and New Zealand specifically, only one study to date addresses this phenomenon but there is a lack of comprehensive descriptive data. This study aims to fill this research gap using a representative sample gathered from public legal databases. A total of 118 cases of sexual homicide offenders are described to create a portrait of this type of offender, their victims and their offence behaviour. Findings are similar to those found in other large samples from the UK, Canada and Germany. Because this crime is rare and practitioners tend to have limited experience of them, the findings of this research have the potential to inform investigative, criminal justice and clinical practice.

Keywords: Australia; homicide; New Zealand; offender characteristics; sexual homicide; sexual motivation; sexual violence; victim characteristics; violent crime.

Introduction

Sexual homicide offences grip public interest, and serial sexual murderers are featured in documentaries, dramatisations and television shows because this salacious form of violence fosters community fear and fascination. Media reports of this type are memorable, so the prevalence of sexual murder may seem higher than it is. In reality, society experiences a low incidence of sexual homicide. Sexual homicides are estimated to represent only 1–5% of all homicides worldwide (e.g. H. C. Chan & Beauregard, 2016; Francis & Soothill, 2000; James & Proulx, 2014; Kong et al., 2003; Lemard & Hemenway, 2006; Mouzos, 2003). The rarity of this type of offence indicates that extensive experience in solving this type of crime and apprehending offenders is unusual, a fact that is compounded by the complexity of sexual homicide cases (Beauregard & Martineau, 2013). Empirical research regarding sexual homicide is therefore an essential tool for investigators to combat the difficulty and lack of familiarity that these cases present. Criminal justice systems also need such research to inform policymaking, sentencing and rehabilitation procedures. Finally, clinical assessment and management of offenders are aided by knowledge of the traits and histories common among this type of offender.

Empirical research in the field of sexual homicide has increased over the last three

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Correspondence: Michaela Eichinger, Maastricht University, Universiteitssingel 40, 6229 ER Maastricht, Netherlands. Email: 11mme3@queensu.ca
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decades. In the 20-year period after the FBI published their seminal work on serial sexual murderers (Burgess et al., 1986; Ressler, Burgess, Douglas, et al., 1986; Ressler, Burgess, Hartman, et al., 1986), only 32 empirical studies on the topic were published (O. Chan & Heide, 2009). However, in the last decade this rate has more than doubled with 47 studies conducted between 2008 and 2015 (H. C. Chan & Beauregard, 2016). From this research, some common factors have been identified, leading to the creation of theoretical models that aim to describe relevant aetiological factors. By establishing commonalities among sexual murderers, these models serve as theoretical starting points for investigative, criminal justice and clinical practices. These models are constructed by combining descriptive data with comparative research differentiating this group from other sex offenders and other homicide offenders, resulting in a conception of this specific type of offender (H. C. O. Chan & Heide, 2016). One of the first proposed models to explain sexual homicide offending was the FBI's motivational model. Briefly, it contains five phases leading to and perpetuating sexual homicide behaviours: ineffective social environment, formative events in childhood/adolescence, critical personality traits/cognitive mapping and processing as patterned responses to formative events, action toward others and self, and feedback filter (Burgess et al., 1986). These phases were derived from interviews with 36 incarcerated sexual murderers (mostly serial killers). While models like this have potential to inform, the study it was based on and much subsequent research have faced limitations.

In particular, many studies regarding sexual homicide have been limited by small sample size (O. Chan & Heide, 2008). For example, the model above was based on data from 36 cases, and typologies have been established based on samples of less than 50 (Beauregard & Proulx, 2002; Burgess et al., 1986). These low sample sizes partly reflect the low rate of the phenomenon, as well as

constraints accessing primary data on this group. Research relying on participant consent may also be subject to sampling bias, as those who participate may differ on important factors from those who do not (Beauregard & Martineau, 2013). Finally, most sexual homicide research is based on North American and European samples so may not be internationally representative (O. Chan & Heide, 2009). While the limited cross-cultural research that currently exists suggests many similarities between cases from different countries (Chopin & Beauregard, 2019; Morton et al., 2010; Sea et al., 2019; Skott et al., 2019), important differences have also been discovered. For example, James et al. (2018) found that Canadian offenders tend to be impulsive and extremely violent, while French offenders experience deviant and compulsive sexual fantasies, concluding that sociocultural factors may favour different types of homicide, with implications for apprehension, treatment and management. There is a dearth of research from the Eastern hemisphere. As a result of these limitations, much existing research and resultant models may not apply to all sexual murderers as a whole or in specific jurisdictions.

The following is an overview of existing research, including offender and victim characteristics, victim targeting and access, and modus operandi providing background and points of comparison for our study.

Offender and victim characteristics

A review of sexual homicide research by Meloy (2000) found that offences were by males under 30. However, Carter and Hollin (2010) found a mean age across 13 studies of 22 to 38. Beauregard and Martineau (2013) similarly found an average age of 28 amongst 350 Canadian offenders, indicating that many were over 30. Victims tend to be within the offender's age group, although some offenders target child or elderly victims (Beauregard et al., 2008; Chopin & Beauregard, 2020b). Beauregard and Martineau (2013) found that almost 30% of victims were under 18, while

Roberts and Grossman (1993) reported 49% under 20. Elderly victims are also targeted particularly by extra-familial offenders (Chopin & Beauregard, 2018), with 7% of extra-familial victims in Canada and France over 65 (Chopin & Beauregard, 2020a, 2020b). Most victims are female, although some offenders target male victims (Beauregard & Proulx, 2007; Meloy, 2000).

Most offenders are white and offend intraracially, so their victims are also usually white (O. Chan et al., 2010; Milsom et al., 2003; Proulx et al., 2007). Interestingly, Beauregard and Martineau (2013) found that 25% of offenders were aboriginal, a result not reflected in other Canadian samples. Because this study was larger scale than those prior, perhaps aboriginal offenders are overrepresented in areas with large indigenous populations. In regard to educational achievement, Briken et al. (2005) found that few offenders had begun high school, with even fewer successfully graduating. Although offender education level has not often been examined, other studies indicate underachievement (Langevin et al., 1988; Nicole & Proulx, 2007).

Most offenders are single when they offend (Beech et al., 2005; Briken et al., 2005; Langevin et al., 1988). Beauregard and Martineau (2013) found that almost three quarters were either single (57%) or divorced (15%), and Nicole and Proulx (2007) similarly found that three quarters were single. This may in part provide an explanation of why offenders target prostitutes (Brewer et al., 2006). Involvement in prostitution considerably increases the risk of being the victim of violent crime and is a significant vulnerability factor for sexual homicide specifically, with one in five victims working as a prostitute in one sample (Beauregard & Martineau, 2013).

Drug and alcohol use are common among both offenders and victims, although there is not enough research on this. Langevin et al. (1988) reported that almost two thirds of offenders abused alcohol and one half drugs.

Both Grubin (1994) and Nicole and Proulx (2007) supported these results, finding that alcohol and drug dependence were common. Victims also abuse alcohol or drugs at higher rates than the general population, with one third in one study having a history of alcohol abuse and a quarter having a drug abuse history (Beauregard & Martineau, 2013). Despite this prevalence of substance use and abuse, most have stable housing, with one study reporting 8% of offenders, and 11% of victims being homeless (Beauregard & Martineau, 2013).

Most offenders have a criminal history or an established criminal career (Langevin et al., 1988; Milsom et al., 2003; Nicole & Proulx, 2007). Violent offences in general are common, with Grubin (1994) and Oliver et al. (2007) finding prior violent convictions in about half of offenders. Many sexual murderers have prior sexual offending. Briken et al. (2006) reported just over half with a previous sexual assault conviction, while Grubin (1994) and Oliver et al. (2007) found that one third had prior rape convictions.

Emotional and developmental histories of offenders have been posited to play an important role in the aetiology of this behaviour. Marshall and Barbaree (1990) assert that unstable home environment and family relations in childhood and adolescence is the primary contributor to the development of sexually abusive violent behaviour. Factors that have been identified as contributing to a poor home life and thus unhealthy development include physical, psychological and sexual abuse, as well as neglect and emotional deprivation (Burgess et al., 1986). These adverse childhood experiences, and the resulting antisocial behaviour in childhood and adolescence, may lead to sexual homicide via a mechanism proposed by Meloy (2000): displaced aggression against the child's parents or abusers becomes sexualised during puberty, and if intermittently reinforced escalates into sexually violent behaviour in adulthood. This hypothesis is supported by research, with

Meloy et al. (1994) finding that 89% of their sample had experienced attachment issues in childhood. Summarising results from various studies, a large majority of offenders experience physical abuse prior to 18, and a smaller subset suffers sexual abuse (Beauregard & DeLisi, 2018a; Briken et al., 2006; DeLisi & Beauregard, 2018; Milsom et al., 2003; Nicole & Proulx, 2007; Oliver et al., 2007).

In terms of mental health, Carter and Hollin (2010) found that previous psychiatric contact is common in many offenders. Reported proportions of offenders with psychiatric histories range from one third to over one half, although resulting diagnoses are not specified (Beech et al., 2005; Grubin, 1994; Langevin et al., 1988; Oliver et al., 2007). Meloy (2000) found that 68% of their sample had a history of depression, and suggested that most perpetrators were not psychotic at the time of the offence (Meloy et al., 1994; Ressler et al., 1988; Warren et al., 1996). More recently, Darjee and Baron (2018) found that about 20% of offenders had a diagnosable major mental illness, more than half schizophrenia. In regard to personality, many exhibit high levels of narcissism and psychopathy, with proportions of up to 90% being found to meet diagnostic criteria for personality disorder (Beauregard & DeLisi, 2018b; H. C. Chan et al., 2015; Darjee & Baron, 2018; Hill et al., 2007; Lam et al., 2020; Meloy, 2000). Further research is required to clarify the relationship between mental disorders and sexual homicide offending, as existing studies indicate that this is a relevant factor in a significant number of offenders.

Victim targeting and access

Overall, there is less research focus on how offenders access their victims than on other aspects of sexual homicide, such as offender characteristics and modus operandi (an offender's established method of committing a crime; Carter & Hollin, 2010). The existing research indicates that the killing most often

takes place at the victim's residence while the victim is engaged in domestic activities or sleeping, and access is often gained by breaking and entering (Beauregard & Martineau, 2013; Grubin, 1994; Langevin et al., 1988; Roberts & Grossman, 1993). Initial contact with the victim and body recovery often occur outside in public and/or uninhabited spaces (Beauregard & Martineau, 2013). More commonly reported is the nature of the relationship between victim and offender. In most cases, victims are either strangers (most common) or casual acquaintances (Beech et al., 2005; Langevin et al., 1988; Meloy, 2000; Nicole & Proulx, 2007; Porter et al., 2003). Specifically, Beauregard et al. (2008) found that 56% of offenders had prior contact with victims. In contrast, victims who are male, children or elderly are likely to be strangers (O. Chan & Heide, 2009; Safarik et al., 2002). Overall, further research is required on victim targeting and access to further elucidate how offenders choose victims for this type of crime.

Modus operandi and motivation

Strangulation is the most frequent method of killing, and sexual killers strangle victims significantly more than do non-sexual killers (Beauregard & Martineau, 2013; Carter & Hollin, 2010; Langevin et al., 1988). Stabbing and beating are the next most common causes of death, with firearm-related violence rarely reported (Grubin, 1994; Roberts & Grossman, 1993). This pattern of violence suggests that offenders prefer intimate methods of killing requiring close contact. Overkill, or a frenzied attack, is very commonly evident (Beauregard & Martineau, 2013; O. Chan & Heide, 2009; Radojevic et al., 2013; Stefanska et al., 2015). Although not frequently reported, Beauregard and Martineau (2013) also studied the types of sexual violence inflicted. The most common sexual act was vaginal penetration, although this occurred in less than half (46.3%). There was also anal penetration (16.3%), fellatio (8.6%) and penetration with an inanimate

object (8.0%). However, more unusual acts like ejaculating on the victim, vaginal/anal fisting, and urinating or defecating on the victim occurred in less than 1% of cases. The frequency of other unusual acts, such as mutilation, dismemberment and biting, had slightly higher rates, although each still only occurring in less than 10% of cases (Beauregard & Martineau, 2013; Beauregard & Proulx, 2002). Finally, post-mortem sexual acts are relatively prevalent features occurring in as high as one third (Ressler, Burgess, Douglas, et al., 1986), with other reports nearer to 10% (Beauregard & Martineau, 2013; Stein et al., 2010). Stein et al. (2010) posited that this was due to the desire for an unresisting partner, although this may not be the case for all offenders. Other motives include a sexual attraction to corpses (true necrophilia), overcoming feelings of isolation, and desire to reunite with a romantic partner (Aggrawal, 2009; Rosman & Resnick, 1989).

Three motivations for committing sexual murder have been derived through research: deviant urges to sexually assault (sexual/sadistic), grievance toward women/toward victim (angry) and killing to avoid detection (incidental; Beauregard et al., 2008; Beech et al., 2005; Higgs et al., 2017). These were identified in a review by Higgs et al. (2017), resulting in an empirically supported typology: sexualised murders (where the killing is motivated by deviant sexual desires), grievance murders (where the offence overall is motivated by excessive aggression) and rape murders (where the killing is indirectly associated to the sexual element; Higgs et al., 2017). In general, proportions of each type are about one third of cases, although sexually sadistic and angry offender numbers may exceed those that kill incidentally (Darjee, 2019; Higgs et al., 2017).

Sexual sadism has been of specific interest in understanding sexual homicide. Conceptualisations of sexual sadism emphasise the association of degradation/humiliation, physical pain and aggression/violence with sexual pleasure; taken to an extremes this can motivate homicide (Grubin, 1994). Although

recognised as a paraphilic disorder by both the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM–5; American Psychiatric Association, APA, 2013) and the International Classification of Diseases 11th revision (ICD–11; World Health Organization, WHO, 2018), there are wide networks of individuals who practice sexual sadism in legal, safe, consensual ways as part of their sexual lifestyle. As such, both the DSM–5 and ICD–11 diagnoses include that personal distress, a detriment to functioning, or harm to others without consent must be present to classify sexual sadism as a disorder (APA, 2013; WHO, 2018). Among sexual killers, rates of sexual sadism between one quarter to two thirds have been found (Grubin, 1994; Hill et al., 2007; Langevin et al., 1988; Proulx et al., 2007; Reale et al., 2017; Stefanska et al., 2019); these are higher rates than amongst sexual aggressors who do not kill (H. C. Chan & Beauregard, 2016; H. C. O. Chan & Heide, 2016; Grubin, 1994; Langevin et al., 1988; Oliver et al., 2007). This wide range of proportions of sadists found is likely due to the manner of classification of sadists versus non-sadists (Darjee, 2019). Issues with diagnostic conceptualisation and reliability have led to the development of a dimensional approach to sexual sadism based on objective crime scene information and behaviour: the Sexual Sadism Scale (SeSaS; Marshall & Hucker, 2006; Nitschke et al., 2013; Nitschke et al., 2009).

The extent to which an offender attempts to avoid detection, either by adapting their modus operandi or taking precautions, is a reflection of their investigative and forensic awareness (Beauregard & Martineau, 2013). Forensic awareness, an offender's knowledge or understanding of the importance of forensic evidence to police investigation (Davies, 1992), can be indicated by various behaviours identified in research: travelling longer distances from one's home or work to offend, moving the body, preventing leaving DNA and destroying evidence are examples (Beauregard & Bouchard, 2010; Beauregard & Field, 2008; Davies & Dale,

1995). The extent of forensic awareness among offenders and sexual homicide offenders specifically requires further research to elucidate. However, Beauregard and Martineau (2013) found that only one third moved the victim's body, while more than half used no precautions to avoid detection, indicating that forensic awareness may be the exception.

Current study

Only one study specific to sexual homicide exists to our knowledge based on an Australian sample (Kocsis, 1999). Kocsis (1999) used a sample of 85 sexual homicide cases to identify clusters of crime scene behaviours, resulting in four proposed 'patterns': predator, rape, fury and perversion. The first three patterns align with Higgs et al.'s (2017) typology of sexualised, rape and grievance murders, respectively. The fourth, perversion, reflected extreme 'aberrant' motivations overlapping with sexual sadism (Kocsis, 1999). Mouzos (2003) investigated homicide committed incidentally to other crimes, reporting that 23% of crime homicides are associated with a sexual assault. Studies on Australian serial homicide offenders indicate that sexual elements are common among these cases (Mouzos & West, 2017; Pinto & Wilson, 1990). Further research from outside Europe and North America using large, representative samples is necessary in order to gain a better understanding of the aetiology and offending patterns of sexual murderers. The current study seeks to overcome limitations of past research by describing an Australian and New Zealander sample using a publicly available legal database. Due to the nature of the data source, consent is not required in order to include an offender's case, and a large number of cases are available for analysis. The current investigation thus seeks to establish a detailed profile of sexual homicide offenders, victims and offences in Australia and New Zealand in order to improve investigative and clinical understanding of this rare type of offender.

Method

Case selection

Source

Sexual homicide cases were sourced using AustLII, a publicly available database provided by the Australasian Legal Information Institute (http://www.austlii.edu.au), and the associated NZLII, provided by the New Zealand Legal Information Institute (http://www.nzlii.org). AustLII and NZLII publish legal data including Supreme Court case law for Australia and New Zealand. As murder cases are always dealt with in Supreme Courts in Australia and New Zealand, these databases were the focus of the search. There are Supreme Court databases available for each Australian state as well as for New Zealand, with cases archived from 1964 to present. Files available include reports on pre-trial procedures, sentencing judgements and appeals. In an effort to have as robust a sample as possible, any case with enough information to be coded was included in the analysis, regardless of whether the files available referred to an initial trial or appeal. Cases were judged to have sufficient information to include in the analysis when there was enough crime scene evidence provided to clearly fit the inclusion criteria, with the addition of at least enough information to code approximately 10–15 variables. To identify cases potentially involving sexual murder, a variety of dual search terms were entered into each state's database, combining terms such as 'murder', 'homicide', 'manslaughter', 'sex', 'sexual', 'penis', 'semen', 'genital', 'vagina' and 'mutilation'. The results of these searches were then screened for inclusion criteria.

Inclusion criteria

There were two necessary components for a case to be included in the analysis: completed (not attempted) homicide, and a sexual element based on the FBI's sexual homicide criteria (Ressler et al. in 1988). These criteria qualify a homicide as sexual if it includes one of the

following: (a) victim's lack of attire, (b) exposure of the sexual parts of the body, (c) sexual positioning of the body, (d) insertion of foreign objects into the body cavities, (e) evidence of sexual intercourse, or (f) evidence of substitute sexual activity, interest or sadistic fantasy. In order for results to be representative of all sexual homicides, both multiple and single victim cases were included. A preliminary search identified 190 cases using the search terms, which was reduced to a final 118 cases after eliminating those not meeting FBI criteria. In the case of missing information in the primary legal sources, online news media reports were used where possible. Any data drawn from the media were verified by cross-checking two distinct secondary sources, an established methodology in homicide research (Canter et al., 2004; Porter & Alison, 2001, 2019; Quinet, 2011). Although every effort was made to avoid missing data, the nature of the primary data source (having varying levels of detail and pertaining to various legal proceedings) meant that few cases could be coded on every variable. In the event of missing data for a variable, the number of included cases is indicated in the results tables.

Variables

Beauregard and Martineau (2013) published a descriptive study of sexual homicide in Canada using data extracted from the Violent Crime Linkage Analysis System (ViCLAS). Access to the set of variables from their investigation was granted for use in the current study. These variables were used as the framework to collect data regarding offender and victim characteristics, victim targeting and access, and the offender's modus operandi. Beauregard and Martineau utilised police databases as their data source, but due to the offender-focused nature of our legal sources, variables reflecting further offender details were also added. Offender-specific variables pertain to criminal, emotional and developmental histories, as well as sentencing.

Sexual sadism rating

Each offender was rated on the Sexual Sadism Scale (SeSaS; Nitschke et al., 2009). The SeSaS is a two-part measure comprising 14 dichotomous (yes/no) indicators of severe sexual sadism, evaluated using specific criteria from a coding manual. Part I, including the first 11 items, involves an analysis of crime scene actions and is used to dimensionally rate sexual sadism. Nitschke et al. (2009) found that a score of 4 points on Part I reliably differentiated between clinically diagnosed sexual sadists and non-sadists, a result that has been replicated in subsequent samples (Mokros, Osterheider, Hucker, & Nitschke, 2011; Pflugradt & Allen, 2013). The suggested cutoff of 4 on SeSaS Part I was used to identify cases as sadistic (scoring ≥ 4) or non-sadistic (scoring < 4).

Coding procedure

For each included case a file was compiled including data from AustLII/NZLII documents (multiple legal proceedings were documented for many cases) and media reports. Each case was then coded for the presence/absence (for categorical variables) or value (for continuous variables) of each of the variables. The unit of analysis was the offender, such that each data row corresponded to a single offender, regardless of whether co-offenders were involved or whether an offender had multiple victims.

Special cases

In cases involving multiple (co-)offenders, each offender was coded separately. Details regarding individual participation in an offence were provided in the court documents, so the offence-related characteristics were coded separately based on the court's account. In cases involving multiple victims (serial or spree sexual murder cases), the offender and offence data were coded based on an amalgamation of all of their victims, so variables were coded as being present if they were present in any of the separate offences. However, the victim-

specific variables of serial/spree offenders were also coded individually per victim, such that these offenders had multiple victim characteristic datasets aligning to their number of victims. This dual coding strategy allowed all offenders to be included in the overall analysis, while maintaining accurate data reporting about the number and individual characteristics of victims.

Reliability coding

For 32 of the cases, Ressler criteria were rated independently by the project supervisor. The intra-class correlation coefficient (two-way mixed model, single measures, consistency) for number of Ressler criteria was .58, indicating moderate inter-rater reliability. For 32 cases, the motivational typology (sadistic vs. angry vs. incidental) was also rated independently by the project supervisor, with agreed allocation for 24 of the 32 cases, giving a kappa of .61, indicating substantial inter-rater reliability.

Statistical approach

For the sample description, frequencies of each categorical variable were calculated in order to determine the proportions of different characteristics and behaviours for both offenders and victims. For variables measured on a continuous scale (e.g. victim and offender age), mean values were calculated.

Results

Offender characteristics

Table 1 presents the characteristics of the 118 offenders. Ten (8.5%) had multiple victims, with a maximum of three victims. The average offender age was 30 years ($SD=$ 9.67, range= 15–55). Most (111; 94.1%) were male, and 7 (5.9%) female. The majority were white (82.2%), with a small proportion aboriginal (6.8%) and of other ethnicity (11%). Although most were employed (64.3%, including 5.7% employed in the sex trade), only about one third had any school qualifications. A total of

40.6% were married at the time of the offence, with the remaining single (47.8%) or separated/divorced (11.6%). Regarding lifestyle, approximately half abused substances, with 47.3% abusing alcohol and 50.5% abusing drugs; however, only 3.3% of the offenders were homeless. More than one third engaged in frequent criminal activities (34.7%). Accordingly, 57.5% of the offenders had prior convictions, and specifically 41.3% had violent convictions. Half of these (21% of sample) were sexual in nature. Of 51 cases where childhood history was available, physical abuse in childhood occurred in 23.5%, sexual abuse in 19.6%, neglect in 9.8% and domestic violence in 3.9%. Finally, mental illness diagnoses were made or indicated for offenders in some cases: 8 offenders had intellectual disability, 2 personality disorder, 12 major mental illness, 6 psychotic disorder and one traumatic brain injury. One offender in the sample was physically impaired.

Victim characteristics and activities at time of offence

Table 2 presents victim characteristics and activities at the time of the offence for the 130 victims. Victims were on average 34 years old ($SD=$ 23.13, range= 1–81), with 70% female and 30% male. Ethically, 81.9% were white, 7.4% aboriginal and 10.6% other. Most victims were employed (51.4%) or not of working age (below 16 or above 65 years old; 36.5%), with only a small proportion unemployed (1.4%). Approximately one in 10 were sex trade workers (10.5%). 15.9% had a history of alcohol abuse, and 13.6% of abusing drugs. Only 1.9% were homeless. Most were not physically or mentally impaired (1.6% and 2.3%, respectively).

The most common activities that victims were engaged in were domestic activities (15.6%), visiting with friends/relatives (14.7%) and on a date with the offender (13.8%). Also common were sleeping, working and working as a prostitute, each constituting 12.8%. Playing, shopping, travelling,

Table 1.   Offender characteristics.

Variable	N	M	SD	%	Frequency
Number of offenders	118				
Age of offender (years)	81	30.00	9.672		
Sex of offender	118				
Male				94.1	111
Female				5.9	7
Race of offender	118				
White				82.2	97
Non-white				11	13
Indigenous				6.8	8
Occupation of offender	70				
Employed				58.6	41
Unemployed				35.7	25
Sex trade worker				5.7	4
Offender education level	56				
None				64.3	36
School qualifications				17.9	10
College qualifications				8.9	5
Undergraduate qualifications				7.1	4
Postgraduate qualifications				1.8	1
Offender marital status	69				
Single				47.8	33
Married/common-law				40.6	28
Separated/divorced				11.6	8
Routine activities					
Abuses alcohol	91			47.3	43
Abuses drugs	91			50.5	46
Has no fixed address	90			3.3	3
Frequently engages in criminal activities	95			34.7	33
Prior convictions	80				
Any				57.5	46
Violent (including sexual)				41.3	33
Sexual				21.3	17
Offender health conditions	118				
Physical impairment				0.8	1
Mental illness diagnosis					
Intellectual disorder				6.8	8
Personality disorder				1.7	2
Depression/anxiety				10.7	12
Psychotic disorder				5.1	6
Traumatic brain injury				0.8	1
Aversive childhood experiences	51				
Sexual abuse				19.6	10
Physical abuse				23.5	12
Neglect				9.8	5
Domestic violence				3.9	2
Antisocial behaviour before age 18	42			50	21

Table 2.   Victim characteristics and activities at time of offence.

Variable	N	*M*	*SD*	%	Frequency
Number of victims	130				
Age of victim (years)	83	34.11	23.127		
Sex of victim	130				
Male				30	39
Female				70	91
Race of victim	94				
White				81.9	77
Non-white				10.6	10
Indigenous				7.4	7
Occupation of victim	74				
Not of working age				36.5	27
Employed				51.4	38
Unemployed				1.4	1
Routine activities					
Abuses alcohol	80			15.9	13
Abuses drugs	80			12	13.6
Has no fixed address	99			2	1.9
Engages in prostitution	103			10.5	12
Victim health conditions	112				
Physical impairment				1.6	2
Mental impairment				2.3	3
Victim activity at time of offence	109				
Domestic activities				15.6	17
Sleeping				12.8	14
Babysitting				0	0
Playing				0.9	1
Dining				0	0
Shopping				0.9	1
Traveling to or from somewhere				7.3	8
Parking or being in a parking lot				4.6	5
Sports/recreational activity				0	0
Hitchhiking				2.8	3
Socialising in a bar				2.8	3
Visiting with friends/relatives				14.7	16
On a date				13.8	15
Partying				11.9	13
Working				12.8	14
Working as a prostitute				12.8	14
Relationship to offender	109				
Victim and offender were strangers				37.6	41
Victim and offender were acquaintances				30.3	33
Victim and offender were family members				10.1	11
Victim and offender were in an intimate relationship				22	24

Table 3. Characteristics of crime scenes.

Variable	N	*M*	*SD*	%	Frequency
Contact scene	98				
Victim's residence				56.1	55
Business location				7.1	7
Transportation-related location				10.2	10
Entertainment location				6.1	6
Public building				8.2	8
Outdoors				23.5	23
Parking location				7.1	7
Water location				4.1	4
Offence scene	97				
Victim's residence				57.7	56
Business location				1	1
Transportation-related location				5	5.2
Entertainment location				0	0
Public building				2.1	2
Outdoors				26.8	26
Parking location				4.1	4
Water location				7.2	7
Body recovery scene	103				
Victim's residence				50.5	52
Business location				1	1
Transportation-related location				3.9	4
Entertainment location				0	0
Public building				1	1
Outdoors				43.7	45
Parking location				1	1
Water location				11.7	12
Number of separate scenes	93	1.46	0.652		
1				62.4	58
2				29	27
3				8.6	8

parking, hitchhiking, bar socialising and partying were less common, and babysitting, dining and sports were not found in our sample. Most were strangers or acquaintances (37.6% and 30.3%, respectively), with approximately one fifth (22%) in an intimate relationship with the offender and 10.1% family members.

Characteristics of contact, offence and body recovery scenes

Table 3 presents data regarding the various crime scenes potentially involved. The most common location was the victim's residence, with the victim's residence making up 56.1% of contact scenes, 57.7% of offence scenes and 50.5% of body recovery scenes. Other common contact scenes were outdoors (23.5%), transportation-related locations (10.2%), public buildings (8.2%), business locations (7.1%) and parking locations (7.1%). Similarly, after victim's residence, outdoors was the second most common location for the offence scene (26.8%). Water locations (7.2%) and transportation-related locations (5.0%) were less common, but still notable offence

scenes. Finally, outdoors became more common for body recovery scenes (43.7%), as did water locations (11.7%), while a smaller proportion of recovery scenes were transportation-related locations (3.9%). Of the 93 cases for which information was available for all three scenes, 62.4% of cases took place all in one location, 29.0% had two distinct scenes, and 8.6% took place at three (or more) locations.

Modus operandi and motivation characteristics

Table 4 presents data regarding the offender's modus operandi, or method of committing sexual homicide, as well as motivation. Over half of the offenders in the sample targeted (chose victim in advance and planned to commit offence against this specific victim) their victim (55.8%), and 14.4% committed the sexual homicide with a co-offender. A minority of offenders conned their victims to gain access (e.g. by feigning emergency, making an appointment; 21.9%), while more commonly offenders approached victims via surprise (e.g. attacking during sleep; 34.3%) or blitz (e.g. immediate frenzied attack; 45.0%). In terms of types of violence, offenders most commonly beat (50.9%), stabbed (37.5%), strangled (28.6%) and cut (30.4%) their victims in order to kill them. Crushing (24.1%), asphyxiation (15.2%), stomping (13.4%) and burning (8.9%) were also observed in the sample relatively frequently. Both drowning (2.7%) and shooting (1.8%) were uncommon. Weapons were used to inflict violence in 68 (63.0%) cases. Of these, 52.9% used a knife, 17.6% a bludgeoning tool and 14.7% a ligature, with the remainder using an axe, firearm or other weapons. More than one third of those offenders who used weapons used more than one (35.3%), and the majority of these used different types of weapons rather than multiple of one type (32.4%). Vehicles were involved in the offence, usually to transport the victim between scenes or during initial contact, in 34.8% of cases.

The use of restraints and blindfolds was uncommon (12.3% and 5.3%, respectively). Evidence of overkill, when more violence than necessary was used to kill, was found in 66.4% of cases and post-mortem sex acts in 24.4% of cases. Mutilation, more specifically genital mutilation (21%) and dismemberment (12.6%), were less common. A total of 16% of offenders took items from their victims away, and only a few (8.4%) inserted foreign objects into their victim. There was no evidence of cannibalism.

Of the three motivations posited for committing sexual homicide, anger was the most common (41.5%). Incidental motivation (killing to cover/facilitate a sexual assault) made up slightly more than one third of the sample (37.7%), and sadistic motivation comprised the smallest portion of the sample (20.8%).

The frequency of scores on individual SeSaS items are shown in Table 5. The mean SeSaS Part I score for the sample was 3.08 ($SD = 1.91$), and 37 offenders (31.4%) scored 4 or more, meeting the suggested cut-off for sexual sadism.

Sexual acts committed during crime scene actions

Table 6 presents data regarding sexual acts committed. Vaginal and anal intercourse were most common, in 54.6% and 25.2% of cases, respectively. There was evidence of fellatio (5.9%), cunnilingus (0.8%) and digital penetration (4.2%) in relatively few cases. The more violent act of fisting was also uncommon, with vaginal fisting in 4.2% of cases and anal fisting in 2.5% of cases.

Forensic awareness and trial outcome characteristics

Table 7 presents forensic awareness and trial outcome characteristics. Various precautions were used by offenders. Three precautions observed repeatedly were moving the body from the scene of the crime (34.6%), attempting to conceal the body (21.2%) and setting a

Table 4. Modus operandi and motivation characteristics.

Variable	N	%	Frequency
Offender specifically targeted this victim	104	55.8	58
Offence committed with a co-offender	118	14.4	17
Type of approach	105		
Con		21.9	23
Surprise		34.3	36
Blitz		45	42.9
Type of violence	112		
Beating		50.9	57
Stabbing		37.5	42
Cutting		30.4	34
Stomping		13.4	15
Crushing		24.1	27
Burning		8.9	10
Strangulation		28.6	32
Asphyxiation		15.2	17
Drowning		2.7	3
Gunshot		1.8	2
Any use of restraints	114	12.3	14
Any use of blindfolds/gags	114	5.3	6
Weapons	108		
Any use of weapon		63	68
Type of weapon used			
Knife		52.9	36
Firearm		2.9	2
Axe/hatchet		4.4	3
Bludgeoning tool		17.6	12
Ligature		14.7	10
Other		7.4	5
Multiple weapons used		35.3	24
Different types of weapon used		32.4	22
Unusual acts	118		
Genital mutilation		21	25
Overkill		66.4	79
Cannibalism		0	0
Dismemberment of body		12.6	15
Post-mortem sex acts		24.4	29
Foreign objects inserted into the victim		8.4	10
Offender took items from victim/offence		16	19
Vehicle involved in offence	104	34.8	40
Offender motivation	106		
Sadistic		20.8	22
Angry		41.5	44
Incidental		37.7	40

fire to destroy the evidence (8.7%). After the offence a few offenders acted in ways that alerted police to their involvement: 6.3% gave themselves up, 3.6% interjected themselves into investigations, and 1.8% committed or attempted suicide.

Table 5.   SeSaS: Part I results.

Variable	%	Frequency	M	SD
Item 1: Sexual arousal during crime scene actions	53.9	55		
Item 2: Exertion of power, control, domination	54.1	60		
Item 3: Torturing the victim(s)	19.3	21		
Item 4: Degrading, humiliating behaviour toward the victim(s)	20.9	23		
Item 5: Mutilation of sexual parts of the victim's body	23.6	26		
Item 6: Mutilation of other parts of the victim's body	15.3	17		
Item 7: Expressive physical violence	91.2	104		
Item 8: Insertion of objects into victim's bodily orifices	10.9	12		
Item 9: Ritualistic behaviour	9.9	11		
Item 10: Confinement of the victim	10	11		
Item 11: Taking trophies	6.3	7		
Total			3.08	1.906

Note: $N = 118$. SeSaS = Sexual Sadism Scale.

Table 6.   Sexual acts committed during crime scene actions.

Variable	%	Frequency
Vaginal intercourse	54.6	65
Anal intercourse	25.2	30
Fellatio	5.9	7
Cunnilingus	0.8	1
Digital penetration	4.2	5
Anal fisting	2.5	3
Vaginal fisting	4.2	5
Victim disrobed	69.7	83
Victim redressed	9.2	11

Note: $N = 118$.

The trial outcome was guilty for the large majority of offenders (97.9%), with the remaining 2.1% receiving a mental health disposal after being acquitted due to their mental state at the time of the offence. The offenders' sentence length was available for 84 of the found-guilty cases, of which 18 offenders received life sentences. The average sentence in the other 66 cases was 15 years ($SD = 11.42$, range = 4–46).

Discussion

The majority of research to date on sexual homicide relies on small samples and so may be poorly representative of the phenomenon as a whole. Despite these shortcomings, the results of even the earliest research have been used to inform police investigative practice and in profiling offenders (Burgess et al., 1986; Ressler et al., 1988). The rarity of this type of offence results in a lack of experience of many police forces dealing with sexual homicide, so having representative and location-specific research on this topic is important. Additionally, this information is relevant to the criminal justice system and for the clinical treatment of offenders. The current study aimed to expand the current research base on

Table 7. Forensic awareness and trial outcome characteristics.

Variable	N	%	Frequency
Precaution used by offender	104		
Fire set to destroy evidence		8.7	9
Body moved from scene of crime		34.6	36
Offender attempted to conceal victim's body		21.2	22
Post-offence behaviour	111		
Offender committed/attempted suicide		1.8	2
Offender gave self up to police		6.3	7
Offender interjected self into investigation		3.6	4
Trial outcomes	95		
Not guilty due to mental illness		2.1	2
Guilty		97.9	93
Sentence length	84	14.99 (*M*)[a]	11.422 (*SD*)

[a]Mean of non-life sentences, excluding 18 life sentence convictions.

sexual homicide by describing 118 sexual homicides in Australia and New Zealand.

Offender and victim characteristics

The average age of offenders was 30 years old, slightly older than average ages previously reported (Beauregard & Martineau, 2013; Carter & Hollin, 2010). The average victim age was slightly higher still, at 34 years. These ages indicate that the majority of offenders likely chose victims within their age group, as found in previous research (Beauregard & Martineau, 2013); however, this sample may have been more likely to offend against older victims because of the four-year discrepancy between average offender and victim age. Although most offenders were male and victims female, a relatively large proportion (30%) of victims were male. These rates, far higher than in previous research, may be due to inclusion of female offender and child victim cases, or may indicate a higher proportion of homosexual or bisexual offenders.

As is typical for most violent crimes, most offenders killed intra-racially, reflected by the very similar rates of white (∼82%), aboriginal (∼7%) and other (∼11%) offenders and victims. Interestingly, despite the similarly large and vulnerable indigenous populations in both Australia/New Zealand and Canada, there

were far lower rates of aboriginal victims in our sample than in that of Beauregard and Martineau (2013). These rates may reflect poorer integration of indigenous peoples into the wider population in Oceania than in Canada; although marginalised and vulnerable, indigenous people are thus less likely to be victimised by white offenders.

The education level that offenders in our sample achieved was low, with almost 65% not having completed high school. This aligns with results of prior research (Briken et al., 2005); however, not typically reported in research is the employment status of the offender at the time of the offence. A majority of offenders were legally employed (58%), despite low levels of educational attainment. This indicates that Australian and New Zealander offenders are likely to be employed in menial or unskilled positions, such as labour and construction.

Approximately half of the offender sample abused alcohol and drugs. While this proportion of drug abuse is consistent with that in previous studies, this is a lower alcohol abuse proportion than would be expected (Langevin et al., 1988). Still, these results highlight the commonality of drug and alcohol abuse among sexual murderers. Similarly, rates of victim drug and alcohol abuse were lower than

previously found, at around 15% for each (Beauregard & Martineau, 2013). This may indicate that in line with the lower than expected proportions of aboriginal victims, the sexual homicide offenders in our sample may have been less likely to target vulnerable individuals than in other samples. Following this trend, very few of the victims (or offenders) in the current sample were living without a fixed address (homeless) at the time of the offence.

Previous research indicates that most offenders are not in a relationship at the time of their offence, with proportions as high as three quarters of offenders single (Beauregard & Martineau, 2013; Nicole & Proulx, 2007). Contrarily, over 40% of offenders in our sample were married or in a common-law relationship, with a further 11% either separated or divorced. Combined with the average age of 30 in our sample, these results challenge the idea that sexual homicides are typically committed by young, single men (Ressler, Burgess, Douglas, et al., 1986). This could have implications in police work; if a search is narrowed to young, single men immediately without considering that older, married men also present a risk of sexual homicide, the true perpetrator may be overlooked. This may also explain why fewer victims in our sample (10%) worked as prostitutes than would be expected from previous research (Beauregard & Martineau, 2013; Brewer et al., 2006). Single men may be more likely to visit prostitutes, and as such, target them for violent offences.

More than half of offenders in our sample had prior criminal convictions. However, only 20% of these were sexual in nature, a lower proportion than the one third to one half of offenders having past sexual offences in Briken et al. (2006), Grubin (1994) and Oliver et al. (2007) studies. Importantly, these findings replicate those of Beauregard and Martineau (2013) and affect the strategy of prioritising known sex offenders as suspects during police investigations. In a majority of sexual homicide cases, the perpetrators are

likely to be included in existing criminal record databases, but not necessarily for sex crimes.

Among those offenders who had childhood information included in their court documents, there were lower than expected rates of both physical and sexual abuse. Prior research shows that a large majority of sexual homicide offenders experienced aversive events in childhood, most commonly physical abuse, with sexual abuse also found in a large proportion (Burgess et al., 1986; Marshall & Barbaree, 1990; Meloy et al., 1994; Nicole & Proulx, 2007). This discrepancy may be due to the nature of the data source – judges may have been more likely to report that an offender had a good, non-abusive childhood, either because this information was more easily accessible due to the involvement of family members of the offender in the judicial process when the family is close and prosocial, or because judges did not consider aversive childhood experiences as a reason for legal mitigation when the offender was an adult, so this information was not reported when aversive experiences were present. Alternatively, in many cases there may have been no official documentation of child abuse against the offender, and the offender chose not to report this or did not have the opportunity to provide this information to the judge. As such, it is likely that the true proportion of physical and sexual abuse that offenders experienced was higher than reported.

Relatively few offenders had reported mental health diagnoses, the majority of which were established as part of the legal process. It was not common for offenders to have had contact with community mental health services (contrary to the findings of Carter & Hollin, 2010), therefore very few had established diagnoses prior to their offence. The most common diagnoses among the sample were depression and intellectual disability, neither of which were considered by judges to fully mitigate responsibility for the offence. Six offenders (5%) were diagnosed with a psychotic

disorder, but even among these offenders, only two were found not guilty due to mental illness. Despite theoretical models positing that most sexual murderers are likely to meet criteria for personality disorders and evidence of this in research (Beauregard & DeLisi, 2018b), this was not a common diagnosis reported for our offender sample. This may again be due to the nature of our data source – because personality disorders were not considered as legal mitigation for violent offences until recently, they may have been underreported in judges' decision documents, or were not a focus of the mental health professionals who assessed offenders for legal processes. In addition, very few (1–3%) of the victims in our sample had recorded physical or mental impairments. This fits with the results discussed above that our offender sample seemed unlikely to target traditionally vulnerable populations as their victims.

Victim targeting and access

In agreement with previous research, the offence scene was most commonly the victim's residence (Beauregard & Martineau, 2013; Grubin, 1994; Langevin et al., 1988; Roberts & Grossman, 1993), with the majority of victims engaged in domestic activities or visiting a friend or a date at the time of the offence. The commonality of the victim 'visiting' at the time of the murder indicates that contrary to past research that indicated that these residences were accessed mainly through breaking and entering, the victim likely allowed the offender into their home a fairly large proportion of the time. This is consistent with our data regarding offender–victim relationship, as the majority of offenders had some relation to the victim prior to the offence, whether it be familial, intimate or casual acquaintances, with less than 40% being stranger victims. The victims would have been far more likely to allow a known individual into their home willingly, while strangers would be more likely to resort to breaking and entering. Considered separately, the most common

relationships were strangers and casual acquaintances, matching the results of previous research (Beauregard & Martineau, 2013; Beech et al., 2005; Nicole & Proulx, 2007; Porter et al., 2003). These findings affect the perception that individuals are safest in their own home, and are more likely to face a sexually violent crime at the hands of strangers: victim residences should be considered as potential crime scenes during investigations, and casual acquaintances, intimate partners and family members of the victim should be included in sexual homicide perpetrator searches.

The victim's residence was the most common locus for contact scenes, offence scenes and body recovery scenes. The second most common location type in each of these categories is outdoor locations, with the outdoor location proportion almost doubling from contact/offence scenes (~25%) to body recovery scenes (~50%). This trend is similar to that found in Beauregard and Martineau's (2013) study, and likely reflects the tendency of homicide offenders to 'dump' the body in a separate location post offence. Contrary to Beauregard and Martineau, who found that a majority of their offenders dumped the body at a separate scene, only 37% of the current offenders utilised more than one location in the commission of the offence.

Modus operandi and motivation

The most common types of physical (non-sexual) violence used by offenders in the commission of sexual homicide were found to be beating, strangulation/asphyxiation and stabbing. Although beating was found to be present in over half of the cases, it is possible that it was used to incapacitate or induce further pain to the victim prior to strangulation, asphyxiation and stabbing being used as the cause of death. These three types of violence are consistent with those most frequently observed in other studies (Beauregard & Martineau, 2013; Carter & Hollin, 2010), with strangulation most commonly being the cause of death. Weapons were used in just

over 60% of cases, indicating that a significant minority of offenders use only their bare hands to inflict violence on their victims despite weapon use being a more efficient method for causing death. This likely reflects that sexual homicide offenders prefer close and personal methods of killing, further evidenced by extremely low rates of firearm use (3%), particularly low in comparison to those in non-sexual murders (Beauregard & Martineau, 2013). Vehicles were also used in a relatively low proportion (one third) of offences. This may reflect the tendency of offenders in our sample to use the same location for contact/ offence/body recovery scenes, as there is no need to use vehicles to transport the victim in these cases. However, with one third of cases having vehicular involvement, it would obviously be worthwhile for criminal investigators to search the vehicles of potential suspects in addition to other identified scenes.

The rates of unusual acts of violence against the victim were generally similar to those found in other studies. Firstly, overkill was found in almost two thirds of cases, aligning with high rates previously observed (Radojevic et al., 2013; Stefanska et al., 2015). At almost 25%, post-mortem sexual behaviours were at the high end of the approximate 10–30% range found previously (Ressler, Burgess, Douglas, et al., 1986; Stein et al., 2010). Offenders may engage in post-mortem sex due to desire for an unresisting partner, or alternately stemming from a need to exert control over the victim even after death (Chopin & Beauregard, 2020c). Mutilation of the victim and dismemberment of their body were found at rates of 21% and 12%, higher proportions than the ~10% published in the past (Beauregard & Martineau, 2013; Beauregard & Proulx, 2002). These behaviours could reflect the sadistic nature of these offenders to inflict extreme pain or an attempt to dispose of the body in multiple locations (Chopin & Beauregard, 2020d).

Regarding offender motivations, anger appeared to be most common, followed by killing incidental to sexual assault, with sadism the least common. In most prior research, proportions of each motivation group were equivalent at approximately one third, with angry and sadistic offenders typically slightly exceeding incidental (Darjee, 2019). This discrepancy may reflect characteristics of this sample specifically, or as indicated in the moderate inter-rater reliability for this measure, inexperience of the original rater in determining true underlying motivation from court documents. The proportion of offenders meeting the SeSaS cut-off score of 4 and thus qualifying as sexually sadistic, however, matches those of previous studies that use this measure (Darjee, 2019; Stefanska et al., 2019), with just over one third of the offender sample being classified as sexual sadists (37 offenders).

The proportions of different sexual acts found approximately replicate the results of both Beauregard and Martineau (2013) and Darjee (2019). Vaginal penetration was the most common sex act committed against a victim at a rate of over 50%, followed by anal penetration at 25% (falling midway between Beauregard & Martineau's, 2013, 16% and Darjee's, 2019, 31%), and fellatio and inanimate object insertion at less than 10%. While vaginal penetration being present in only half of our cases may be due to some victims being children and/or male and some perpetrators being female, a rate of ~55% vaginal penetration indicates that sexual contact that occurs is varied.

Beauregard and Martineau (2013) asserted that forensic awareness among sexual homicide offenders may be relatively infrequent based on their analysis. Replicating their results, in the current sample only about one third of offenders moved the body away from the offence scene, a common indicator of forensic awareness. However, more than half of the offenders used some strategy to cover their behaviour, whether it was pre-emptive planning to minimise evidence, setting fires to eliminate evidence after the fact, or even using

the victim's mobile phone after the offence to give the appearance that they were still alive. Therefore, while forensic awareness is not present in all sexual homicide offenders, we did find some level of forensic awareness among the majority. Interestingly, some offenders displayed the 'opposite' of forensic awareness, whereby they interjected themselves into the investigation or gave themselves up to police. Although not common (less than 10% of cases), these results indicate that some offenders are compelled to involve themselves with the police either to gain pleasure from further involvement in the crime, or due to residual guilt from their actions.

A quarter of offenders for which sentencing information was available received life sentences. Among the non-life sentenced offenders, prison sentences were on average 15 years before offenders were eligible for parole. These findings were similar to sentences received in Darjee and Baron's (2018) sample of Scottish sexual homicide offenders, but lower than those in an American sample (Myers et al., 2016). Although this information has rarely been reported in previous research, it is likely that this average sentence of 15 years would be lower than that in the majority of North American samples, where most homicides carry a mandatory sentence of 25 years to life. One important consequence of a 15-year average sentence is that most Australian and New Zealander sexual homicide offenders will return to the community, so community management and supervision specific to these offenders need to be considered.

Data source review and limitations

One of the strengths of using AustLII and NZLII as data sources was that they allowed for relatively high sample size compared to that in previous research. This is in part due to the huge amount of cases available on these databases, as well as the publicly available nature of the source. Consent is not required from offenders or victims in order to include

their information (anonymously) in the analysis. The large sample size available in addition to the lack of consent required allowed this research to overcome some limitations of previous studies, which were subject to sampling bias based on those offenders who would consent to participate and lacked true representativeness due to low sample sizes. As many prior investigations in this field have been based on either police report data (sometimes including unsolved cases) or interview data from offenders (O. Chan & Heide, 2009), our unique data source also allowed for a wider variety of information to be reported specific to the offender, their history and the events leading up to the crime. In addition, unlike police and interview data, information presented in legal documentation has been objectively verified. Finally, every Australian state was represented on AustLII, and NZLII included cases from across New Zealand, ensuring that data were drawn from a wide variety of locations across the two countries.

Certain aspects of AustLII and NZLII were also potentially detrimental to this type of research. Firstly, besides media reporting, which may be subject to various biases, collateral sources were not available from which to corroborate information or gain additional information. Certain factors researched, such as offender motivations, would likely be more accurate if there was an opportunity to speak to the offender. In addition, there was not necessarily consistent information available for every offender – for some cases, only court documents related to appeals were available due to the date of the original offence, while for others there were only preliminary legal proceedings documented, and yet others had sentencing decision documents. The nature of information contained in each of these types of documents differed, and further the information available differed across states/countries and between different judges. This resulted in missing data for the majority of variables. We decided to include those variables with missing data in order to include as much

information as possible; however, if we had used a source like police reports, there may have been more consistent information available across every case.

In addition to the limitations described above due to the nature of the data source, the reliability of some of the coding measures was only moderate. Specifically, the poorest reliability found was in regard to the motivational categories – the lack of opportunity to discuss this with the offenders requires that a judgement is made from objective data about the offender and the events leading up to the crime. Further research would benefit from interview data with offenders that could elucidate their perceived motivations for committing these offences.

Future directions

This relatively large sample of Australian and New Zealand cases will be used in further studies to examine specific subgroups of sexual homicide offenders: sexual sadists, male victim cases, female perpetrator cases, multiple perpetrator cases, intimate partner victim cases, juvenile perpetrator cases, child victim cases and crime scene behaviours such as mutilation. We are collecting data on a comparison group of non-sexual homicide cases to ascertain what differentiates sexual from non-sexual homicide cases. These data will also be combined with samples from other countries, including the UK, Canada and France, to examine behaviours such as stalking and the correlates of sexual sadism.

Conclusion

Taken together, these findings create a comprehensive profile of Australian and New Zealander sexual homicide offenders, victims and offences. Much of the data mirrors results reported from North American and European samples, with a few exceptions. The offenders and victims in this sample were slightly older than previously found, and more offenders were in relationships than in other studies. A

higher proportion of victims were male than would be expected from prior research. These results challenge the popular idea of sexual homicide offenders being young, single males with female victims. Certain acts of violence were relatively prevalent among this sample, including post-mortem sex and mutilation. In addition, the offenders described here show higher levels of forensic awareness than in other studies.

Descriptive information, such as that presented in this study, regarding sexual homicides may be helpful to police investigators, legal decision makers and policymakers, rehabilitative clinicians and risk management specialists. The overall similarities between this sample and samples from other jurisdictions mean that findings from research elsewhere are likely applicable to practice in Australia and New Zealand regarding this rare and extreme, but universal, behaviour.

Ethical standards
Declaration of conflicts of interest

Michaela Eichinger has declared no conflicts of interest, nor financial benefit
Rajan Darjee has declared no conflicts of interest, nor financial benefit

Ethical approval

This article does not contain any studies with human participants or animals performed by any of the authors.

References

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

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

Beauregard, E., & Bouchard, M. (2010). Cleaning up your act: Forensic awareness as a detection avoidance strategy. *Journal of*

Criminal Justice, *38*(6), 1160–1166. doi:10.1016/j.jcrimjus.2010.09.004

Beauregard, E., & DeLisi, M. (2018a). Stepping stones to sexual murder: The role of developmental factors in the etiology of sexual homicide. *Journal of Criminal Psychology*, *8*(3), 199–214. doi:10.1108/JCP-02-2018-0010

Beauregard, E., & DeLisi, M. (2018b). Unraveling the personality profile of the sexual murderer. *Journal of Interpersonal Violence*, 36(7-8), 3536–3556. doi:10.1177/0886260518777012

Beauregard, E., & Field, J. (2008). Body disposal patterns of sexual murderers: Implications for offender profiling. *Journal of Police and Criminal Psychology*, *23*(2), 81–89. doi:10.1007/s11896-008-9027-6

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*(12), 1454–1476. doi:10.1177/0306624X12456682

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

Beauregard, E., & Proulx, J. (2007). A classification of sexual homicide against men. *International Journal of Offender Therapy and Comparative Criminology*, *51*(4), 420–432. doi:10.1177/0306624X06294432

Beauregard, E., Stone, M. R., Proulx, J., & Michaud, P. (2008). Sexual murderers of children: Developmental, pre-crime, crime, and post-crime factors. *International Journal of Offender Therapy and Comparative Criminology*, *52*(3), 253–269. doi:10.1177/0306624X07303907

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

Brewer, D. D., Dudek, J. A., Potterat, J. J., Muth, S. Q., Roberts, J. M., Jr., & Woodhouse, D. E. (2006). Extent, trends, and perpetrators of prostitution-related homicide in the United States. *Journal of Forensic Sciences*, *51*(5), 1101–1108. doi:10.1111/j.1556-4029.2006.00206.x

Briken, P., Habermann, N., Berner, W., & Hill, A. (2005). The influence of brain abnormalities on psychosocial development, criminal history and paraphilias in sexual murderers. *Journal of Forensic Sciences*, *50*(5), 1204–1208.

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*(3), 683–688. doi:10.1111/j.1556-4029.2006.00105.x

Burgess, A. W., Hartman, C. R., Ressler, R. K., Douglas, J. E., & McCormack, A. (1986). Sexual homicide: A motivational model. *Journal of Interpersonal Violence*, *1*(3), 251–272. doi:10.1177/088626086001003001

Canter, D. V., Alison, L. J., Alison, E., & Wentink, N. (2004). The organized/disorganized typology of serial murder: Myth or model? *Public Policy, and Law*, *10*(3), 293–320. doi:10.1037/1076-8971.10.3.293

Carter, A. J., & Hollin, C. R. (2010). Characteristics of non-serial sexual homicide offenders: A review. *Psychology, Crime & Law*, *16*(1–2), 25–45. doi:10.1080/10683160802621933

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

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. doi:10.1177/0886260515575606

Chan, H. C., Beauregard, E., & Myers, W. C. (2015). Single-victim and serial sexual homicide offenders: differences in crime, paraphilias and personality traits. *Criminal Behaviour and Mental Health: CBMH*, *25*(1), 66–78. doi:10.1002/cbm.1925

Chan, O., & Heide, K. M. (2008). Weapons used by juveniles and adult offenders in sexual homicides: An empirical analysis of 29 years of US data. *Journal of Investigative Psychology and Offender Profiling*, *5*(3), 189–208. doi:10.1002/jip.87

Chan, O., & Heide, K. M. (2009). Sexual homicide: A synthesis of the literature. *Trauma, Violence & Abuse*, *10*(1), 31–54. doi:10.1177/1524838008326478

Chan, O., Myers, W. C., & Heide, K. M. (2010). An empirical analysis of 30 years of U.S. juvenile and adult sexual homicide offender data: Race and age differences in the victim-offender relationship. *Journal of Forensic Sciences*, *55*(5), 1282–1290. doi:10.1111/j.1556-4029.2010.01448.x

Chopin, J., & Beauregard, E. (2018). Sexual abuse of elderly victims investigated by the police: From motives to crime characteristics. *Journal of Interpersonal Violence*, 1–23.

Chopin, J., & Beauregard, E. (2019). Sexual homicide in France and Canada: An international comparison. *Journal of Interpersonal Violence*, 1–24. doi:10.1177/0886260519875547

Chopin, J., & Beauregard, E. (2020a). The unusual victim: Understanding the specific crime processes and motivations for elderly sexual homicide. *Journal of Forensic Sciences*, 65(2), 535–543. doi:10.1111/1556-4029.14208

Chopin, J., & Beauregard, E. (2020b). Elderly sexual abuse: An examination of the criminal event. *Sexual Abuse: A Journal of Research and Treatment*, 32(6), 706–726. doi:10.1177/1079063219843899

Chopin, J., & Beauregard, E. (2020c). Patterns of necrophilic behaviors in sexual homicide: A criminological perspective. *International Journal of Offender Therapy and Comparative Criminology*, 0306624X20969947.

Chopin, J., & Beauregard, E. (2020d). Body dismemberment in sexual homicide cases: Lust murder or rational decision? *Psychology, Crime & Law*, 1–21.

Darjee, R. (2019). Sexual sadism and psychopathy in sexual homicide offenders: An exploration of their associates in a clinical sample. *International Journal of Offender Therapy and Comparative Criminology*, 63(9), 1738–1765. doi:10.1177/0306624X19836872

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). Routledge.

Davies, A. (1992). Rapists' behaviour: a three aspect model as a basis for analysis and the identification of serial crime. *Forensic Science International*, 55(2), 173–194. doi:10.1016/0379-0738(92)90122-d

Davies, A., & Dale, A. (1995). *Locating the stranger rapist (Special Interest Series: Paper 3)*. Police Research Group, Home Office Police Department.

DeLisi, M., & Beauregard, E. (2018). Adverse childhood experiences and criminal extremity: New evidence for sexual homicide.

Journal of Forensic Sciences, 63(2), 484–489. doi:10.1111/1556-4029.13584

Francis, B., & Soothill, K. (2000). Does sex offending lead to homicide? *The Journal of Forensic Psychiatry*, 11(1), 49–61. doi:10.1080/095851800362355

Grubin, D. (1994). Sexual murder. *The British Journal of Psychiatry: The Journal of Mental Science*, 165(5), 624–629. doi:10.1192/bjp.165.5.624

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. doi:10.1016/j.avb.2017.05.004

Hill, A., Habermann, N., Berner, W., & Briken, P. (2007). Psychiatric disorders in single and multiple sexual murderers. *Psychopathology*, 40(1), 22–28. doi:10.1159/000096386

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

James, J., Proulx, J., & Lussier, P. (2018). A cross-national study of sexual murderers in France and Canada. In J. Proulx, E. Beauregard, A. Carter, A. Mokros, R. Darjee, & J. James (Eds.), *Routledge international handbook of sexual homicide studies* (pp. 171–195). Routledge.

Kocsis, R. (1999). Criminal profiling of crime scene behaviours in Australian sexual murderers. *Australian Police Journal*, 53(2), 113–116.

Kong, R., Johnson, H., Beattie, S., & Cardillo, A. (2003). Sexual offenses in Canada. *Statistics Canada*, 23(6), 1–26.

Lam, A. A., Penney, S. R., & Simpson, A. I. (2020). A review of the prevalence of psychosis in sexual homicide. *The Journal of the American Academy of Psychiatry and the Law*, 48(1), 56–64. doi:10.29158/JAAPL.003887-20

Langevin, R., Ben-Aron, M. H., Wright, P., Marchese, V., & Handy, L. (1988). The sex killer. *Annals of Sex Research*, 1(2), 263–301. doi:10.1007/BF00852801

Lemard, G., & Hemenway, D. (2006). Violence in Jamaica: An analysis of homicides 1998–2002. *Injury Prevention: Journal of the International Society for Child and Adolescent Injury Prevention*, 12(1), 15–18. doi:10.1136/ip.2005.010488

Marshall, W. L., & Barbaree, H. E. (1990). An integrated theory of the etiology of sexual offending. In W. L. Marshall, D. R. Laws, &

H. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 257–275). Plenum.

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

Meloy, J. R. (2000). The nature and dynamics of sexual homicide: An integrative review. *Aggression and Violent Behavior*, *5*(1), 1–32. doi:10.1016/S1359-1789(99)00006-3

Meloy, J. R., Gacono, C. B., & Kenney, L. (1994). A Rorschach investigation of sexual homicide. *Journal of Personality Assessment*, *62*(1), 58–67. doi:10.1207/s15327752jpa6201_6

Milsom, J., Beech, A. R., & Webster, S. D. (2003). Emotional loneliness in sexual murderers: A qualitative analysis. *Sexual Abuse: A Journal of Research and Treatment*, *15*(4), 285–296. doi:10.1177/107906320301500405

Mokros, A., Osterheider, M., Hucker, S. J., & Nitschke, J. (2011). Psychopathy and sexual sadism. *Law and Human Behaviour*, *35*(3), 188–199.

Morton, R. J., Campobasso, C. P., McNamara, J. J., Colonna, M., Carabellese, F., Grattagliano, I., Catanesi, R., & Lawrence, J. M. (2010). Cross-cultural comparison of two serial sexual murder series in Italy and the United States. *Journal of Forensic Sciences*, *55*(4), 1111–1115. doi:10.1111/j.1556-4029.2010.01443.x

Mouzos, J., & West, D. (2017). An examination of serial murder in Australia. In *Trends and issues in crime and criminal justice* (pp. 346). Australian Institute of Criminology.

Mouzos, J. (2003). Homicide in the course of other crime in Australia. *Australian Institute of Criminology: Trends and Issues in Crime and Criminal Justice*, *252*, 1–6.

Myers, W. C., Chan, O., & Mariano, T. Y. (2016). Sexual homicide in the USA committed by juveniles and adults, 1976–2007: Age of arrest and incidence trends over 32 years. *Criminal Behaviour and Mental Health: CBMH*, *26*(1), 38–49. doi:10.1002/cbm.1947

Nicole, A., & Proulx, J. (2007). The factors distinguishing sexual murderers from sexual aggres- sors: A multivariate analysis. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 89–97). Wiley.

Nitschke, J., Mokros, A., Osterheider, M., & Marshall, W. L. (2013). Sexual sadism: Current diagnostic vagueness and the benefit of behavioral definitions. *International Journal of Offender Therapy and Comparative Criminology*, *57*(12), 1441–1453. doi:10.1177/0306624X12465923

Nitschke, J., Osterheider, M., & Mokros, A. (2009). A cumulative scale of severe sexual sadism. *Sexual Abuse: A Journal of Research and Treatment*, *21*(3), 262–278. doi:10.1177/1079063209342074

Oliver, C. J., Beech, A. R., Fisher, D., & Beckett, R. (2007). A comparison of rapists and sexual murderers on demographic and selected psychometric measures. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 159–173). Wiley.

Pflugradt, D, & Allen, B. (2013). Identifying sadists among female sexual offenders using the Cumulative Scale of Severe Sexual Sadism. *Sexual Offender Treatment*, *8*(1), 1–12.

Pinto, S., & Wilson, P. (1990). Serial murder. In *Trends and issues in crime and criminal justice* (pp. 25). Australian Institute of Criminology.

Porter, L. E., & Alison, L. J. (2001). A partially ordered scale of influence in violent group behavior: An example from gang rape. *Small Group Research*, *32*(4), 475–497. doi:10.1177/104649640103200405

Porter, L. E., & Alison, L. J. (2019). Participative leadership and hierarchical structures in multiple perpetrator rape: Replicating and extending a scale of influence among offenders. *Journal of Sexual Aggression*, *25*(3), 226–243. doi:10.1080/13552600.2019.1617903

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*(5), 459–470. doi:10.1023/a:1025461421791

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

Quinet, K. (2011). Prostitutes as victims of serial homicide: Trends and case characteristics, 1970-2009. *Homicide Studies*, *15*(1), 74–100. doi:10.1177/1088767910397276

Radojevic, N., Curovic, I., & Soc, M. (2013). Using a Facebook profile in determining the motive of homicide. *Journal of Forensic and Legal Medicine*, *20*(6), 575–577. doi:10.1016/j.jflm.2013.06.008

Reale, K., Beauregard, E., & Martineau, M. (2017). Sadism in sexual homicide offenders: Identifying distinct groups. *Journal of*

Criminal Psychology, *7*(2), 120–133. doi:10.1108/JCP-11-2016-0042

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

Ressler, R. K., Burgess, A. W., Douglas, J. E., Hartman, C. R., & D'Agostino, R. B. (1986). Sexual killers and their victims: Identifying patterns through crime scene analysis. *Journal of Interpersonal Violence*, *1*(3), 288–308. doi:10.1177/088626086001003003

Ressler, R. K., Burgess, A. W., Hartman, C. R., Douglas, J. E., & McCormack, A. (1986). Murderers who rape and mutilate. *Journal of Interpersonal Violence*, *1*(3), 273–287. doi:10.1177/088626086001003002

Roberts, J. V., & Grossman, M. G. (1993). Sexual homicide in Canada: A descriptive analysis. *Annals of Sex Research*, *6*(1), 5–25. doi:10.1007/BF00849743

Rosman, J. P., & Resnick, P. J. (1989). Sexual attraction to corpses: A psychiatric review of necrophilia. *Journal of the American Academy of Psychiatry and the Law Online*, *17*(2), 153–163.

Safarik, M. E., Jarvis, J. P., & Nussbaum, K. E. (2002). Sexual homicide of elderly females: Linking offender characteristics to victim and crime scene attributes. *Journal of Interpersonal Violence*, *17*(5), 500–525. doi:10.1177/0886260502017005002

Sea, J., Beauregard, E., & Martineau, M. M. (2019). A cross-cultural comparison of Canadian and Korean sexual homicide. *International Journal of Offender Therapy and Comparative Criminology*, *63*(9), 1538–1556. doi:10.1177/0306624X19834408

Skott, S., Beauregard, E., & Darjee, R. (2019). Female sexual homicide offenders: A descriptive and comparative study. *Journal of Forensic Sciences*, *64*(1), 154–162. doi:10.1111/1556-4029.13807

Stefanska, E. B., Carter, A. J., Higgs, T., Bishopp, D., & Beech, A. R. (2015). Offense pathways of non-serial sexual killers. *Journal of Criminal Justice*, *43*(2), 99–107. doi:10.1016/j.jcrimjus.2015.01.001

Stefanska, E. B., Nitschke, J., Carter, A. J., & Mokros, A. (2019). Sadism among sexual homicide offenders: Validation of the Sexual Sadism Scale. *Psychological Assessment*, *31*(1), 132–137. doi:10.1037/pas0000653

Stein, M. L., Schlesinger, L. B., & Pinizzotto, A. J. (2010). Necrophilia and sexual homicide. *Journal of Forensic Sciences*, *55*(2), 443–446. doi:10.1111/j.1556-4029.2009.01282.x

Warren, J., Hazelwood, R., & Dietz, P. E. (1996). The sexually sadistic serial killer. *Journal of Forensic Sciences*, *41*(6), 970–974.

World Health Organization. (2018). International Classification of Diseases, 11th revision. Retrieved from: https://www.who.int/classifications/icd/en/