RUNNING HEAD: MENTALLY DISORDERED HOMICIDE OFFENDERS

Modelling Crime Scene Actions of Mentally Disordered Homicide Offenders

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Abstract

The present study investigated homicide cases committed by perpetrators who appeared before

the Queensland Mental Health Court. The study aimed to test the 'victim role' model (Canter,

2000) to the classification of homicide cases, based on crime scene characteristics. The research

examined court transcripts for cases pertaining to attempted murder and murder in the

Queensland Mental Health Court for the years 2002 to 2010. A total of 62 cases were collected

from the Queensland Supreme Court Library database. Forty-six cases involved male

perpetrators, while 16 cases pertained to female perpetrators. Ages for the sample ranged from

18 to 69 years (*M*=35.38, *SD*= 12.56). Results demonstrated that the majority of crime scene

characteristics were classified by the victim as object and victim as person themes, with the

hypothesised victim as vehicle theme being under-represented in the data. An alternative

explanation for the findings was McAdams' (1993, 2001) dichotomous narrative model

emphasizing power and intimacy as the primary motives or drives for human behavior. It is

hoped that the present study will be useful for future research investigating the victim-offender

dynamics in homicide, and in providing direction for further research concerning the violent

behavior of mentally disordered offenders.

KEY WORDS: mental disorder, unsound mind, homicide, mental health court, crime scene

profiling

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The Australian Institute of Criminology (2010) reported that the prevalence rate of homicide in Australia between the years of 1989 and 2007 ranged from 1.3-1.9 percent of the population. Further, data for the year of 2008 indicated that for that year, 260 individuals were murdered, while another 231 were victims of attempted murder (Australian Bureau of Statistics, 2009). A study conducted by Shaw et al. (2006) with 1594 inmates convicted of homicide throughout England and Wales, analysed psychiatric reports, mental health history and clinical data to determine prevalence estimates. The study reported that approximately 10 percent of offenders had active symptoms of psychosis at the time of the offence (Shaw et al., 2006). The same rate of active psychosis symptoms in offenders were reported for an Australian sample by Mullen (2006), while Wallace et al. (1998) reported a prevalence of 7.2 percent in Victoria. In addition to this, between the years 2000-2001 of the homicides committed in Australia, six per cent were by mentally disordered offenders (Mouzos, 2002). The literature therefore suggests that based on a standard inmate sample of homicide perpetrators, between five and 10 percent of these acts and/or individuals may have met the criteria for active psychosis at the time of the crime.

Despite the association between homicide and mental illness, little is known about the types of offending behaviour (style of attack, use of weapon and level of control; Hickey, 2010) or the specific demographics of the perpetrator carrying out the offence (age, gender, victim age, victim gender and relationship to victim). The ability to differentiate criminal actions committed by offenders with a mental disorder from those without mental illness is an important task affecting not only legal outcomes and law enforcement, but also has the potential to be useful in aiding risk and threat assessment, especially if there are links identified between characteristic

offence behaviours, and the relationship between the victim and offender (Plotnick, Porter, & Bagby, 1998). The current study will investigate homicides committed by mentally disordered offenders, the target of the homicide and the characteristics of the offence.

Classifying Behaviour and Offender Profiling/Typologies

The term offender *profiling* has been subject to debate and often unrealistically portrayed in the media (Cook & Hinman, 1999). In a real world context, profiling pertains to techniques used to identify personality, behavioural and demographic characteristics of offenders (Canter & Youngs, 2009; Douglas & Burgess, 1986). A number of profiling models have been used to classify homicide cases; however, not all have an empirical basis, or are appropriate for use with a mentally disordered population. For example, the organised/ disorganised dichotomy (Ressler, Burgess, & Douglas, 1988) states that only disorganised offenders are expected to have mental illness, limiting the utility of the model. The organised/disorganised dichotomy has also received criticism due to a lack of empirical validity (Egger, 1999; Wilson, Lincoln, & Kocsis, 1997). Although empirically derived, the actions systems model (Almond, Duggan, Shine, & Canter, 2005; Canter & Youngs, 2009; Fritzon, Canter, & Wilton, 2001) makes interpretations of the source and target of offender actions based on these being either internal or external to the offender. This may be problematic when attempting to understand the responses of an individual suffering from severe mental illness or psychosis (Malmquist, 2006), who may themselves have difficulties differentiating between internal and external responses and stimuli.

Salfati and Canter (1999) utilised an early typology of aggression (Feshbach, 1964) to classify the crime scene and offender characteristics of 82 offenders who had committed single victim stranger homicides. The relationship between crime scene behaviours and offender characteristics was analysed using smallest space analysis (SSA) to determine the co-occurrence

of each variable with every other variable. This form of analysis was used to explore themes amongst both crime scene behaviours and offender characteristics (Salfati & Canter, 1999).

Results of the study identified three themes of behaviour, which were labeled as; instrumental cognitive, instrumental opportunistic and expressive impulsive. The instrumental cognitive offenders choose aggression and violence as a lifestyle, and a number of these offenders have served time in prison or the armed services. The instrumental opportunistic offenders were unemployed, and had previous convictions for burglary and theft. Finally, the expressive impulsive offenders had a past history of impulsive offences, which was often reflective of their attitude and interpersonal relationships. These offenders often had conflict with people and had difficulty behaving in a socially appropriate manner. The study by Salfati and Canter (1999) presents an empirical basis for generating offender profiles for cases involving stranger homicide. However, the instrumental/expressive dichotomy of aggression has been criticized in the literature as individual case conceptualisation and functional analysis often reveals the presence of both (Daffern, Howells, & Ogloff, 2007).

An alternative model that provides a method for the classification of homicide and sexual offences, is the victim role model, proposed by Canter (1994). The model takes account of the role that is assigned to the victim by the offender as revealed by patterns of behavior at the crime scene. The model specifies that this interaction could be considered as the victim-offender role in which the victim is viewed as an object, vehicle or person. The significance of the victim role in homicide cases was addressed by Wolfgang (1958) in his book, *Patterns in Criminal Homicide*. Wolfgang reported that violent homicides were often multifaceted interactions between offender characteristics, victim characteristics and the environmental context. The victim-offender role provides a fundamental structure that is diverse and flexible, capable of accommodating different

contexts and offender presentations (Canter & Youngs, 2009). This is particularly important for the current study, due to the potential for crime scene behaviours perpetrated by mentally disordered offenders to present in ways that are markedly different to the action models that have been identified by research based on non-mentally disordered offenders

      The victim role model theorises that the core psychological purpose of an offence is based on the role-relationship that the offender places upon the victim (Canter & Youngs, 2012). Canter's (1994) model draws on the core life narrative themes proposed by McAdams (1993, 2001). According to McAdams, life narratives can be differentiated and defined based upon one's quest for power and intimacy. Canter (1994) argues that the quest for power and intimacy is revealed in the role the offender assigns to the victim. The seeking of power is evidenced in the way the offender tries to control the victim, while intimacy is revealed by the way in which the offender acknowledges the personhood of the victim (Canter & Youngs, 2012). In cases where the victim is viewed as an object, the offender attaches limited feelings to the victim and perceives them to be nothing more than an object to explore and play with. The offender has a focus on control and competent mastery of the crime (victim) or event. In the victim as vehicle context, the victim is viewed as a vehicle for the offender's desires, being of significance to the offender, and therefore, specifically targeted. The victim in this theme is likely to form a symbolic role in the offender's vindictive and angry desires. Finally, in the victim as person case, the victim is often known to the offender and the offender may recognize the humanity of the victim, and engage in a style of attack that may be less violent in nature. In these cases the offender may seek a distorted form of intimacy with the victim to address their sense of emptiness (Canter & Youngs, 2009).

Fritzon and Ridgway (2001) applied the victim role model to a sample of 93 attempted homicide cases. The study utilised smallest space analysis (SSA) to analyse offender behaviour in relation to victim resistance. Results of the study supported the three themes of the victim role model proposed by Canter (1994). Within the victim as person theme the level of violence used in the attack was minimal and the weapon of choice was primarily a blunt object. In the victim as a vehicle theme, the offender was more likely to be opportunistic, consume alcohol and use a weapon at the scene. The act of violence was a singular act resulting in a singular wound, while other associated acts included, binding, gagging and theft. The victim as object theme involved the offender having limited recognition that the victim was a human being. The victim had many severe wounds to multiple body parts and it was evident from the crime that the offender used excessive violence. Whilst the study involved attempted homicide, and information about behaviours assisting in classifying the role of the victim in the offence was more readily available due to the survival of the victim, the results indicate the potential of the victim role model to provide a structured and systematic method for classifying homicide behaviour.

Future replication of Canter's three-facet model to serial and singular acts of homicide may assist in providing a greater understanding of the application of this model to developing offender profiles/typologies, particularly in relation to perpetrators suffering from a mental illness. Furthermore, the victim-role model has the potential to assist in threat and risk assessment in a field where existing risk assessment protocols are often inappropriate (Canter & Youngs, 2009; Petherick, 2009). Homicides committed by mentally ill perpetrators are rarely preceded by the risk markers that are used to assess the behavior of non-mentally ill perpetrators (such as history of violence, antisocial attitudes and substance misuse). On the other hand, one

of the outcomes of this research may be the identification of warning behaviours that exist in relation to particular victim types.

Directions for the Present Study

The present study will expand on the current understanding of homicide in Australia and specifically investigate the association between mental illness and homicide. The research will test the applicability of the victim role model (Canter, 1994) to the classification of homicide cases. The study will examine the relationship between the three themes of the victim role model and the implications this has for perpetrators of homicide with mental illness, law enforcement and the judicial system.

1. It was hypothesised that the victim role model (Canter, 1994) would provide a facet framework for the classification of crime scene characteristics for mental health homicide cases.

   a. It was hypothesised that the victim as object role would be characterised by: excessive violence, multiple wounds to body parts and limited recognition of/or regard for the victim (Canter & Youngs, 2009; Fritzon & Ridgway, 2001).

   b. It was hypothesised that the victim as vehicle role will be characterised by: the victim being symbolic to the offender and that the offender will display specific behavior reflective of their desires, such as the use of ligatures, restraints, binding, gagging or engagement in sexual acts (Canter & Youngs, 2009; Fritzon & Ridgway, 2001).

   c. Finally, it was hypothesised that the victim as person role will be characterised by: the victim will be known to the offender, the means of assault will be less

violent in nature and the offence will reflect the offender's distorted perception of

intimacy (Canter & Youngs, 2009; Fritzon & Ridgway, 2001).

2. It was also hypothesised that the model would provide a framework to determine if

mental health homicide cases can be classified and differentiated based on a dominant

victim-offender role theme.

Method

Participants

A total of 62 cases were collected from the Queensland Supreme Court Library database

(http://www.sclqld.org.au/qjudgment/). These were all of the cases of homicide that were

reported on the website since the court's inception in 2002. The study comprised primarily of

male participants due to the cases that had been seen at the Queensland Mental Health Court. In

total, 46 cases involved male offenders, while 16 cases pertained to female offenders. Ages for

the sample ranged from 18 to 69 years of age (M=35.38, SD= 12.56). Cases utilised in the study

pertained to both attempted murder and murder, which accounted for approximately 35 to 40

percent of the cases heard by the Queensland Mental Health Court from 2002-2010.

Of the sample, two individuals were found unfit for trial (3.2%), while 60 (96.8%) were

found fit for trial. A total of 22 (35.5%) cases were found to be of sound mind at the time of the

offence, while 40 (64.5%) cases were found to be of unsound mind at the time of the offence. A

total of 39 (62.9%) cases had a prior mental health diagnosis, while 23 (37.1%) did not. Table 1

shows the diagnostic categories for court outcomes of the Mental Health Court.

Table 1

Frequency and Percentages of Diagnostic Categories

Diagnostic Categories	Frequency (Percentage %)
Schizophrenia	27 (28.42%)
Mood disorders	19 (20%)
Paranoid schizophrenia	16 (16.84%)
Substance use	14 (14.74%)
Psychosis related disorders	9 (9.47%)
Organic related disorders	8 (8.42%)
Dissociation related disorders	1 (1.05%)
Autism related disorders	1 (1.05%)

Note. Percentage values determined from total number of diagnoses given by the court.

Design

The current study employed a multivariate correlational design to examine the first hypothesis. This methodology was employed as it allowed for the examination of the crime scene characteristics based on the co-occurrence of every variable with every other variable (Canter & Ioannou, 2004). An appropriate sample size was used in the study to ensure an adequate fit of the model based on the number of variables in the study (Rodgers, 1991).

Procedure

Participants were based on court transcripts of judgment summaries from the Mental Health Court of Queensland from 2002 to 2010. These cases were reported on the website since the court's inception in 2002. The court judgments included a diversity of crimes that were heard at the court. However, although judgments pertained to a variety of charges, only cases involving

murder and attempted murder were chosen for the sample. Furthermore, approximately eight

cases that pertained to either attempted murder or murder were not utilised in the analyses due to

the lack of information provided in the court transcripts. Court transcripts were analysed using

content analysis, a research technique that enables replicable and valid inferences to be made

from data to their context (Krippendorff, 2004).

For the current study, categories were developed in order to define the content universe,

and each variable (category) definition was required to be specific and mutually exclusive. This

was to ensure that the information analyzed in the study was recorded appropriately and allowed

for distinctions to be determined within the content universe being analysed (Krippendorff,

2004). Variables were derived from previous studies of homicide, including studies from the

investigative psychology literature, as well as variables relating to mental health functioning,

including diagnostic categories from the DSM-IV TR (APA, 2000). An initial preliminary

content analysis was carried out on five cases in the study to determine common themes,

categories in the data and mutually exclusive characteristics. From this analysis, 55 crime scene

characteristics, nine diagnostic themes (independent variables) and two court outcomes

(dependent variables) were identified with the cases. Further, an inter-rater reliability was

conducted for five cases in the data set to determine an overall level of agreement between the

raters regarding the accuracy of variable definitions and coding (Krippendorff, 2004). A 92

percent level of agreement was found across the variables for the five cases, and further

refinements were carried out to the coding framework as a result of discussions among the raters

to resolve coding differences.

Crime Scene Characteristics. A subsequent review of the initially identified crime

scene characteristics reduced the number of characteristics from 55 to 49 before the content

analysis commenced. Notably, after conducting the content analysis four additional characteristics were removed from the analysis at later stages in the study due to the low frequency and occurrence of these variables. For the content analysis, crime scene characteristics were coded as: present (1), not present or unknown (0). In total, 45 crime scene characteristics were derived and utilised in the study. See Appendix A for a list of these variables with their definition and frequency across the cases.

      Diagnostic Categories. A large number of individual diagnoses were given by the Mental Health Court. Therefore, due to the large volume of diagnoses, variables reflecting diagnostic categories were created for the study, which were coded as present (1), or not present (0). Subsequently, two categories (autism related disorders and disassociate disorders) were removed from the study at later stages due to the low frequency of these variables. Therefore, the seven diagnostic categories used in the study included: schizophrenia, paranoid schizophrenia, mood disorders, personality disorders, substance abuse, organic brain injury, and psychotic disorders. See Appendix B for a complete definition of diagnostic categories.

      All ethical procedures were met and the study was approved by the Bond University Human Research Ethics Committee (BUHREC). Upon completion of the content analysis, all data was collected and entered and analysed using the computer program 'Statistical Package for Social Science' (SPSS Version 17.0). Data that utilised multidimensional scaling analysis were analysed using the Broadmoor Scaling Package which uses a Jaccard's correlation coefficient (Hammond, 1999).

Results

Descriptive statistics

  Offenders and victims. From the 62 offenders in the study, ages were available for 28 male offenders (*M*=35.25, *SD*=13.46) and nine female offenders (*M*=35.78, *SD*=9.92). A total of 66 victims were recorded in the sample, with 51.51% of victims female and 48.49% male, and of those, male offenders were the primary perpetrator for 75.75% of the offences. The most common relationship between the victim and the offender was family (55.40%) and the most common victim age group demographic was adulthood (55.93%). Table 2 shows the frequencies and percentages as classified by the gender of the offender for gender or the victim, relationship of the victim and offender and the victim age group demographic.

Table 2

Frequencies and Percentages for Victimology Classified by Male and Female Offenders

	Offender Gender			
	Male (n=46)		Female (n=16)	
Sex of victim				
Male	24	(36.36%)	8	(12.12%)
Female	26	(39.39%)	8	(12.12%)
Relationship to Victim				
Family	26	(35.13%)	15	(20.27%)
Relationship	9	(12.16%)	1	(1.35%)
Acquaintance	14	(18.19%)	1	(1.35%)
Stranger	8	(10.81%)	0	(0%)
Victim age demographic				

Infant	1	(1.69%)	2	(3.39%)
Child	4	(6.77%)	9	(15.25%)
Adult	31	(52.54%)	2	(3.39%)
Elderly	7	(11.86%)	3	(5.08%)

Note. Percentages are derived from summed total numbers for that category

Crime scene characteristics. The most common form of attack on victims by the perpetrator was a blitz attack (attack commenced immediately upon contact between the offender and victim), which occurred on 47 (83.93%) occasions. While on nine (16.07%) occasions perpetrators took their time in attacking the victim, such as waiting in the victim's house before the victim returned home, or spending an extended amount of time (hours rather than minutes) with the victim before attacking them. From the total number of attacks, 38 (67.85%) blitz/sudden attacks were carried out by male offenders and nine (16.07%) blitz attacks were carried out by female offenders. Male offenders engaged in an extended attack on the victim on six (10.71%) occasions and female offenders engaged in an extended attack on three (5.36%) occasions. A total of 31 (70.45%) incidents occurred in which a weapon was used at the scene of the offence, while 13 (29.54%) incidents occurred where a weapon was brought to the crime. From the total number of incidents pertaining to weapon use, male offenders used a weapon at the scene of the offence on 25 (56.81%) occasions, and brought a weapon to the crime on 12 (27.27%) occasions. While female offenders used a weapon at the scene of the offence on six (13.63%) occasions and brought a weapon to the crime on one (2.27%) occasion. Table 3 shows the weapons involved in the offences and the method by which perpetrators used to attack their victims and carry out the offence. As can be seen the predominant weapon involved in the cases was a knife and the primary method of attack was by stabbing the victim.

Table 3

Frequencies and Percentages for Weapon and Method of Attack for Male and Female Offenders

	Offender Gender			
	Male (n=46)		Female (n=16)	
Weapon in offence				
Knife	24	(36.92%)	10	(15.38%)
Gun	3	(4.61%)	1	(1.53%)
Ligatures	7	(10.76%)	0	(0%)
Restraints	2	(3.07%)	0	(0%)
Poison	1	(1.53%)	3	(4.61%)
Blunt object	14	(21.54%)	0	(0%)
Method of attack				
Stab	27	(25.96%)	10	(9.61%)
Shoot	2	(1.92%)	0	(0%)
Strangulation	10	(9.61%)	3	(2.88%)
Overkill	15	(14.42%)	2	(1.92%)
Facial injuries	14	(13.46%)	0	(0%)
Multiple body wounds	18	(17.31%)	3	(2.88%)

Note. Percentages are derived from summed total numbers for that category

Offenders mental health. From the 62 cases analysed, 36 incidents of substance use occurred amongst perpetrators at the time of committing the crime. Approximately 18 (50%) of these pertained to alcohol consumption, of which 15 (41.66%) offences involved male offenders and three (8.33%) offences involved female offenders consuming alcohol. Of the 18 (50%)

incidents of illicit substance use, 13 (36.11%) offences involved male offenders and five

(13.88%) offences involved female offenders. In addition, 39 (62.90%) perpetrators had a history

of a prior mental health diagnoses and of the diagnoses, 27 (69.23%) had been given to male

offenders and 12 (30.77%) to female offenders. Table 4 shows the frequency and percentages of

diagnoses that were given to offenders by psychiatrist and determined during the findings of the

court outcomes.

Table 4

Frequency and Percentages of Diagnostic Categories for Male and Female Offenders

Diagnosis	Male Offenders	Female Offenders
Schizophrenia	21	6
Paranoid Schizophrenia	14	4
Personality Disorder	11	5
Mood Disorder	11	8
Substance Abuse	11	3
Organic Brain Injury	7	1
Psychosis	5	4

Note. Percentages are calculated based on the total number of diagnoses given by the court for

Court outcomes. The court outcome regarding soundness of mind was determined in each of the

cases. A total of 22 (35.48%) verdicts of soundness of mind were ruled by the court, 20 for males

and 2 females; while 40 (64.52%) verdicts of unsoundness of mind were given, 26 males and 14

females.

Model of Crime Scene Actions

  Crime scene characteristics. To investigate the first hypothesis, the crime scene

characteristics of the sample were analysed using the multidimensional scaling technique (MDS)

of smallest space analysis (SSA). An SSA was carried out on the 45 crime scene characteristics

across the 62 cases. SSA is a statistical method that allows a test of hypotheses pertaining to the

co-occurrence of every variable with every other variable (Canter & Ioannou, 2004). SSA

examines the association coefficient between all variables in a data set. These coefficients are

subsequently then used to form a spatial representation of items with points in the analysis

representing variables (Canter & Ioannou, 2004). The program that was used to compute the

SSA (Hammond, 1999) uses a Jaccard's correlation coefficient. The benefit of this over the

Pearson's coefficient which is used by the SPSS MDS module is that the correlations between

variables are based on only joint co-occurrence, and not joint co-absence. This is important when

data has not been collected for research purposes, and therefore assumptions cannot be made

about whether a variable actually did not occur, or was simply unreported (Shye, 1985).

  Results of the SSA analysis supported a three-dimensional solution, with a Guttman-

Lingoes coefficient of alienation of 0.21 in 17 iterations, which suggests an acceptable level of

stress between the original correlation matrix, and how well these correlations are represented in

the plot (Borg & Lingoes, 1987; Donald, 1995). As hypothesised, the SSA in Figure 1 shows

that crime scene characteristics can be defined in accordance with the interpersonal model. The

three themes of the model are labeled as, object (victim as object), vehicle (victim as vehicle)
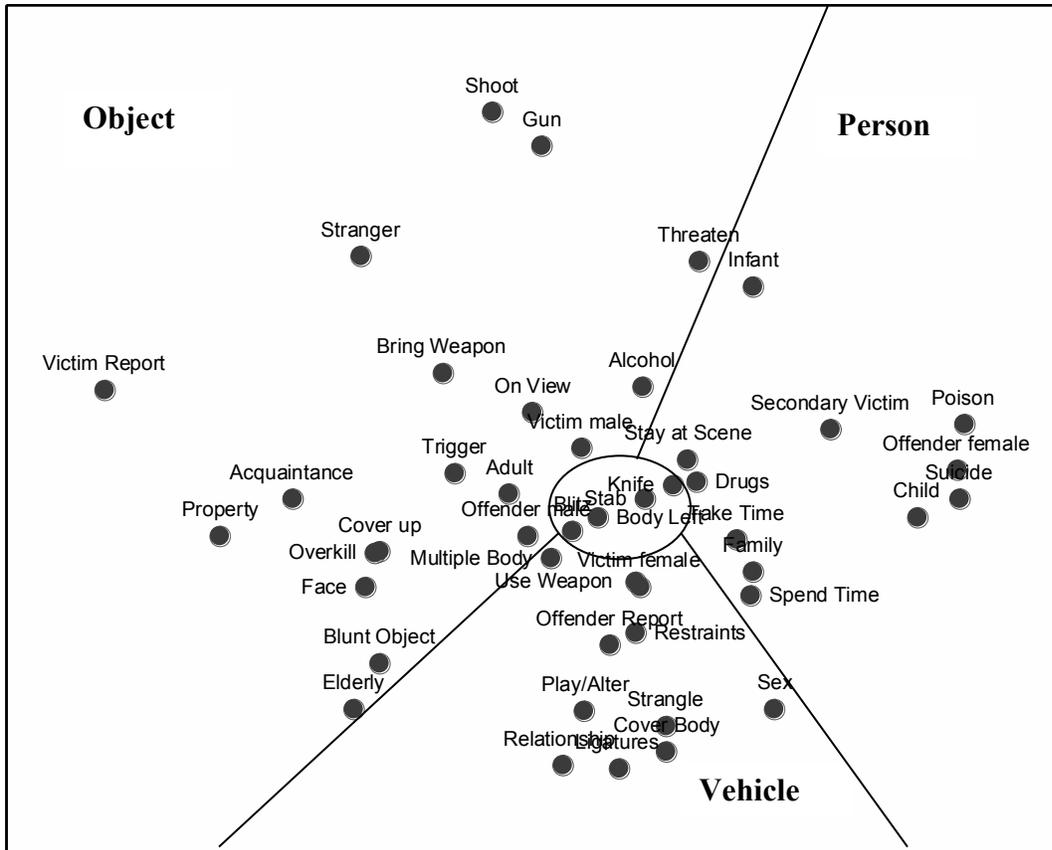
and person (victim as person).

Figure 1. SSA of the Victim-Offender Role and Associated Crime Scene Characteristics.

The highest frequency variables that characterise the crime scene characteristics are

contained within the circled segment of the SSA plot. These are: knife (54.84%), stab (59.68%),

body left at the scene (85.48%) and blitz attack (61.29%). The variables are plotted in space

according to the principle of contiguity, which states that variables with higher correlations will

be represented as closer together in the space (Canter & Ioannou, 2004). For example, in the

current study, female offenders were more likely to kill a child and subsequently attempt suicide,

and were less likely to kill a stranger and bring a weapon to the crime scene.

Victim as object.   This mode of functioning involves the offender having limited regard

for the victim's emotions or their human significance (Canter & Youngs, 2009). The variables

indicative of this role of the victim are indicated on the left half of Figure 1. These variables

include: victim report, shoot, gun, stranger, threaten, bring weapon, body on view, alcohol,

victim male, trigger, adult victim, offender male, cover up, acquaintance, property, overkill, face,

blunt object and elderly. An analysis of the internal consistency of the scale indicated a Cronbach

α of 0.63, indicating a good level of scale reliability. According to Boyle (1991), optimal internal

consistency ranges from 0.30 to 0.70, with higher levels of internal consistency suggestive of

item redundancy and a narrow measurement of the construct. From the results of the reliability

analysis, the strongest variables that indicated the role of the victim as an object are: face (facial

wounds), overkill, the body being left on view, bring weapon (offender brings weapon to the

crime), a stranger or acquaintance victim, and trigger (prior emotional stressor). Additionally, the

variables of cover up (0.01) and (0.09) alcohol were weakly correlated with the scale, while the

variables elderly and threaten were negatively correlated. These latter correlations indicate that

an elderly victim (-0.20) and threatening (-0.03) the victim was less likely to be associated with

the victim as object facet.

    Victim as vehicle. The victim as vehicle role is one in which the offender behaves in a

way that indicates they are using the victim to facilitate some secondary gain, such as an

expression of anger or sexual motive. Unlike the victim as an object, the victim in this mode

often carries a particular meaning or symbolic significance to the offender (Canter & Youngs,

2009). Variables that are indicative of this mode of functioning are reflected on the bottom of

Figure 1. The variables for this mode include: multiple body, victim female, use weapon,

offender report, restraints, play/alter, strangle, sex, cover body, relationship and ligatures. A

Cronbach α of 0.62 demonstrated good reliability and internal consistency for the scale.

Variables that had the strongest correlation with the scale and therefore the strongest indicators

of the victim as vehicle role included: play/alter (alter or engage in acts with the victim post

death), sex, strangle, ligatures, body covered, offender report (offender reports offence post crime). The weakest variable correlations for the scale were for the variables multiple body wounds (0.13) and using a weapon at the crime scene (0.16).

Victim as person. This mode of functioning involves the offender recognising the relationship that exists with the victim as a specific individual (Canter & Youngs, 2009). The variables indicative of this role of the victim are positioned on the right side of Figure 1. The variables include: infants, children, family, staying at scene, drugs, take time, secondary victim, spend time, offender female, poison and suicide. Analysis of the internal consistency of the scale indicated a Cronbach α of 0.68, indicating a good level of scale reliability. The strongest item correlations for the scale that indicated the role of the victim as person were: family, children, spend time (time spent with victim before offence), take time (offender takes time carrying out the offence) poison and suicide. The weakest item correlations for this scale was found for the infant (0.13) and stay at scene variables (0.17).

The facet framework and crime scene characteristics. In order to test the second hypothesis, relating to the ability to classify the cases according to the facet framework (victim-offender role) of the crime scene characteristics, variables from each of the facet themes were selected based on the strength of inter-item correlations (internal consistency analysis utilising Cronbach's alpha) between a given variable and the corresponding scale. As a result of the range of inter-item variability between items from the facet themes, variables with inter-item correlations ranging between 0.30 and 0.70 were determined to be the representative of that construct/theme (Boyle, 1991). Using this methodology each offence in the data set was analysed, with dominant theme determined based on the number of crime scene variables present for that offence. The process for classification was that for each case, the variables from each of

the three themes were summed. In order to be classified as belonging to a particular category,

the sum of variables from that category had to be at least 50% greater than the sum of variables

from the next highest category. For example, a case with six variables from victim as vehicle,

three from object, and two from person, would be classified as vehicle. On the other hand if a

case had four variables from vehicle, and three each from person and object, then it would not be

classified to any theme. The crime scene characteristics used from the victim as object theme

included: acquaintance, adult, overkill, face, offender male and victim report. For the victim as

vehicle theme the strongest items of that scale were: play/alter, sex, ligatures, strangle, body

covered and victim female. While for the victim as person variables included: poison, offender

female, suicide, children, family and spend time.

　　　From the facet framework, crime scene characteristics could be classified to a dominant

theme for 72.60% (45 out of 62 cases) of offences based on the victim-offender role.

Furthermore, results demonstrated that the victim as object/victim as person dichotomy classified

71% of crime scene characteristics. Figure 2 shows the percentage of crime scene characteristics

as classified by the interpersonal model. As can be seen the largest percent of the crime scene

characteristics were for the victim as object role, followed by the victim as person role. Only one
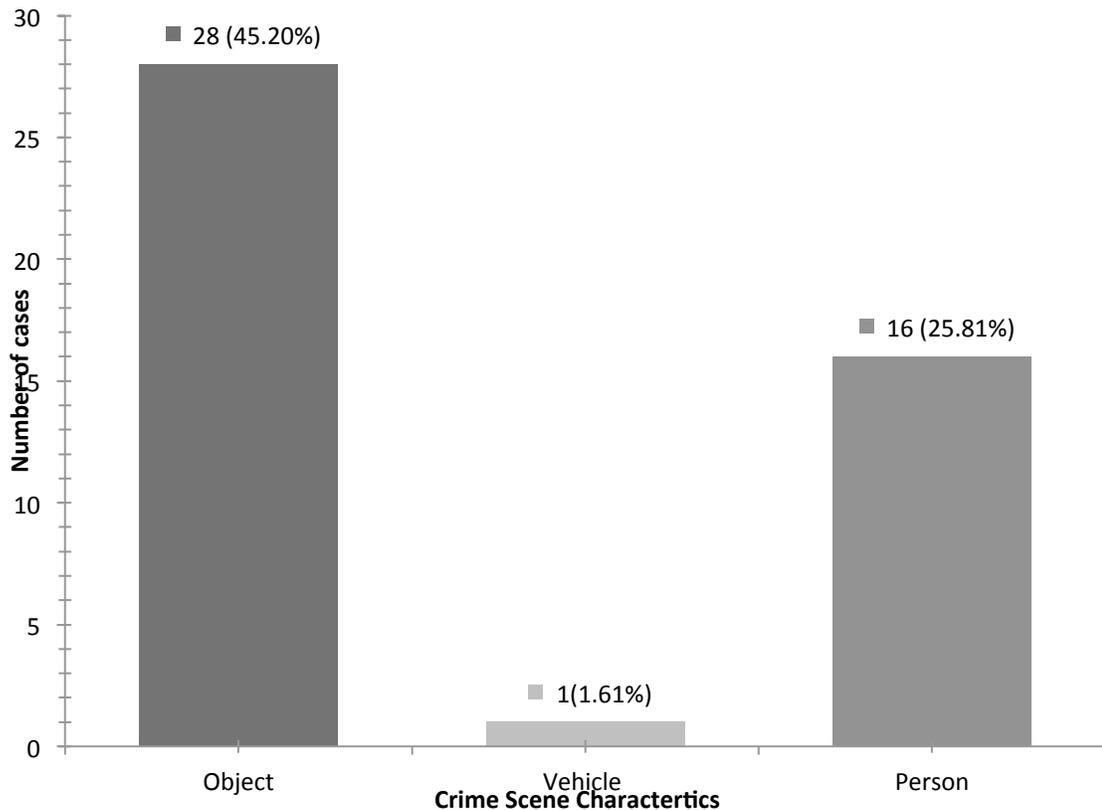
case could be classified as victim as vehicle.

Figure 2. Frequency and Percentage of Crime Scene Characteristics as Classified by the Victim-Offender Role.

Discussion

The present study aimed to expand on the understanding of homicide in Australia, specifically, the association between mental illness and homicide. The study sought to investigate the crime scene characteristics for cases of murder and attempted murder before the the Queensland Mental Health Court between the years of 2002 and 2010. The research sought to test the applicability of the victim role model to the classification of homicide cases perpetrated by offenders with mental illness. The study aimed to build on previous research pertaining to singular homicide cases (Fritzon & Ridgway, 2001; Salfati & Canter, 1999), identify themes and

patterns in offender's actions and to develop offender typologies/profiles from these characteristics.

The first hypothesis was that the victim-offender role model would provide a framework for the classification of crime scene characteristics. Specifically, that crime scene characteristics could be classified according to the role of the victim in the offence, with similar behavioural markers as had been noted in previous research (see Canter & Youngs, 2009; Fritzon & Ridgway, 2001). This hypothesis was supported, with three themes evident for the classification of mental health homicide crime scene characteristics. It was also hypothesised that the victim as object role would be characterised by: excessive violence, multiple wounds to body parts and limited recognition of/or regard for the victim (Canter & Youngs, 2009; Fritzon & Ridgway, 2001); the victim as vehicle role would be characterised by: the victim being symbolic to the offender and that the offender would display specific behavior reflective of their desires, such as the use of ligatures, restraints, binding, gagging or engagement in sexual acts (Canter & Youngs, 2009; Fritzon & Ridgway, 2001); and, that the victim as person role would be characterised by: the victim being known to the offender, the means of assault would be less violent in nature and the offence would reflect the offenders distorted perception of intimacy (Canter & Youngs, 2009; Fritzon & Ridgway, 2001). The results demonstrated that mental health homicide offences share similarities between homicides where unsoundness of mind is not believed to be a factor underlying such acts, however, although the three themes emerged from the data, the partial support of the second hypothesis raises concerns as to the applicability of the model.

The second hypotheses of the study sought to differentiate mental health homicide cases based on predominant victim-offender roles. Only partial support was found for the hypothesis, demonstrating that crime scene characteristics were predominately classified by two of the three

themes of the victim role model. Although three themes were evident from the analysis, only two

of the three themes provided a statically appropriate fit for the classification of cases. The victim

as object role accounted for the largest percentage (45 percent of offences), the victim as person

theme also provided an adequate fit (approximately 26 percent) to the cases, however, only one

case (2%) was accounted for by the victim as vehicle theme. Although the victim as

object/victim as person dichotomy (71 percent) provides a strong representation of mental health

homicide in Queensland, dominant characteristics supportive of the vehicle theme were not

evident or did not uniquely differentiate (based on characteristics) from either the object or

person theme. Therefore, due to only two prominent themes emerging in the classification of

cases, an alternative model was sought based on McAdams' (1993, 2001) narrative psychology.

Victim role model of homicides committed by mentally disordered offenders

The behaviours demonstrated by perpetrators of the victim as object role suggested that

due to the high level of injury to the victim (facial wounds and overkill) and the body being left

on view, perpetrators demonstrated limited regard for the victim. The results demonstrated that

perpetrators demonstrated a high level of power, dominance and control over the victim, which

was also evidenced by the limited intimacy and lack of acknowledgment of the victim as a

human being (Canter & Youngs, 2012; McAdams, 1993, 2001). The high level of violence and

injury associated with this theme suggested that these offenders had an impulse to commit a

violent offence and that their behaviour was reflective of their internal mental state. Perpetrators

from this theme were more likely to be male and to have selected an adult victim that was either

an acquaintance or unknown to them. This form of victim role demonstrated that the offender

had no emotional relationship with the victim and the association with the variable *weapon*

brought to the scene suggested a preconceived intent to harm. This theme also contained features

(impulsivity, facial injuries, high level of emotional hostility) consistent with the expressive

impulsive theme postulated by Salfati and Canter (1999). The characteristics of the offenders

operating in this role (high power, low intimacy) were consistent with the FBI disorgansied

offender profile. This profile specified that disorganised offenders were likely to: engage in a

spontaneous offence, engage in sudden violence, leave a body at the scene, use minimal

restraints, and depersonalise the victim (Ressler et al., 1988). This role therefore offers limited

scope for threat/ risk assessment due to the lack of warning behaviours engaged in by

perpetrators, and lack of specific relationship to the victim. One potential aspect of this type of

homicide is the possibility for preoccupation with weapons to serve as a risk marker, as has been

found in other areas of threat assessment such as school shootings (Aitken, Oosthuizen, Emsley

& Seedat, 2008; Hempel, Meloy, Richards, 1999).

The victim as a person theme demonstrated a unique pattern of behaviour in comparison

to the other facets of the victim-offender role. This theme suggested that offenders were more

likely to be female and the victims were family members and children. It appeared that for these

offenders the source of interaction with the victim was crucial to the offence (Canter & Youngs,

2009; Fritzon & Ridgway, 2001). This was demonstrated by the offender spending time with the

victim before the crime and then taking their time in committing the offence. The method of

killing used by these offenders was often poison, which suggested a less violent means of

harming the victim. This offender was also more likely to engage in a suicide attempt after the

offence, which may have reflected the personal significance of the offence to the perpetrator.

The results suggested that perpetrators of this theme demonstrated a highly distorted need

for intimacy, acknowledging the significance of the victim and exerting a low level of power and

control in committing the offence. The method of killing is consistent with literature that finds

that female perpetrators utilise less violent acts as their primary method of killing victims (Hickey & Holmes, 1991; Riedel, 1998). The characteristics of offenders for this theme also appeared to overlap with the typology of filicide perpetrators. Filicide offences involve the murder of a child by a parent and commonly associated characteristics in these cases include; psychosis, mental illness and suicide after the offence (Papapietro & Babro, 2005; Shackelford, Weekes-Shackelford, & Beasley, 2005). In terms of risk assessment, these findings emphasise the importance of thorough assessments of mentally ill mothers preoccupations revolving around their children, in particular to establish any delusional ideation involving their children.

While the victim as vehicle theme was not supported in terms of classifications of distinct cases within this sample, the results of the SSA demonstrated that the behaviours representative of this theme (sexual behaviour, covering body, post-mortem activity, reporting to police) did correlate in ways consistent with previous literature, though the behaviours occurred in combination with variables from either victim as object or victim as person themes.

Limitations and Future Recommendations

The study analysed court transcripts from the Queensland Mental Health Court between the years 2002 to 2010 for cases involving murder or attempted murder. The main limitation associated with the court transcripts was the quality and depth of transcripts, with transcripts ranging from three pages to 20 pages in length. The variances between the lengths of court transcripts impacted the quality of information that the study was able to analyse. Consequently, due to the variance of information in the court transcripts the sample used for the current study may not be representative of the general population of offenders with mental illness who are found to not be fit to stand trial (Granziano & Raulin, 2004).

Although the victim role model themes of object and person classified approximately 71 percent of the cases, the victim as vehicle theme provided a poor fit for the data. Subsequently, inferences pertaining to the model must be made with caution due to the limited percentage of crime scene characteristics accounted for by this theme. The findings of the model suggest that the classification of homicide cases carried out by perpetrators with mental illness may be alternatively accounted for by a power and intimacy typology; specifically, a typology of high power and low intimacy and a typology of high intimacy and low power.

The study has addressed limitations evident in the literature, particularly the lack of previous research in Australia regarding singular acts of homicide (Mouzos & West, 2007). The study has also provided insight into the relationship between homicide and mental illness, and tested the applicability of the victim role model (Canter, 1994) on Australian homicide cases. Future replication of the results pertaining to the victim role model in single homicide cases is required. Although, application of this model has occurred internationally, further replication and use of this model in Australia is required to validate the findings. The findings demonstrated partial support for the use of the victim role model, however, results suggested that the theoretical principles (power and intimacy) that underlie the model as proposed by McAdams (1993, 2001) may provide a better fit to the classification of homicide cases involving mental illness.

The results of the study provide important implications for investigative psychologists and law enforcement to determine the characteristics of the offender and the role of the victim in the crime (Canter & Youngs, 2009). The study has also expanded on the current knowledge regarding female homicide perpetrators, in regard to the finding of a relationship between female offenders, mental illness and offences against children. It is suggested that this relationship be

investigated further to determine the implications that this may have on the Mental Health Court. Further investigation may focus on further developing the typology of female offender that presents to the Mental Health Court for a homicide offence, particularly homicide offences involving children. In particular, more specific findings in relation to preoccupations with their children would be a useful addition to threat and risk assessment for this group of mentally ill perpetrators of homicide.

Conclusion

The present study sought to investigate homicide cases committed by perpetrators who appeared before the Queensland Mental Health Court. The research examined the relationship between crime scene characteristics and tested the victim role model as a facet framework to the classification of cases. Results demonstrated that the majority of crime scene characteristics were classified by the victim as object and victim as person themes, with the victim as vehicle theme providing a poor fit for the data. As the model did not differentiate three dominate themes, power and intimacy may provide a more appropriate method to the classification of cases with two themes evident, high power and low intimacy and high intimacy and low power. Furthermore, the study found a typology consistent with female filicide offenders, demonstrating a highly distorted sense of intimacy and a low need for power and control of the victim. Based on the findings it is hoped that the present study will be useful for future research investigating the role of the victim and offender in homicide cases and in providing a direction for future research pertaining to mentally disordered homicide perpetrators.

References

Aitken, L., Oosthuizen, P., Emsley, R., & Seedat, S. (2008). Mass murders: Implications for
       mental health professionals. *International Journal of Psychiatry in Medicine, 38*, 261-
       269. doi: 10.2190/PM.38.3.c

Almond, L., Duggan, L., Shine, J., & Canter, D. (2005). Test of the arson action system model in
       an incarcerated population. *Psychology, Crime and Law, 11*, 1-15.
       doi:10.1080/1068316031009634287

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental
       Disorders (4th Ed, text revision)*. Washington: American Psychiatric Association.

Australian Bureau of Statistics. (2009). *2008 recorded crime-victims*. Canberra: Author.
       Retrieved from
       http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4510.02009?OpenDocument

Australian Institute of Criminology. (2010). *Homicide Statistics*. Author: Canberra.
       Retrieved from http://www.aic.gov.au/statistics/homicide.aspx

Borg, I., & Lingoes, J. (1987). *Multidimensional similarity analysis*. New York: Springer-
       Verlag.

Boyle, G. J. (1991). Does item homogeneity indicate internal consistency or item redundancy in
       psychometric scales. *Personality and Individual Differences, 12*, 291-294. doi:
       10.1016/0191-8869(91)90115-R

Canter, D. (1994). *Criminal shadows*. London: Harper Collins.

Canter, D., & Ioannou, M. (2004). A multivariate model of stalking behaviours.
       Behaviourmetrika, 31, 113-130. doi: 10.2333/bhmk.31.113

Canter, D., & Youngs, D. (2009). *Investigative Psychology: Offender profiling and the analysis of criminal action.* United Kingdom: Wiley.

Canter, D., & Youngs, D. (2012). Sexual and violent offenders' victim role assignments: A general model of offending style. *Journal of Forensic Psychiatry and Psychology, 23*, 297-326: doi: 10.1080/14789949.2012.690102

Cook, P. E., & Hinman, D. L. (1999). Criminal profiling: Science and art. *Journal of Contemporary Criminal Justice, 15*, 230-241. doi: 10.1177/1043986299015003002

Daffern, M., Howells, K., & Ogloff J. (2007). What's the point? Towards a methodology for assessing the function of psychiatric inpatient aggression. Behaviour Research and Therapy, 45, 101-111. doi: 10.1016/j.brat.2006.01.011

Donald, I. (1995). Facet theory: Defining research domain. In G. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (pp. 116-137). London: Sage.

Douglas, J., & Burgess, A. (1986). Criminal profiling: A viable investigative tool against violent crime. *FBI Law Enforcement Bulletin, 55*, 9-13. Retrieved from https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=103723

Egger, S. A. (1999). Psychological profiling: Past, present and future. *Journal of Contemporary Criminal Justice, 15*, 242-261. doi: 10.1177/1043986299015003003

Feshbach, S. (1964). The function of aggression and the regulation of the aggressive drive. *Psychological Review, 71*, 257-272. Retrieved from http://ovidsp.tx.ovid.com.ezproxy.bond.edu.au/sp-3.4.2a/ovidweb.cgi?WebLinkFrameset=1&S=AOPIFPGFBIDDBHMCNCBLIAGCLKE AAA00&returnUrl=ovidweb.cgi%3f%26TOC%3dS.sh.15.16.20.24%257c2%257c50%2 6FORMAT%3dtoc%26FIELDS%3dTOC%26S%3dAOPIFPGFBIDDBHMCNCBLIAG

CLKEAAA00&directlink=http%3a%2f%2fgraphics.tx.ovid.com%2fovftpdfs%2fFPDDN

CGCIAMCBI00%2ffs046%2fovft%2flive%2fgv023%2f00006832%2f00006832-

19640700000002.pdf&filename=The+function+of+aggression+and+the+regulation+of+a

ggressive+drive.&link_from=S.sh.15.16.20.24%7c2&pdf_key=B&pdf_index=S.sh.15.16

.20.24

Fritzon, K., Canter, D., & Wilton, Z. (2001). The application of an action system model to

destructive behaviour: the examples of arson and terrorism. *Behavioural Sciences and the

Law, 19*, 657-690. doi:10.102/bsl.464

Fritzon, K., & Ridgway, J. (2001). Near-death experience: The role of victim reaction in

attempted homicide. *Journal of interpersonal violence, 16*, 679-699.

doi:10.1177/088626001016007004

Graziano, A. M., & Raulin, M. L. (2004). *Research methods: A process of inquiry (5th Ed.)*.

Boston: Pearson.

Hammond, S. (1999). *Unpublished bespoke program written for Broadmoor Hospital.* United

Kingdom: Author.

Hempel, A. G., Meloy, R., & Richards, T. C. (1999). Offender and offence characteristics of a

nonrandom sample of mass murderers. *Journal of the American Academy of Psychiatry

and the Law, 27*, 313-225. Retrieved from

http://www.jaapl.org/content/27/2/213.full.pdf+html

Hickey, E. W. (2010). *Serial murderers and their victims (5th ed.)*. California: Wadsworth.

Hickey, E. W., & Holmes, R. M. (1991). Female serial murderesses: Constructing differentiating

typologies. *Contemporary Journal of Criminal Justice, 7*, 245-256. doi:

10.1177/104398629100700405

Krippendorff, K. (2004). *Content analysis: An introduction to its methodology (2nd Ed.)*.

California: Sage Publications.

Malmquist, C. P. (2006). *Homicide: A psychiatric perspective (2nd Ed.)*. Arlington: American

Psychiatric Association.

McAdams, D. (1993). *The stories we live by: Personal myths and the making of the self*. New

York: William Morrow & Company.

McAdams, D. (2001). The psychology of life stories. *Review of General Psychology, 5*, 100-122.

doi: 10.1037//1089-2680.5.2.100

Mouzos, J. (2002). *Homicide in Australia: 2000-2001 national homicide monitoring program

(NHMP) annual report*. Australian Institute of Criminology: Canberra. Retrieved from

http://www.aic.gov.au/publications/current%20series/rpp/21-40/rpp40.aspx

Mouzos, J., & West, D. (2007). *An examination of serial murder in Australia*. Canberra:

Australian Institute of Criminology. Retrieved from

http://www.aic.gov.au/documents/9/4/D/%7B94D99128-30C6-4F6A-BFEA-

07D92469736A%7Dtandi346.pdf

Mullen, P. E. (2006). Schizophrenia and violence: From correlations to preventative strategies.

Advances in Psychiatric Treatment, 12, 239-248. Retrieved from

 http://apt.rcpsych.org/cgi/reprint/12/4/239

New South Wales Law Reform Commission. (2002). *Report 83 (1997)-partial defenses to

murder: Provocation and infanticide*. Retrieved from

http://www.ipc.nsw.gov.au/lrc.nsf/pages/R83CHP3

Papapietro, D. J., & Babro, E. (2005). Commentary: Toward a psychodynamic understanding of

filicide-beyond psychosis and into the heart of darkness. *The Journal of the American*

Academy of Psychiatry and the Law, 33, 505-508. Retrieved from

http://www.jaapl.org/content/33/4/505.full

Petherick, W. (2009). The fallacy of accuracy in criminal profiling. In W. Petherick (Ed.), *Serial crime: Theoretical and practical issues in behavioural profiling (2nd ed.)* (pp.109-122). California: Elsevier.

Plotnick, S., Porter, J., & Bagby, M. (1998). Is there bias in the evaluation of fitness to stand trial? *International Journal of Law and Psychiatry, 21*, 291-304. doi:0160-2527(98)00007-7

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

Riedel, M. (1998). Book review essay: serial murder, communities, and evil. *Criminal Justice Review, 23*, 220-232. Retrieved from

http://heinonline.org.ezproxy.bond.edu.au/HOL/LuceneSearch?specialcollection=&terms=creator%3A%22%20Riedel,%20Marc%22&yearlo=&yearhi=&subject=ANY&journal=ALL&sortby=relevance&collection=journals&searchtype=advanced&submit=Search

Rodgers, J. L. (1991). Matrix and stimulus sample sizes in the weighted MDS model: Empirical metric recovery functions. *Applied psychological measurement, 15*, 71-77. doi:10.1177/014662169101500107

Salfati, G. C., & Canter, D. V. (1999). Differentiating stranger murders: Profiling offender characteristics from behavioural styles. *Behavioural Sciences and the Law, 17*, 391-406. Retrieved from

http://www.davidcanter.com/uploads/differentiating%20stranger%20murders.pdf

Shackelford, T. K., Weekes-Shackelford, V. A., & Beasley, S. L. (2005). An exploratory

analysis of the contexts and circumstances of filicide-suicide in Chicago 1965-1994.

Aggressive Behaviour, 31, 399-406. doi: 10.1002/ab.20085

Shaw, J., Hunt, I. M., Flynn, S., Meehan, J., Robinson, J., Bickley, H., Parsons, R.,…Appleby, L.

(2006). Rates of mental disorder in people convicted of homicide: National clinical

survey. *British Journal of Psychiatry, 188*, 143-147. doi: 10.1192/bjp.188.2.143

Shye, S. (1985). Nonmetric multivariate models for behavioural actions systems. In D. Canter

(Ed.), *Facet theory approaches to social research* (pp. 97-148). New York: Springer

Verlag.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th Ed.)*. Boston:

Pearson.

Wallace, C., Mullen, P., Burgess, P., Palmer, S., Ruschena, D., & Browne, C. (1998). Serious

criminal offending and mental disorder: Case linkage study. *British Journal of

Psychiatry, 172*, 477-484. doi: 10.1192/bjp.172.6.477

Wilson, P., Lincoln, R., & Kocsis, K. (1997). Validity, utility and ethics of profiling for serial

violent and sexual offenders. *Psychiatry, Psychology and Law*, 4, 1-12. Retrieved from

http://epublications.bond.edu.au/hss_pubs/24

Wolfgang, M. E. (1958). *Patterns in criminal homicide*. New York: Science Editions.

Appendix A

Crime Scene Characteristics

1. **Alcohol use (variable name: alcohol; frequency= 18; percentage=29%)**

   Offender engaged in alcohol consumption prior to committing the offence.

2. **Drug use (variable name: drugs; frequency= 18; percentage=29%)**

   Offender engaged in illicit substance use prior to committing the offence.

3. **Family member (variable name: family; frequency= 41; percentage= 66%)**

   The victim was a family member of the offender.

4. **Relationship (variable name: relationship; frequency= 10; percentage=16%)**

   The offender was in or had been in an intimate relationship with the victim.

5. **Acquaintance (variable name: acquaintance; frequency= 15; percentage=24%)**

   The victim was known to the offender, however, was not a family member or a past intimate

   partner.

6. **Stranger or unknown person (variable name: stranger; frequency= 8; percentage=13%)**

   The victim was not known to the offender.

7. **Secondary victim (variable name: secondary victim; frequency= 11; percentage=18%)**

   The crime involved more than one victim.

8. **Offender reports crime (variable name: offender report; frequency= 18; percentage=29%)**

   The offender reported the crime after committing the offence. For example, the offender phoned

   the police or turned themselves into the police.

9. **Victim reports crime (variable name: victim report; frequency= 3; percentage=5%)**

   The victim reported the crime at the time of the offence or following the offence.

10. **Offender stays at the scene after the crime (variable name: stay at scene; frequency= 26; percentage=42%)**

The offender remained at the scene of the crime following the offence.

11. **Sex with victim (variable name: sex; frequency= 2; percentage=3%)**

The offender engaged in sex with the victim during the course of committing the offence. This may have been before or after the death of the victim.

12. **Play or alter the body (variable name: play/alter; frequency= 4; percentage=7%)**

The offender engaged in acts with the victim post death. For example, removed items from the victim's body, engaged in acts of mutilation.

13. **Body covered up (variable name: cover body; frequency= 2; percentage=3%)**

The offender covered the victim's body/or part of the victim's body following the offence.

14. **Body left at the scene of the crime (variable name: body left; frequency= 53; percentage=86%)**

The victim's body was left at the scene of the crime.

15. **Spend time with the victim (variable name: spend time; frequency= 26; percentage=42%)**

The offender spent time with the victim before committing the crime. For example the offender had spent the morning with the victim before the crime.

16. **Property taken from the crime scene (variable name: property; frequency= 6; percentage=10%)**

The offender took property from the crime scene following the offence.

17. **Victim is stabbed (variable name: stab; frequency= 37; percentage=60%)**

The offender stabbed the victim when committing the offence.

18. **Blunt object used (variable name: blunt object; frequency= 14; percentage=23%)**

The offender used a blunt object to injure or attack the victim with. For example, the offender may have used their fist, a rock or a pole to harm the victim.

19. **Victim is shot (variable name: shoot; frequency= 2; percentage=3%)**

The offender shot the victim with a gun during the offence.

20. **Strangulation (variable name: strangle; frequency= 13; percentage=21%)**

The offender strangled the victim during the course of committing the crime. Strangulation may have involved the offender manually strangling the victim with their hands or with a form of ligature.

21. **Knife (variable name: knife; frequency= 34; percentage=55%)**

A knife was involved in the offence. The offender may have used the knife to physically harm the victim or used the knife as a means to carry out the offence.

22. **Poisoning (variable name: poison; frequency= 4; percentage=7%)**

The offender poisoned the victim when committing the offence. Poisoning of the victim required the offender to deliberately provide or force the victim to consume harmful quantities of a substance.

23. **Ligatures (variable name: ligatures; frequency= 7; percentage=11%)**

The offender utilised a form of ligature (e.g., rope, wire, cable) to strangle the offender.

24. **Gun (variable name: gun; frequency= 4; percentage=7%)**

A gun was involved in the offence. The offender may have used the gun to physically harm the victim or used the gun as a means to carry out the offence.

25. **Evidence of overkill (variable name: overkill; frequency= 17; percentage=27%)**

The victim had evidence of severe wounding, or multiple wounds that were beyond what was required to commit the offence. For example, a victim that had three or more stab wounds.

26. **Evidence of facial injuries (variable name: face; frequency= 14; percentage=23%)**

The victim had injuries to the front of their face.

27. **Multiple body wounds (variable name: multiple body; frequency= 21; percentage=34%)**

The victim had wounds or injuries to three or more different body parts. For example, face, torso and legs.

28. **Body left on view (variable name: on view; frequency= 20; percentage=32%)**

The body of the victim was left on view. For example the body of the victim was not covered, was left outside in public or moved to another location where the body was visible.

29. **Restraints used (variable name: restraints; frequency= 2; percentage=3%)**

The victim was restrained by the offender. For example tied down or tied to an object.

30. **Child victim (variable name: child; frequency= 13; percentage=21%)**

The victim was a child of who was aged older than 12-months and under the age of 18 years.

31. **Infant victim (variable name: infant; frequency= 3; percentage=5%)**

The victim was an unborn child, newly born child, or a baby.

32. **Adult victim (variable name: adult; frequency= 33; percentage=53%)**

The victim was an adult aged between 18 years of age and 60 years of age.

33. **Elderly victim (variable name: elderly; frequency= 10; percentage=16%)**

The victim was a person aged over 60 years of age.

34. **Female victim (variable name: victim female; frequency= 34; percentage=55%)**

The victim was of female gender.

35. **Male victim (variable name: victim male; frequency= 32; percentage=52%)**

The victim was of male gender.

36. Offender male (variable name: offender male; frequency= 46; percentage=74%)

The offender was of male gender.

37. Offender female (variable name: offender female; frequency= 16; percentage=26%)

The offender was of female gender.

38. Weapon brought to the crime scene (variable name: bring weapon; frequency= 13; percentage=21%)

The offender brought a weapon with them to the crime scene.

39. Weapon used from the crime scene (variable name: used weapon; frequency= 31; percentage=50%)

The offender used a weapon at the scene of the crime.

40. Attempted cover up at the crime scene (variable name: cover up; frequency= 3; percentage=5%)

The offender attempted or engaged in acts of covering up or altering the crime scene. For example, moving or re-arranging objects and using material to change the appearance of the crime after the offence.

41. Blitz or sudden attack (variable name: blitz; frequency= 47; percentage=76%)

The offender engaged in a sudden attack on the victim. For example, the offender attacked the victim upon instant contact.

42. Time taken to attack/extended attack (variable name: take time; frequency= 9; percentage=15%)

The offender had considerable time to prepare before attacking the victim or the offender had contact with the victim prior to attacking them. The attack on the victim was not sudden. For

example, the offender waited at the victim's residence until the victim returned home and then

proceeded to attack.

43. Suicide or attempted suicide (variable name: suicide; frequency= 8; percentage=13%)

The offender attempted to/or took their life following the offence.

44. Threaten victim (variable name: threaten; frequency= 8; percentage=13%)

The offender threatened the victim prior to the offence. The offender made threats to harm the

victim or kill the victim.

45. Triggering event (variable name: trigger; frequency= 18; percentage=29%)

The offender experienced an emotional or stressful event prior to committing the crime. For

example; engaging in an argument, losing their job or breakdown of their relationship.

Appendix B

Diagnostic Categories

Schizophrenia

Example diagnoses included in category were: schizophrenia; prodromal schizophrenia; undifferentiated schizophrenia; schizophreniform disorder; schizoaffective disorder.

Paranoid schizophrenia

Example diagnoses included in category were: paranoid schizophrenia.

Mood disorders

Example diagnoses included in category were: major depression; anxiety; depressive disorder; adjustment disorder; schizoaffective disorder (mood component).

Personality disorders

Example diagnoses included in category were: borderline personality disorder; antisocial personality disorder; dependent personality disorder; narcissistic personality disorder.

Substance use

Example diagnoses included in category were: multiple drug dependence; cannabis dependence; intoxication; drug induced delirium; substance induced psychosis (substance component)

Psychosis related disorders

Example diagnoses included in category were: delusional disorder; psychosis; brief psychosis; substance induced psychosis (psychosis component); psychotic episode.

Organic related disorders

Example diagnoses included in category were: intellectual impairment; dementia; frontal lobe damage; mild mental retardation.

Autism related disorders

Example diagnoses included in category were: Aspergers syndrome.

Dissociation related disorders

Example diagnoses included in category were: dissociation.