Running head: CLASSIFYING SERIAL SEXUAL HOMICIDE

Classifying Serial Sexual Homicide: Validating Keppel and Walter's (1999) Model

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Abstract

Keppel and Walter's (1999) classification system for serial sexual homicide is commonly used as the basis for generating offender profiles of unknown offenders despite the fact that it has yet to be empirically validated. Keppel and Walter's model assumes that serial sexual homicides and serial sexual homicide offenders can be classified into four categories – power-assertive, power-reassurance, anger-retaliation, and anger-excitation – according to the degree of anger and power exhibited in the criminal and non-criminal context. As a first step in assessing the validity of this model, the crimes of 53 serial sexual murderers were examined to determine if the categories proposed by Keppel and Walter could be identified. Although no support was found for this classification system, support was found for an alternative model – the FBI's organized/disorganized dichotomy. The second phase of the study tested the organized/disorganized classification system to determine if evidence could be found for the three basic assumptions underlying the profiling process, namely, the temporal stability of criminal behaviour across crimes, the cross-situational consistency of behaviours between an offender's criminal and non-criminal life, and the homology of background characteristics for offenders who display similar behaviours (compared to one another) in their criminal life. Consistent with previous literature, moderate support was found for temporal stability, whereas lower levels of support were found for cross-situational consistency and homology. These results are discussed in terms of their theoretical and practical implications.

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Classifying Serial Sexual Homicide: Validating Keppel and Walter's (1999) Model

Introduction

According to the Federal Bureau of Investigation (FBI), offender profiling is defined as “a technique for identifying the major personality and behavioural characteristics of an individual based upon an analysis of the crimes he or she has committed” (Douglas, Ressler, Burgess, & Hartmann, 1986, p. 402). Despite the fact that profiling is now a commonly used investigative tool in most serial crime investigations (Muller, 2000), little is known about the actual profiling process (Alison, Bennell, Mokros, & Ormerod, 2002). For example, Pinizzotto and Finkel (1990) are amongst the very few that have made an explicit attempt to describe the profiling process, but their effort leaves much to be desired. They argue that profiling can be understood as an equation that takes the form: WHAT + WHY = WHO. That is, if we identify *what* an offender did at a crime scene, and *why* he¹ might have done it, it will be possible to predict *who* the offender is in terms of his personality, behavioural characteristics, and demographic features. However, how exactly one is to move from the WHAT to the WHY has never been discussed in any detail, and how the WHAT and the WHY are to be combined to arrive at the WHO is equally unclear (Alison et al., 2002).

What does seem to be commonly accepted, however, is that, as an investigative task, profiling is feasible only if certain assumptions are met (Canter, 1995). For example, if we are to base our profile of an offender on the behaviours he displays during his crime series, then there must be some underlying logic to the offender's behaviour from one crime to the next. In other words, for profiling to work, the offender cannot

¹ For simplicity, the masculine designation will be used throughout this thesis as the vast majority of serial sexual homicide offenders are male, as were all the subjects included in the present investigation.

behave in a random fashion across his crime series or there will be no stable basis from which to construct a profile. Rather, the offender must exhibit a certain degree of behavioural stability across time (Bennell & Jones, 2005). Likewise, for profiling to be possible, there must be a relatively high degree of behavioural consistency that is exhibited between an offender's criminal and non-criminal life. If such consistency does not exist, then what an offender does during his crimes will tell us nothing about the offender that will be of use to the police in their investigations (Salfati & Canter, 1999). Finally, for profiling to be possible, there must be a degree of homology between the crimes committed by different offenders and the respective background characteristics of these offenders (Mokros & Alison, 2002). In other words, if two offenders commit extremely similar crimes, they should possess similar background characteristics.

Recently, a number of researchers have argued that our ability to find evidence for all of the fundamental profiling assumptions depends largely on whether we can identify a sound and sensible way of classifying offenders, both in terms of their crime scene actions and their background characteristics (see Canter & Heritage, 1990, for the first detailed discussion of this issue, and Canter, 2000, for a more recent review). Whatever classification system is proposed must tap into the offender's view of the world (e.g., the psychological meaning that victims and others have for the offender), since ultimately, it is this that will result in the levels of stability, consistency, and homology required for profiling to work. For example, focusing on modes of interpersonal interaction as a way of classifying serial offenders (e.g., Canter, 1994) is only useful to the extent that "modes of interpersonal interaction" are apparent in the criminal and non-criminal lives of offenders, and only to the extent that they matter to the offender. Why would an offender

exhibit a stable pattern of offender-victim interaction (e.g., always treating his victims as vehicles for the expression of his own rage) across his crime series if this is not an issue that holds any meaning for him?

One type of crime that has received significant attention, in terms of an effort to develop classification systems, is serial sexual homicide, and therefore it is this crime type that will be the focus of the current thesis. Although an adequate definition of serial sexual homicide has yet to be proposed, Ressler, Burgess, and Douglas (1988) argue that *sexual homicide* is any murder that shows evidence of having been sexual in nature, including the “victim attire or lack of attire; exposure of the sexual parts of the victim’s body; sexual positioning of the victim’s body; insertion of foreign objects into the victim’s body cavities; evidence of sexual intercourse (oral, anal, vaginal); and evidence of substitute sexual activity, interest, or sadistic fantasy” (p. xiii). Incorporating the definition of *serial homicide* proposed by Holmes and DeBurger (1988), an offender may be classified as a serial sexual murderer once they have committed three or more sexual homicides over a period of more than 30 days, with an emotional “cooling off” period (i.e., days, weeks, or months) between each offence. The primary reason for the focus on serial sexual homicide in this thesis is that it represents the type of crime where investigative techniques such as offender profiling are most likely to be used (i.e., it is a violent interpersonal crime; Trager & Brewster, 2001).

While several attempts have been made over the years to propose offender classification systems for use in serial sexual homicide investigations, few have been scrutinised in any detail (Prentky & Burgess, 2000). One such system is the model of serial sexual murder that has been proposed by Keppel and Walter (1999). In brief,

Keppel and Walter propose that serial sexual murderers are primarily motivated by either anger or power, and that from these two sources of motivation, four different themes emerge in the behaviours and background characteristics of offenders – *power-assertiveness*, *power-reassurance*, *anger-retaliation*, and *anger-excitation* (each of these themes will be discussed in more detail later in the thesis). In proposing this model, Keppel and Walter's contention is that these four themes reveal the different ways in which serial sexual murderers commit their crimes, and further, that these differences reflect overtly available distinguishing features of the offender's non-criminal life. Despite the fact that this classification system now forms the basis of many current profiling approaches (Hazelwood & Burgess, 2001), it has never been empirically validated. For example, it is still uncertain whether the four themes that Keppel and Walter proposed even exist, and it is unclear whether this model forms a suitable basis for examining the patterns exhibited by serial sexual homicide offenders across their crimes and between their criminal and non-criminal lives.

Thus, this thesis represents the first attempt at validating the Keppel and Walter (1999) model of serial sexual murder. However, before describing this model in more detail, and determining whether it provides a suitable basis upon which to construct profiles of serial sexual murderers, the necessity and relevance of classification systems for the profiling of violent crimes will be discussed. Following this, the important characteristics of classification systems will be examined, both in general terms, and specifically in terms of the violent criminal investigations in which profiling may be used. Next will be a brief review of the classification systems that have been proposed for use in serial sexual murder investigations, including Keppel and Walter's model, and the

problems that have been identified with these systems. Finally, the literature review will end with a discussion of the assumptions that underlie the profiling process, as any classification system intended to assist with this process must provide the basis for examining, and ultimately supporting, these assumptions.

The Importance of Classification Systems for Criminal Investigations

Within all disciplines, classification systems serve a very important role. As Prentky and Burgess (2000) state, “the science of classification (taxonomy) is fundamental to all science. The task is to uncover the laws and principles that underlie the optimal differentiation, or ‘carving up’, of a domain into subgroups that have theoretically important similarities” (p. 25). When faced with tremendous diversity, it is human nature to seek to reduce, simplify, and organize the elements, in order to gain a better understanding of the issue. The understanding of heterogeneous groups is thus made simpler by dividing these diverse groups into subgroups that are more homogeneous with respect to a chosen characteristic (or characteristics). To classify, then, enables us to gain a better understanding of certain groups by distinguishing attributes that are shared by all members, from those that allow us to discriminate between them. The larger or more diverse a group is, the more it can benefit from a proper classification system.

In the field of criminal investigations, it is generally recognized that offenders are a widely heterogeneous group, even among those committing the same type of crime (Grubin & Kennedy, 1991). While it may seem evident that a rapist differs from a murderer, it is also the case that rapists differ from each other in certain ways, as do murderers from one another (Canter, 2000). Faced with such diversity, it is imperative to

divide these larger groups into smaller homogeneous subgroups, in order to appropriately investigate offenders (Prentky & Burgess, 2000). According to Holmes and DeBurger (1988), the “careful study and classification of pertinent data is one of the most fundamental steps in developing adequate knowledge about criminal behaviour patterns” (p. 46).

As Canter (2000) states, there remain some uncertainties with regards to the inferences that can be made during police investigations, including: (1) the most appropriate ways of indicating the differences between crimes and between offenders; (2) how to tell whether a series of crimes are likely to have been committed by the same offender; and (3) the important crime scene behaviours that will help identify the perpetrator. Despite the fact that everyone seems to agree that a classification system is essential for understanding these issues, there is, to date, no clear consensus regarding how to develop these systems (Canter, 2000).

Different Approaches to Developing Classification Systems

There does, however, appear to be some agreement as to the key features that constitute an *ideal* classification system (it should be appreciated that the characteristics discussed in this paragraph can likely never be fully achieved). For example, for a classification system to be maximally effective, it must permit the user to differentiate between the objects of interest (offences or offenders in the present case) (Canter, 2000). In order to accomplish this, attention must be paid to relevant features of the objects (Salfati & Canter, 1999), and the emerging categories should be exhaustive and mutually exclusive (e.g., there should be no offences or offenders who are unclassifiable, and each should be able to be placed into only one category) (Brennan, 1987; Gibbons, 1975;

Holmes & DeBurger, 1988). In addition, the proposed classification system should be easy to use and reliable (Brennan, 1987; Gibbons, 1975; Grubin & Kennedy, 1991). A system that can only be administered by a select, highly trained few, or a system that produces different results with different users, is not particularly useful.

Despite this general consensus, when dealing with classification systems intended for profiling purposes, there remains some disagreement with regards to the approaches that may be taken in order to construct an effective system. The various approaches that may be used, and the benefits of each, will be reviewed next.

Descriptive Versus Predictive

According to Brennan (1987), a classification system may have one of two objectives: description or prediction. In terms of description, classification systems allow us to simplify domains that are initially very complex and heterogeneous, thereby providing us with a clearer understanding of the differences and similarities within the group. In this way, classification “is a major tool for summarization and offers a way to cope with information overload” (Brennan, 1987, p. 203). In understanding the many similarities and differences between the groups, we are developing a clear description of the elements in each. For example, Canter and Heritage (1990) proposed a model for understanding the crimes committed by sexual offenders. They conducted a multidimensional scaling (MDS) analysis on the crime scene behaviours of 27 sexual offenders and convincingly demonstrated that sexual offences can be categorized into themes of *violence*, *sexuality*, *intimacy*, *criminality*, and *impersonality*. While such a finding clearly describes the way in which sexual offences can be carried out, the proposed classification is not predictive in any sense (i.e., the system does not allow one

to predict anything about a violent sexual offender beyond the sorts of behaviours that he would exhibit in his crimes).

Predictive classification systems differ from descriptive classification systems in terms of the purpose for which they are constructed. It is not the intent of a predictive classification system to simply describe the concept; rather, its primary concern is in what characteristics can be employed to accurately predict other, more elusive, characteristics (e.g., predicting whether an offender will have previous convictions of a given type depending on the behaviours he displayed at his crime scene). For example, Salfati and Canter (1999) proposed a three-fold classification system that distinguished between murders based on the role aggression played in the offence (the three themes identified were *impulsive*, *opportunistic*, and *cognitive*). However, these authors went beyond descriptive studies like Canter and Heritage's (1990) and showed that the type of aggression displayed in an offender's crimes could be used to predict the form of aggression that the offender would display in his non-criminal life. For example, an offender displaying behaviours from the impulsive theme during his crimes was more likely, compared to offenders who displayed crime scene behaviours from one of the other two themes, to exhibit impulsive aggression in their non-criminal life (e.g., have previous offences for damage to property or for public disorder).

It is important to highlight the fact that "predictive classifications can have high predictive utility yet be almost irrelevant in terms of explanation, treatment, or description" (Brennan, 1987, p. 204). Thus, a predictive classification system may not resemble a descriptive classification system of the same group in any way, yet both could be equally valid. However, in terms of profiling serial sexual murderers, simply

describing the behaviours of an offender would not prove useful in a criminal investigation. Instead, the value of a classification system is directly related to its predictive utility, that is, its ability to accurately make predictions about the past, present, and future behaviours of an offender (e.g., the types of behaviours that an unknown offender is likely to exhibit in his non-criminal life).

Anecdotes Versus Empiricism

Some classification systems are proposed after careful empirical testing, while others are put forward solely on the basis of the personal past experiences of an individual (typically a practitioner of some kind). The organized/disorganized model proposed by the FBI, which will be discussed in more detail soon, is perhaps the most well-known example of an anecdotal classification system. This classification system assumes that serial offences, and the offenders who commit them, can be categorized as organized (i.e., cautious) or disorganized (i.e., impulsive). This system was put forward solely on the basis of years of investigative experience and has, until recently, never been empirically tested (Hazelwood & Douglas, 1980).

A classification system that is derived empirically is more objective than one based on anecdote as it does not rely on the personal past experiences of anyone, but rather on some form of standardized statistical analysis. One example of such a system is the model of single sexual homicide proposed by Kocsis, Cooksey, and Irwin (2002). As was the case in the studies by Canter and Heritage (1990) and Salfati and Canter (1999), Kocsis and his colleagues constructed their system from an MDS analysis of crime scene behaviours exhibited by 85 sexual murderers. The authors demonstrate the existence of five distinct clusters of behaviour, with the central cluster representing behaviours

common to all sexual murderers, and the remaining four clusters representing themes that allow offenders to be distinguished from one another. These four themes were labelled: *predator* (e.g., behaviours related to sadistic torture), *fury* (e.g., behaviours related to the obliteration of the victim), *perversion* (e.g., behaviours related to extreme paraphilic activity), and *rape* (e.g., behaviours related to sexual activity with only the necessary amount of force).

While the anecdotal approach to developing classification systems may seem intuitively pleasing (the developers are, after all, typically practitioners who have had much contact with offenders), anecdotal accounts are subjective (relying as they do on the memory of the individual constructing the system) and thus may be biased. For example, an FBI agent may develop a classification system for serial sexual murder that he believes captures the distinct offending styles he has witnessed over the course of his career. However, without conducting empirical tests to verify that such styles exist, the investigator is likely to fall prey to certain errors in judgement. He may, for example, rely on an availability heuristic (Canter & Alison, 1999), whereby a person making a judgement thinks only of examples that are easily accessible to memory, while counter examples are forgotten or ignored (Tversky & Kahneman, 1973). Anecdotal accounts are appealing because they are concrete and vivid, however, they do not necessarily reflect the majority of cases. In fact, Kennedy and Homant (1997) have noted that, due to the sheer number of profiling investigations that have been conducted to date, an investigator could always find at least one case that supports his or her theory, regardless of whether the theory is valid. As such, any classification system that is constructed on the basis of

anecdotal evidence is likely to encounter more difficulties than a system that has been empirically derived.

Motivations Versus Behaviours

Within the investigative context, each classification system that has been proposed can be viewed as falling along a continuum depending on whether it focuses more on motivations or observable behaviours. A motivationally-based classification system is one in which the developer's primary concern is to discern the motives² behind the offender's behaviour. In turn, offenders are classified according to the differences and similarities between their motives. The Holmes and DeBurger (1988) classification system that will be discussed in an upcoming section is an example of a motivationally-based system. They propose four categories of serial murder on the basis of the offender's personal motivations. For example, their "hedonistic killer" is supposedly motivated by an internal need to pleasure himself and his behaviours will differ from those of other killers (i.e., visionary, mission-oriented, and power-control) in ways that reflect differing motivations.

Conversely, a behaviourally-based classification system is constructed on the basis of observable crime scene behaviours (and/or background characteristics), and there is no explicit consideration of the motivations that led to these behaviours (though it is obviously recognized that all behaviour is driven by motivation). The rapist typology proposed by Canter, Bennell, Alison, and Reddy (2003) is one such example of a behaviourally-based classification system. After analysing 112 victim statements using an MDS procedure, the authors reported a model of rapists' crime scene behaviours that

² According to the New Merriam-Webster Dictionary, a motive is defined as "something (such as a need or desire) that causes a person to act" (1989, p. 479).

consisted of four themes. Each offender could be classified, according to the behaviours he displayed at his crime scene, into the categories of *involvement* (e.g., behaviours used to involve the victim in the offence), *control* (e.g., behaviours used to control the victim), *theft* (e.g., behaviours related to the theft of property from the victim), and *hostility* (e.g., behaviours related to a physical assault on the victim). In contrast to the Holmes and DeBurger (1988) classification system, these labels are meant to simply describe the behaviours in each theme rather than imply anything about the offender's underlying motivation (although future research may indicate that these different sets of behaviours do in fact correspond to different motivations).

Behaviourally-based classification systems are arguably more objective and reliable than systems based primarily on offender motivation because motivationally-based systems rely on an investigator's ability to identify and correctly interpret the inner thoughts of an offender. Given that the motives behind repetitive homicide are typically intrinsic, the very existence of these motives is almost always unknown to others (Holmes & DeBurger, 1988). Even after extensive interviews with offenders, the true motives for why an offender committed a crime often remain unknown, either because the offender intentionally deceives the interviewer or because the offender himself is unaware of the motivations behind his actions (Canter, 2000). Behaviourally-based classification systems avoid many of the problems associated with the identification and interpretation of motivations. Behaviours are observable and therefore identifiable, and while the interpretation of what a behaviour represents may not be as simple as it seems (e.g., the same behaviour could represent different things in different crimes) it is presumably far simpler to interpret the meaning of an observable behaviour than to

understand an internal motivation. Nonetheless, it should be noted that it is almost impossible to completely separate behaviours from motives, and thus no system will ever be strictly motivational or behavioural.

Classification Systems for Serial Sexual Murder

Three of the most commonly cited classification systems for serial sexual homicide are Hazelwood and Douglas' (1980) organized/disorganized dichotomy, Holmes and DeBurger's (1988) motivational model, and Keppel and Walter's (1999) classification system that is an elaboration of the serial rapist model proposed by Groth, Burgess, and Holmstrom (1977). Each of these systems will now be briefly discussed.

Hazelwood and Douglas' (1980) Organized/Disorganized Dichotomy

Perhaps the most well-known and widely cited classification system for the profiling of violent offenders is the organized/disorganized model proposed by the FBI (Hazelwood & Douglas, 1980). The system essentially suggests that all violent serial sexual homicides, and in turn all violent serial sexual homicide offenders, can be classified as either *organized* or *disorganized* on the basis of their crime scene behaviours and background characteristics. In brief, organized offenders display a great deal more planning and control than their disorganized counterparts, both in their criminal and non-criminal lives (Davis, 1997; Douglas et al., 1986, 1992; Palermo, 2002; Wilson, Lincoln, & Kocsis, 1997). In relation to the issues discussed in the previous section, this system would be predictive, anecdotal, and behavioural in nature.

Ressler, Burgess, Douglas, Hartmann, and D'Agostino (1986) conducted an exploratory study of 36 incarcerated sexual murderers (23 serial murderers), in order to examine if the themes of organization and disorganization reflect differences in crime

scene behaviours, and to determine what background characteristics could best distinguish between the two types. Before analyzing their sample, the authors assigned each offender to either the organized or disorganized group (the authors do not explain this original assignment, though they do report that their sample consisted of 24 organized and 12 disorganized offenders). Once this had been determined, each offender was interviewed to ascertain his behaviour at the crime scene(s) and his background characteristics.

Ressler and his colleagues (1986) found that significant differences do exist between the types of offenders in terms of their crime scene behaviours. Their findings are summarized in Table 1:

Table 1

Crime scene behaviours of organized and disorganized offenders

Organized	Disorganized
Crimes are planned	Weapon left at the crime scene
Sexual acts committed	Violent sexual behaviour
Sexual acts occur before death	Sexual acts occur after death
May converse with victim	Depersonalizes victims
Forced victim to swallow semen	Object inserted into victim's anus and vagina
May commit masochistic acts	Sadistic acts committed
Younger (early 20s) and attractive victim	Older victims (late 20s)
Exhibits control	Post-mortem mutilation (e.g., face)
Restraints used	Post-mortem activity with the body
Wants victim to show fear	Evidence of vampirism
Use of vehicle in the crime	More likely to leave footprints
Wants victim to lie still	Keeps corpses
Alcohol use associated with crime	
Performs behaviours intended to increase his own aggression	

In terms of background characteristics, the differences between the groups that Ressler and colleagues (1986) suggest might aid in the identification and apprehension of the offender are presented in Table 2:

Table 2

Background characteristics of organized and disorganized offenders

Organized	Disorganized
More intelligent	Less intelligent
More likely to work in a skilled trade	Less likely to work in a skilled trade
Higher birth order	Lower birth order
Father's work relatively stable	Father's work unstable
Victim often a stranger	Victim not a stranger
Less likely to live alone	More likely to live alone
May change jobs or leave town after offence(s)	Not likely to change jobs or leave town after offence(s)
Vehicle in good condition	If has car, it is not in good condition
More likely to drive a vehicle	Will commit crime(s) close to home and work
More likely to experience stress prior to the offence(s) (e.g., related to relationship)	More nervous, frightened, or confused prior to committing the offence(s)
Will commit crime(s) further from victims' home	More inhibited and likely to be a compulsive masturbator
Will follow crime(s) in the media	Always heterosexual
	More ignorant of sex
	May have sexual problems
	Has more sexual aversions
	Received hostile discipline as a child

Since the publication of the Ressler et al. (1986) article, almost every article or book published on the topic of offender profiling refers to this classification system, and most include lists such as those illustrated in Tables 1 and 2 (e.g., Davis, 1997; Holmes & DeBurger, 1988; Homant & Kennedy, 1998; Prentky & Burgess, 2000; Turvey, 2002;

Wilson et al., 1997; Woodworth & Porter, 1999). According to Jackson and Beckerian (1997), most countries around the world also base their investigative procedures on this classification system. In fact, the above lists have been used so often that Turvey (2002) describes them as the basis for the “boilerplate checklists that are routinely released by FBI-trained profilers to police departments and news agencies as the profile of an unknown offender...” (p. 220).

It is also worthy to note that in 1992, when Douglas, Burgess, Burgess, and Ressler published the *Crime Classification Manual*, the concept of the *mixed* offender was introduced. This offender is expected to display characteristics from both the organized and disorganized themes. Essentially then, the organized/disorganized dichotomy is best viewed as a continuum, with strictly organized characteristics and behaviours at one end, and strictly disorganized characteristics and behaviours at the other. In between there are varying degrees of mixed offenders/offences, some more organized or disorganized than others, but all sharing characteristics/behaviours from both themes.

Despite the widespread use and interest in this system, it has never been empirically validated. While the FBI did attempt to provide empirical evidence for their system, the 1986 study by Ressler and his colleagues is generally recognized as being seriously flawed. Perhaps the most often cited criticism of the study relates to the assignment of offenders to one of the two groups (organized or disorganized) before examining the offenders' crime scene behaviours and background characteristics (Canter, Alison, Alison, & Wentink, 2004; Homant & Kennedy, 1998). Essentially, what Ressler and his associates did was categorize offenders on the basis of organized and

disorganized characteristics and then examine the crime scenes behaviours and background features of the offenders for evidence of these very characteristics (Homant & Kennedy, 1998). Given the circularity of their methodological approach, it is hardly surprising that these researchers found evidence in support of their classification system. Another potential problem with the organized/disorganized classification system appears to be that almost no cases can be classified as strictly organized or disorganized (Canter, 1994; Canter et al., 2004; Homant & Kennedy, 1998; Turvey, 2002). Some contend that, if the majority of the crime scenes and/or backgrounds of offenders are characterized as mixed, the organized/disorganized typology no longer helps investigators differentiate between offenders (Canter et al., 2004). On the other hand, even with offenders/offences that are mixed, it might be the case that a *predominant* theme emerges (e.g., more organized than disorganized) that can be helpful to profilers.

An attempt was made to shed light on the validity issue when Canter and his colleagues used a sample of 100 U.S. serial killers to test the organized/disorganized dichotomy (Canter et al., 2004). The authors examined the organized and disorganized crime scene behaviours exhibited by these offenders (as outlined by Douglas et al., 1992) using an MDS procedure.³ If offenders can in fact be characterized as either organized *or* disorganized, what should emerge from an MDS analysis are two distinct regions of crime scene behaviours. In other words, organized behaviours should co-occur frequently, as should disorganized behaviours, but organized behaviours should rarely co-occur with disorganized behaviours and vice versa. What Canter and his colleagues found did not support this hypothesis.

³ Canter et al. (2004) only examined the validity of the dichotomy for classifying crime scene behaviours. They conducted no analysis of background characteristics.

Interestingly, the results reported by Canter and his colleagues (2004) indicate that organized behaviours do tend to co-occur with one another and that they are also exhibited with very high frequency. In the MDS analysis, these behaviours formed a distinct region in the centre of the plot. On the other hand, the disorganized behaviours were exhibited with much lower frequency and were scattered around the periphery of the plot with thematically related, local pockets of co-occurring behaviours emerging (e.g., disorganized behaviours related to the act of mutilation). Based on these findings, Canter and his colleagues concluded that the FBI's conceptualisation of organization and disorganization was incorrect. In contrast to the idea that serial murderers will commit crimes that are either organized or disorganized, Canter et al.'s results suggest that organized behaviours form the core of most serial homicide offences, with disorganized behaviours being those that will allow offences to be differentiated from one another.

Holmes and DeBurger's (1988) Motivational Model of Serial Sexual Murder

Another commonly cited classification system is the Holmes and DeBurger (1988) model. Using the categories outlined earlier in the introduction, this system is descriptive, anecdotal, and motivational in nature. In essence, Holmes and DeBurger sought to develop a model of serial homicide that would improve the performance of law enforcement in apprehending serial homicide offenders. In their minds, a system that focused on only one aspect of the offender (e.g., their level of organization) would have limited utility. After studying various cases, they concluded that any classification of serial sexual murder should provide information related to at least four areas: (1) the behavioural background of the offender (e.g., his motives), (2) the offender's victims, (3)

the methods used by the killer in the commission of his crimes, and (4) the location of the crimes.

After a qualitative examination of data on 110 serial sexual murders (no statistical analyses were conducted), Holmes and DeBurger (1988) reached the following conclusions with regards to the above classification issues. Firstly, they argued that the locus of motivation for all serial killers is *intrinsic* as opposed to *extrinsic* (as it is for single homicide offenders), and accordingly, the gain the serial killer receives from committing his crimes is strictly psychological. In terms of victim selection, the authors explained that offenders can fit into one of two categories: *random* or *non-random* selection. While some murderers will murder anyone who crosses their path (i.e., random), others may wait until they meet an individual who fits a certain description or behaves in a particular way (i.e., non-random; for example, a prostitute). Next, the methods of the crime may be described as either *act-focused* or *process-focused*. An act-focused crime is one in which the murder itself is the goal (i.e., any satisfaction is gained from the death of the victim). In contrast, a process-focused crime is one in which the offender takes pleasure from the pain and slow torture they inflict on their victims prior to killing them. Finally, a murderer may be *geographically stable*, as in the case of a killer who commits his crimes in the area where he lives and works, or *geographically transient*, such as a killer who spends his entire series travelling.

Based on the above findings, Holmes and DeBurger (1988) proposed a four-fold, motivationally-based, thematic classification of serial sexual murder. Different combinations of the features discussed above (with the exception of the offender's geography, which for some reason is left unmentioned) result in four different types of

serial murderers: (1) the *visionary* killer who kills in response to the voices or visions that instruct him to do so, (2) the *mission-oriented* killer who is driven by a need to rid the world of a specific group or category of people, (3) the *hedonistic* killer who derives pleasure and satisfaction from the act of murder itself, and (4) the *power-control* killer who thrives on holding the power of life and death over his victims.

Over ten years later, Holmes and Holmes (2002) proposed a modified version of the same classification system in which they broke down the hedonistic killer into three sub-categories: (1) the *comfort* killer who kills for personal gain (e.g., financial), (2) the *lust* killer who derives sexual pleasure from the act of murder, and (3) the *thrill* killer who takes pleasure in the pain and suffering of his victims. The specific make-up of these six themes, as specified by Holmes and Holmes is presented in Table 3.

Table 3

Holmes and Holmes' (2002) thematic classification of serial murder

Crime Scene Behaviours	Type of Serial Killer					
	Visionary	Mission	Hedonistic			Power/Control
			Comfort	Lust	Thrill	
Controlled crime scene	No	Yes	Yes	Yes	Yes	Yes
Overkill	Yes	No	No	Yes	No	No
Chaotic crime scene	Yes	No	No	No	No	No
Evidence of torture	No	No	No	Yes	Yes	Yes
Body moved	No	No	No	Yes	Yes	Yes
Specific victim	No	Yes	Yes	Yes	Yes	Yes
Weapon at the scene	Yes	No	Yes	No	No	No
Relational victim	No	No	Yes	No	No	No
Victim known	Yes	No	Yes	No	No	No
Aberrant sex	No	No	No	Yes	Yes	Yes
Weapon of torture	No	No	No	Yes	Yes	Yes
Strangles the victim	No	No	No	Yes	Yes	Yes
Penile penetration	Unknown	Yes	Usually not	Yes	Yes	Yes
Object penetration	Yes	No	No	Yes	Yes	No
Necrophilia	Yes	No	No	Yes	No	Yes
Gender usually	Male	Male	Female	Male	Male	Male

Although a classification system with six themes might appear to be more comprehensive than the simple dichotomy proposed by the FBI, Canter and Wentink (2004) point out that this system is essentially the organized/disorganized continuum,

with three distinct mixed categories.⁴ The visionary category is at the most disorganized end of the spectrum, as the only one showing evidence of a mental disorder, and the power/control category is at the most organized end, characterized by a high degree of control over the victim and the crime scene. Given what Canter et al. (2004) found regarding the validity of the organized/disorganized model, this may not bode well for the validity of Holmes and Holmes' (2002) classification system.

There are also other problems that have been noted with this classification system (Canter & Wentink, 2004). First, Holmes and Holmes (2002) suggest that, although offenders may exhibit behaviours from more than one category, they will still exhibit a clear dominant theme. However, they provide no criteria for how to place an offender into a dominant category (i.e., what percentage of behaviours must an offender display?). Second, the motivational categories proposed by Holmes and Holmes are unlikely to be useful to a criminal investigation given that the authors themselves admit that motivation is unobservable. For example, the visionary killer may be motivated to kill all people who 'reveal' themselves to be demons and 'ask' to be saved, but in what way can these visions be observed in a crime scene by an investigator? Third, there are issues related to the reliability of the data that were used to construct the classification system; Holmes and DeBurger (1988) provide no detailed information regarding the source of their data. Finally, although this classification system is intended for use in criminal investigations, it is descriptive instead of predictive. Holmes and DeBurger provide no offender background characteristics that are expected to co-occur with any of the themes. It would therefore be difficult to apply this model to an investigation, as knowledge of the

⁴ Canter and Wentink (2004) do not include the category of *comfort* killer in this statement, as Holmes and Holmes (2002) indicate that offenders in this category are primarily female, and Canter and Wentink

offender's crime scene behaviour would tell investigators nothing about their likely background characteristics.

Canter and Wentink (2004) were the first to systematically test the validity of the Holmes and Holmes (2002) model of serial murder. More specifically, these researchers sought to determine whether the behaviours that have been proposed to co-occur with one another (i.e., behaviours within each category of murder) do in fact co-occur with more frequency than the behaviours from diverse categories. Using a sample that included 100 U.S. serial sexual killers, an MDS analysis was conducted on the offence behaviours. If the proposed classification system was indeed valid, the authors expected the MDS plot to show evidence of five relatively distinct groupings of behaviours (some overlap was expected given the overlap that is evident across the themes in Table 3). However, as was the case with the organized/disorganized dichotomy, the results did not support the model. While some themes did appear to form more distinct regions in the plot (visionary and lust murders in particular), the behaviours that were supposed to represent the other themes were randomly spread out around the plot (e.g., mission, thrill, and power/control murders).

Keppel and Walter's (1999) Classification System of Serial Sexual Murder

Perhaps the classification system that is currently receiving the most attention is the model proposed by Keppel and Walter (1999), a predictive system that is both motivationally- and behaviourally-based, but largely anecdotal in nature. This model is a refinement of a classification system originally proposed by Groth and his colleagues (1977) for rape. Therefore, before continuing, it would be useful to briefly review the model that resulted in Keppel and Walter's system.

conducted analyses on a sample consisting entirely of male serial killers.

The system proposed by Groth et al. (1977) focuses on *what* the offence means to the offender, as opposed to the behaviours that constitute the offender's actions (Canter & Heritage, 1990). After interviewing over 500 rapists, Groth and his colleagues proposed that what motivated a rapist was not sex, but rather anger or power. Their classification system includes four categories of rape, two of which directly express themes of power (the *power-assertive* rapist and the *power-reassurance* rapist) and two which directly express themes of anger (the *anger-retaliation* rapist and the *anger-excitation* rapist).

According to Groth et al. (1977), the power-assertive rapist is motivated by a need to express his "virility, mastery, and dominance" (p. 1240). He sees women as property for him to own and control, and feels that he is 'entitled' to do whatever he wishes to them. He is very aggressive and prefers a passive victim who is not involved in the attack in any way. Rather, he demeans and humiliates his victims, using verbal threats and physical force to control them.

The power-reassurance rapist, on the other hand, is thought to commit the sexual offence in an attempt to reassure himself that *he* is sexually and physically competent and adequate (Groth et al., 1977). This offender will often convince himself that his sexual advances are welcomed by the victim, that the attack is some form of a date, and that the sexual acts are consensual. He often expresses acts of kindness and consideration for the victim, reassuring her, complimenting her, and using minimal amounts of force. For these reasons, the power-reassurance rapist is sometimes known as the 'gentleman rapist' (Keppel & Walter, 1999).

The anger-retaliation rapist is believed to commit his crimes as a way of expressing his hostility and rage towards women (Groth et al., 1977). His goal is to

humiliate and degrade his female victim, and he is, in a manner, seeking some form of revenge (e.g., for some harm, either real or imagined, that a woman has done to him). The sexual attack is very violent, and the offender may enjoy making the victim perform acts that he perceives to be humiliating and degrading.

Finally, the anger-excitation rapist is thought of as a sadistic individual who finds pleasure and excitement in the pain and suffering of his victims (Groth et al., 1977).

Usually, the method of approach for this offender is a con or ruse (e.g., the offender may pretend to have a broken arm and ask his intended victim for help), the offences are planned in great detail, and involve a great deal of torture and ritualism (e.g., cutting, burning, and/or biting the victim).

In their 1999 article, *Profiling killers: A revised classification model for understanding sexual murder*, Keppel and Walter explain that, although the Groth et al. (1977) motivational classification system was originally intended for rapists, it could also be applied to serial sexual murderers for profiling purposes. However, in order for the system to have utility in the profiling context, Keppel and Walter (1999) argue that the categories proposed by Groth and his colleagues must connect more directly with information that investigators can use in crime scene assessment. The intent of their article, therefore, was to demonstrate how the motivational model proposed by Groth and his colleagues could be applied to serial sexual murder, and to provide detailed information regarding the specific crime scene behaviours and background characteristics that are likely to be associated with each of the four thematic categories.

Using a combination of past investigative experience⁵ and the descriptions provided by Groth et al. (1977), Keppel and Walter (1999) proposed that, as with rape, sexual murderers are motivated by either anger or power. As is the case with the Groth et al. classification system, Keppel and Walter argued that these two sources of motivation combine to form four different themes – *power-assertive*, *power-reassurance*, *anger-retaliation*, and *anger-excitation*. However, unlike Groth and his colleagues, Keppel and Walter attempt to objectify the classification system by indicating what specific crime scene behaviours and background characteristics will be present under each theme.

Power-Assertive. According to Keppel and Walter (1999) the power-assertive (PA) rape-murderer believes in his superiority over others, and wants to demonstrate this to his victims. He will commit a series of rapes in which the intent is not to kill, but whereby the increasing aggression needed to control the victim results in her eventual death. The victim may be one of opportunity or a stranger taken by surprise (e.g., during a break and enter). If the victim's husband is present at the time of the offence he may be made to watch the sexual assault. The clothing will usually be torn off the victim, and the killer may brandish a weapon that can be easily concealed, such as a knife or rope. He will bring this weapon to the crime scene and take it with him when he leaves. If the victim is assaulted in her home, the body may be left undisturbed; otherwise it will usually be moved. The body may show evidence of a beating, but there is generally no mutilation. The offender will leave an organized crime scene in an attempt to conceal his identity (e.g., he will wear gloves and clean up after the offence). However, his desire for

⁵ Keppel has a Ph.D. in Criminal Justice and is also a reputable detective, having been the lead investigator on several high profile serial homicide investigations, including the Ted Bundy and Green River cases.

recognition may be too strong and he may ultimately share his secret with a co-worker, cellmate, or the police.

According to Keppel and Walter (1999), the background for this killer reflects an emotionally primitive individual who is concerned with projecting a macho self-image. He is usually in his early 20s, often a body builder, and may display tattoos. He has a confident body posture, enjoys 'cruising' in his well-attended car, carries weapons, and is arrogant and condescending towards others. Although he may heavily consume alcohol and/or drugs to bolster his confidence, he does not use them to the point of blacking out. He lives on the edge of being a loner due to his increased frustration, and is not a good team player. Therefore, if he does enjoy sports, they are likely to be individual contact sports like judo and wrestling, in which the individual displays a 'winner-take-all' attitude. The offender may have a history of multiple marriages or relationships, but he does not view any of them as having been successful. He may also have a history of burglary, theft, and robbery, but most likely has not had contact with mental health workers. He has likely dropped out of school, and may have served in the Marines or Navy. However, his service record is typically poor, and he may have terminated his service prematurely. He is generally regarded as an antisocial individual and often displays a strong anti-homosexual attitude.

Power-Reassurance. Whereas the PA killer wants to assure *others* that he is powerful and in control, Keppel and Walter (1999) argue that the power-reassurance (PR) rape-murderer wants to assure *himself* that he is powerful and in control of the victim and the situation. However, like the PA killer, the PR offender only plans to rape the victim, and the murder occurs only once the offender realizes that reality cannot live up to his

fantasy. Specifically, the rape often “fails” due to the offender’s impotence. At this point, he may need to reassure himself of his power and control and may kill the victim, typically through manual strangulation or pummelling.

The offender begins his plan by selecting and watching the victim for some time before the offence. The victim may be a casual acquaintance, neighbour, or stranger, and is often 10 to 15 years older or younger than the offender. He sometimes enters the crime scene with a weapon and uses threats and intimidation to gain initial control of the victim. However, after the initial attack he is not likely to harm the victim and begins to act out his fantasy which often involves the victim being a willing participant in the event. The offender may politely request that the victim remove her clothing, assure her that she will not be hurt, and ask for reassurance from her that he is sexually competent. When he is unable to perform or he feels ridiculed, he is likely to lose control and kill the victim. Because of the incomplete sexual attack, he will not feel satisfied. Consequently, there may be evidence of a post-mortem exploration of the body. On occasion, there will be evidence of mutilation and ritualistic behaviours, but because the offender was unable to perform sexually, there is usually no semen at the crime scene. The crime scene is most likely to be disorganized, the period between his killings may vary, and his offences are likely to occur in clusters. The offender may collect souvenirs from the victim and even newspaper clippings to help extend the imagined relationship. Because night time is very conducive to fantasy development, this offender mostly acts out at night because that is when he feels most comfortable.

The PR offender will usually be in his mid-20s, unless he was incarcerated during that time. He spends a lot of time fantasizing and so may come across as dull and

emotionally scattered. Due to his fear of rejection, he is plagued by an inadequate sex life, is unmarried, and uses sexual fantasies to overcome the dysfunction of his reality. He reads erotic porn and most likely has a long history of behaviours such as window peeping and various fetishistic practices such as clothes fondling. Due to his obsessive daydreaming, he is generally isolated with no friends, and is viewed as a 'weirdo'. Educationally, he is an underachiever, and may be thought to have a learning disability, but he does tend to complete his schooling. If he was in the military, his record will not generally be marked with any problems. He has no interest in sports, but compensates with compulsive behaviour (e.g., he may spend all his time playing computer games). He is usually immature, lacks the confidence to participate, feels inferior, and cannot tolerate criticism. This offender may still live at home and subsist on very little income, perhaps performing menial labour to get by. He lives, works, and plays in the small neighbourhood around him, and so walking is his usual mode of transportation. If he owns a car, it is most likely an older model in need of repair. He may also have an offence record for fetish activities, unlawful entries, and larcenies.

*Anger-Retaliatio*n. In the case of the anger-retaliation (AR) rape-murderer, Keppel and Walter (1999) suggest that the offence is reflective of the offender's anger and hatred of women. Here, both the rape and the murder are planned. The sexual assault is very violent and the murder is characterized by overkill (i.e., more violence than is necessary to kill the victim). The victim will come from an area familiar to the offender. The killer usually walks to the crime scene, but if he does have a car, he will park it at a distance and then walk to the scene. He may initially use a ruse to approach the victim, but once he has the victim alone he confronts her. He will hit her, usually in the mouth

and face, and may use a weapon of opportunity, such as a branch or statue. The rape may be incomplete due to an inability to get an erection, and so the offender will often vent his anger with his fists, a blunt object, or a knife. The assault continues until the offender is emotionally satisfied regardless of whether the victim is still alive. Upon completion, he places the body into a submissive position, and leaves a disorganized crime scene. Often, the offender will take a small trinket or souvenir from the victim.

The AR suspect is usually in his mid- to late-20s and younger than his victims. He is seen as explosive, quick-tempered, and self-centred. His social relations are superficial and often limited to a few drinking buddies. If he is a sportsman, he prefers to play team sports. He would describe himself as conflicted over women (sometimes being dependent on them, at other times feeling aggressively resistant to them). If he has been married, there was most likely a history of spousal abuse and extramarital relations. Sexually, he may be impotent and does not tend to use any pornographic materials. He is usually a school dropout and if he served in the military, he was most likely discharged for disturbing behaviour. In fact, he typically has problems with authority figures regardless of the specific context.

Anger-Excitation. Finally, for the anger-excitation (AE) rape-murderer, Keppel and Walter (1999) emphasize that the offender's focus is on the pain and suffering of the victim, from which the offender derives sexual pleasure and satisfaction. This offender also intends to commit both the sexual assault and the murder prior to committing the offence. Often the victim is a stranger who fits into the offender's fantasy. This offender can appear very charming and will often use a ruse or con to lead the victim to an isolated area. He brings a prepared crime kit to the scene, and bondage and domination play

frequent roles in the assault, as do cutting, bruising, and burning. After the victim has been bludgeoned and strangled to death, the post-mortem experimentation begins. There may be evidence of localized brutalization, skin tears, and objects inserted into the body. He may cut the clothing from the victim's body and leave the body in a bizarre state of undress. In some cases, the offender takes the clothing as a souvenir, while in others it is found neatly piled next to the body. This offender leaves an organized crime scene and frequently moves the body to a second location in order to conceal it. He may bury the body in a shallow grave or leave it in a location familiar to him. He also tends to commit crimes in areas distant from his usual activities, though he may try to interject himself into the criminal investigation.

The AE offender is usually slightly older than the other three types of offenders, but the age range is variable. He is often socially capable, and is able to appear law-abiding and conventional. As such, he may have a happy marriage and appear to be a good husband. Financially, he is an adequate provider. He may enjoy working with his hands, is compulsive in his daily habits, and if he was in the military, he most probably had a good record. He may also have attended or graduated university. This offender will often keep a secret chamber for his ritualistic paraphernalia and souvenirs. The pornographic material from which he derives enjoyment tends to depict victims with looks of terror on their faces, bondage, and sadism. Although alcohol is not common, the offender may use chemical drugs to fuel his fantasies.

While Keppel and Walter (1999) did provide case examples for each type of serial sexual murderer, they never did test this classification system empirically. As a result, there is currently no information available as to how reliable or valid the system is.

However, the authors did attempt to measure the frequency of the four themes in a population of 5,928 incarcerated murderers, 42% (2,476) of which had committed sexually related murders. By assessing each inmate at intake and reviewing the files of previously convicted offenders, they reported that the most frequent category was power-assertive (38%), followed by anger-retaliation (34%), power-reassurance (21%), and anger-excitation (7%).

The Assumptions Underlying Offender Profiling

Confirming that the four themes of power-assertiveness, power-reassurance, anger-retaliation, and anger-excitation exist in the criminal and non-criminal lives of serial sexual homicide offenders is fundamental to validating Keppel and Walter's (1999) classification system. If this is found not to be the case, the model must be used with extreme caution in criminal investigations. However, if the crime scene behaviours and background characteristics of serial sexual murderers do, in fact, form the clusters predicted by Keppel and Walter (1999) this does not, in and of itself, mean that this classification system is useful for profiling these offenders. In order for this to be the case, several other assumptions (to be discussed in more detail below) must be met. As indicated previously, any classification system intended to assist with the profiling process must provide the basis for examining, and ultimately supporting, these assumptions.

Although not often examined from a personality perspective, the basic assumptions that underlie offender profiling are grounded in the tenets of the naïve trait perspective that was popular in psychology before the 1970s (Alison et al., 2002; Mischel, 1968). Supported by theorists such as Cattell (1950) and Epstein (1984), this

perspective posits that individuals are defined by a unique set of finite, stable, context-free dispositions that they refer to as *traits*. Being the primary determinant of behaviour, these traits, and related trait indicators (i.e., observable behaviours that are presumed to reflect the existence of underlying traits), are expected to be stable over time and across situations (Shoda, Mischel, & Wright, 1994). In other words, if a person presents herself as a conscientious individual in one situation (e.g., by exhibiting high levels of punctuality, tidiness, and politeness), that individual would be expected to exhibit conscientious behaviours (i.e., not only punctuality, tidiness, and politeness, but also organization, responsibility, and dependability) across other (similar and dissimilar) situations.

The relevance of the naïve trait perspective to profiling is clearly reflected in the assumptions that form the foundation of all profiling methods. First, it is assumed that an offender will be *temporally stable* in the behaviours that he exhibits across a series of crimes (i.e., the offender will display similar behaviours at each of his crime scenes due to some underlying predisposition to behave in a particular way) (Bennell & Jones, 2005). Second, it is assumed that the behaviours displayed by an offender in his crimes will be *cross-situationally consistent* (Salfati & Canter, 1999). In other words, the offender will display similar behaviours in his criminal and non-criminal life. Third, it is assumed that a relatively high degree of *homology* will exist between the criminal and non-criminal domain (Mokros & Alison, 2002). Homology reflects the belief that similar crimes are committed by similar offenders and, thus, two offenders who commit similar crimes will be more similar in terms of their background characteristics than are two offenders who commit dissimilar crimes.

To be clear, temporal stability and cross-situational consistency are similar, but they are not the same thing. Temporal stability refers to similar behaviours being expressed across similar situations over time (e.g., in the present case, the crimes that comprise a crime series), whereas cross-situational consistency is relevant when examining behaviours across situations that are distinctly dissimilar (e.g., a crime scene and the offender's home environment). Likewise, cross-situational consistency and homology are related, but they are not the same thing. Should evidence be found for cross-situational consistency, is it likely that the homology assumption will also be supported. For instance, if Offenders A and B are sadistic in their criminal and non-criminal lives, while Offender C is non-sadistic in both domains, all three of the offenders would be displaying cross-situational consistency. In addition, this consistency implies that Offenders A and B are more similar to one another in terms of their background characteristics, than either of them are to Offender C (i.e., the offenders are displaying homology). On the other hand, the reverse is not true. Finding evidence of homology does not automatically imply that cross-situational consistency exists. If Offenders A and B are equally sadistic in their criminal lives, and equally non-sadistic in their non-criminal lives, these offenders are exhibiting homology, but they are hardly exhibiting high levels of cross-situational consistency.

Despite the importance of these assumptions to the success of profiling methods, the forensic and personality literature only support the concept of temporal stability (e.g., Epstein, 1979; Hazelwood & Warren, 2003), while cross-situational consistency and homology are still matters of great debate (e.g., Alison et al., 2002; Canter & Fritzon,

1998; Mischel, 1973; Mokros & Alison, 2002). Research relating to each of these assumptions will be reviewed next.

Temporal Stability

In line with research in personality psychology (e.g., Epstein, 1979; Mischel & Peake, 1982; Olweus, 1979; Shoda et al., 1994), the forensic literature suggests that offenders exhibit a reasonable amount of behavioural stability across the crimes they commit, regardless of how stability is measured (e.g., Bennell & Canter, 2002; Bennell & Jones, 2005; Green, Booth, & Biderman, 1976; Grubin, Kelly, & Brunsdon, 2001; Salfati & Bateman, 2005). This is not to say that what an offender does in one crime will perfectly predict what he does in another, as situational influences, learning, and maturation will all influence an offender's crime scene behaviour (Douglas & Munn, 1992). However, behavioural stability across an offender's crime series is typically much higher than one would expect due to chance.

For example, Hazelwood, Reboussin, and Warren (1989) extensively interviewed a sample of 41 male incarcerated rapists regarding their first, middle, and last offences. They took measures of stability of various crime scene behaviours including the amount of force employed during the assault, the extent of victim injury, and the level of pleasure derived from the assault. The results revealed that none of the behaviours they measured showed a significant amount of change across the series, and so they concluded that an offender's *modus operandi* (MO)⁶ tends to remain stable from one offence to the next.

⁶ According to Hazelwood and Warren (2003), *modus operandi* (MO) refers to those behaviours "initiated by the offender to procure a victim and complete the criminal acts without being identified or apprehended" (p. 588).

More recently, Grubin et al. (2001) sought to study temporal stability in the crimes of 468 sexual offenders from the U.K. Each offence was rated with regards to four domains, each representing a different aspect of the offence: *control*, *sex*, *escape*, and *style*. Using cluster analysis, each of the four domains was further subdivided into four thematic types that differed in their behavioural make up (i.e., Control Type 1, 2, 3, and 4). For each offender, every crime was assigned a type for each domain (e.g., a crime could be designated Control Type 1, Sex Type 3, Escape Type 4, and Style Type 1). The stability of these behavioural patterns across time was then examined. Results showed that 83% of the offenders in the sample exhibited stable behaviours (i.e., they displayed the same thematic type) across their entire series in at least one domain (i.e., either control, sex, escape, or style) and 26% of offenders committed two or more offences that were identical (i.e., they displayed the same thematic type) across all four domains (i.e., control, sex, escape, and style).

Guay, Proulx, Cusson, and Ouimet (2001) also investigated the stability of MO in a sample of 178 male incarcerated serial sex offenders. After coding all offenders with regard to four constructs (age of victims, aggressor-victim relationship, gender of victims, and whether or not there was an incestuous relationship between the offender and the victim), they found that some criteria were more stable than others. Specifically, they reported that offenders tend to remain stable over time with regards to the age of their victims and in terms of the relationship they have with their victims, but others factors (such as victim type) were more likely to change across time. Bennell and Canter (2002), Sjöstedt, Langstrom, Sturidsson, and Grann (2004), and Bennell and Jones (2005) have

all reported similar findings – high levels of stability in an offender’s behaviour over time can be readily found, if one examines the right sort of offending behaviours.

Cross-Situational Consistency

Profiling assumes that the behaviours an offender exhibits at his crime scene will reflect the type of person that he is in his non-criminal life, thus allowing him to be accurately profiled (Salfati, 2000). Indeed, profilers from the FBI have even gone so far as to suggest that an offender’s crime scene behaviour can tell us about the background of the offender “in much the same way home furnishings reveal the homeowner’s character” (Douglas et al., 1992, p. 21). However, the empirical research in the personality (e.g., Dudycka, 1936; Newcomb, 1929; Shoda et al., 1994) and forensic (e.g., House, 1997) domains that has examined the “consistency hypothesis” (Canter, 1995) is mixed, with some research findings supporting the existence of cross-situational consistency and other research findings indicating a lack of support (though it must be said that, in contrast to the issue of temporal stability, the cross-situational consistency assumption has received far less attention from researchers in the forensic context).

For example, House (1997) attempted to determine the relationship between the crime scene behaviours exhibited by 60 male rapists and their prior criminal convictions. He clearly identified four behavioural themes through an MDS analysis of the rapists’ crime scene behaviours, calling them *aggression* (e.g., physical and verbal violence), *criminality* (e.g., wearing a disguise and bringing a weapon), *pseudo-intimacy* (e.g., compliments to the victim and a need for victim participation), and *sadism* (e.g., behaviours that humiliate and torture the victim). He also examined each offender’s criminal history, and identified four themes which he called *property* (e.g., theft,

burglary, damage to property), *violence* (e.g., assault, armed robbery, causing a disturbance), *deception* (e.g., fraud, impersonation, perjury), and *sex* (sexual assault, indecent acts, indecent exposure). However, when he attempted to identify consistent patterns of behaviour between the four rape themes and the corresponding criminal history themes (e.g., such as criminality rapists indicating a greater likelihood of possessing property offence convictions compared to other offender types), no consistent patterns were found. In fact, offenders from each of the four themes were essentially homogeneous with respect to their criminal histories (e.g., aggressive, criminal, intimate, and sadistic offenders were equally likely to have been convicted for crimes from each of the four criminal history themes).

However, more recently, research has indicated that cross-situational consistency may exist, be it only at the thematic level (versus specific crime scene behaviours and background characteristics). For example, Salfati and Canter (1999) analyzed the crime scene behaviours and background characteristics of 82 homicide offenders. Their results revealed that 65% of the crimes could be reliably classified as reflecting an *impulsive* (e.g., multiple wounds to the victim's body), *opportunistic* (e.g., property stolen), or *cognitive* (e.g., attempts made to conceal the offence) theme. Furthermore, the offenders' background characteristics could also be classified into these three themes. Perhaps most importantly, a relationship was found between the themes in the two domains, whereby the crime scene behaviours within a particular theme co-occurred more frequently with the similarly themed background characteristics. For example, background characteristics that were theorized to be representative of an impulsive offender (e.g., previous sex offences) were found to co-occur more frequently with impulsive crime scene behaviours

(e.g., multiple stab wounds) compared to the crime scene behaviours from the other two themes.

Homology

As important a construct as homology is to the success of profiling (Mokros & Alison, 2002), it is curious that there are almost no available studies on the topic in the forensic literature. The research that does exist is mixed in terms of evidence for or against the homology assumption. For example, Mokros and Alison (2002) hypothesized that rapists who displayed more similar styles of offending would also display higher levels of similarity in terms of their background characteristics. To test this hypothesis, they reviewed the cases of 100 male stranger rapists and coded the crimes with regards to 28 dichotomous crime scene variables (e.g., vaginal penetration, surprise attack, weapon used, etc.) and 10 dichotomous background variables (e.g., age, employment status, whether the offender lived with someone, etc.). Using Spearman rank-order correlations, the authors examined whether there was a relationship between the similarity of offenders in the criminal domain (i.e., with respect to all of their crime scene behaviours) and the non-criminal domain (i.e., with respect to each different background characteristic). These correlations ranged from -.01 to -.06 providing little evidence for homology with respect to any of the chosen background features. However, the possibility exists that they may have obtained such discouraging results because they examined inappropriate crime scene behaviours and/or background characteristics (i.e., variables that do not display homology).⁷

⁷ Having said this, it must be noted that the variables examined by Mokros and Alison (2002) are those that would routinely be used in a profiling context (i.e., age, employment status, and whether the offender lives with someone are all background characteristics that are routinely profiled by profilers [e.g., Ault & Reese, 1980; Dietz, Hazelwood & Warren, 1990; Hazelwood & Warren, 2003]).

More promising results emerged from the 1998 study of Canter and Fritzon, in which they examined the crime scene behaviours and background characteristics of 175 solved arson cases from the U.K. They identified four distinct themes in the crime scene behaviours of these offenders (i.e., *instrumental-object*, *instrumental-person*, *expressive-object*, and *expressive-person*) and reported that they found statistically significant correlations between these four themes and specific offender background characteristics. For instance, Canter and Fritzon provide evidence that the instrumental-object offender is usually young and often has a previous juvenile record, whereas the expressive-person arsonist tends to be female with a history of psychiatric problems and previous suicide attempts. Therefore, two offenders in the instrumental-object theme will be more similar in term of their background characteristics, than either of them will be to an offender who is in the expressive-person theme. Canter and Fritzon's (1998) findings are encouraging for future research endeavours on the topic of homology as they indicate that reasonably high levels of homology may be found if suitable variables are considered.

The Present Study

The intentions of the current study are to empirically validate the classification system proposed by Keppel and Walter (1999). If this can be accomplished, the result will be a promising model for use in offender profiling. Essentially, the profiling community would have an empirically defensible, predictive classification system that relates directly to the underlying motivations of the offender and, more importantly, to their observable behaviours and background characteristics. However, if this system cannot be validated, the goal of the present study will then be to propose another

empirically-based classification system that is both valid and reliable (be it new or previously proposed). Thus, the present investigation will entail two distinct phases.

In the first phase, the crime scene behaviours and background characteristics of a sample of U.S. serial sexual murderers (the sample is described in more detail below) will be examined for evidence of the four themes proposed by Keppel and Walter (1999) (see Tables 4 and 5 below for a list of the crime scene behaviours and background characteristics that will be expected to represent each of the four themes). If evidence cannot be found to support the model proposed by Keppel and Walter, an attempt will be made to identify whether there is evidence for an alternative classification system (as indicate above, this may be a new, yet-to-be-observed model or one that is based on an existing model, such as the organized/disorganized dichotomy). To summarise, the present study will seek to answer the following questions in phase 1:

- 1) Do the offenders' crime scene behaviours cluster into the four themes proposed by Keppel and Walter (1999)?
- 2) Do the offenders' background characteristics cluster into the four themes proposed by Keppel and Walter (1999)?

Should the answers to the above two questions be 'no', the study will then ask:

- 3) Are there visible clusters of crime scene and background variables other than those proposed by Keppel and Walter (1999), and if so, what are they?

Table 4

*Crime scene behaviours predicted to be representative of Keppel and Walter's (1999)**themes*

Power-Assertive	Power-Reassurance	Anger-Retaliatio	Anger-Excitation
Stranger*	Stranger*	Stranger*	Stranger*
Hand/Club*	Hand/Club*	Hand/Club*	Hand/Club*
Sex*	Sex*	Sex*	Sex*
Sex Ante-Mortem*	Sex Ante-Mortem*	Sex Ante-Mortem*	Sex Ante-Mortem*
Knife*	Knife*	Knife*	Knife*
Hand/Feet*	Hand/Feet*	Hand/Feet*	Hand/Feet*
Blitz*	Casual Acquaintance*	Blitz*	Body Bound*
Body Not Disturb.*	Choked*	Bludgeon*	Body Buried*
Destroyed Evidence*	Disfigurement*	Con*	Body Burned*
Forced Entry*	Firearm*	Disfigurement*	Body Moved*
Rip/Torn*	Injury Post-Mortem*	Face Covered*	Clothing Cut*
Semen*	Ritual Behaviour*	Family*	Clothing Piled*
Stabbed*	Souvenir*	Friend*	Con*
Weapon Ligature*	Stalked*	Injury Ante-Mortem*	Crime Kit*
Weapon Pre-Selected*	Weapon of Opportunity*	Multiple Stab*	Dismembered*
Body Bagged	Weapon Pre-Selected*	Ploy*	Held Captive*
Body Buried	Anthropophagy	Restraints Found*	Injury Ante-Mort*
Body Conceal	Bite Marks	Ruse*	Injury Post-Mort*
Body Hidden	Bludgeon	Souvenir*	Interjected*
Body Scatter	Body Exposed	Stab*	Nude*
Body Water	Body Hanging	Staged body*	Object Inserted*
Body Weight	Body in Vehicle	Weapon of Opportunity*	Post-Mortem Sex*
Injury Ante-Mortem	Body Open Display	Weapon Recovered*	Ploy*
	Firearm	Body Exposed	Prostitute*
	Night	Body in Vehicle	Restraints Brought*
	Photos	Casual Acquaintance	Ritual Behaviour*
	Post-Mortem Sex	Post-Mortem Sex	Ruse*
	Writing at Scene	Stalked	Torture*
	Writing on Body		Trophy*
			Undressed Up*
			Undressed Down*
			Weapon Pre-Selected*
			Anthropophagy
			Bite Marks
			Body Bound
			Body Hidden
			Choked
			Destroyed Evidence
			Hitchhiker
			Piqueurism
			Weapon Ligature
			Writing on Body

Note: * indicates that the variable was explicitly described by Keppel and Walter (1999) as being representative of that particular theme.

Table 5

Background variables predicted to be representative of Keppel and Walter's (1999)

themes

Power-Assertive	Power-Reassurance	Anger-Retaliatio	Anger-Excitation
Alcohol/Drugs*	Burglary*	Domestic Disturbance*	Employed*
Burglary*	Car Old*	HS Dropout*	HS Grad*
Car New*	Fetishist*	Married*	Married*
HS Dropout*	Military*	Outdoorsman*	Military*
Military*	Porn*	Single*	Porn*
Divorced	Psychiatric Treatment*	Univ. Dropout*	Post Graduate Degree*
Married	Single*	Psychiatric Treatment	University Degree*
Outdoorsman	Voyeur*		University Dropout*
Porn			Alcohol/Drugs
University Dropout			Car New
			Police Buff

Note: * indicates that the variable was explicitly described by Keppel and Walter (1999) as being representative of that particular theme

Once a classification system has been established through the identification of thematic clusters (either the one proposed by Keppel and Walter (1999) or another system), phase two of the current project will involve the verification of the system's utility by ensuring that support can be found for the three basic profiling assumptions. More specifically, the second phase of the present study will examine the proposed classification system and seek to answer the following questions:

- 4) Do offenders display behavioural stability (at the thematic level) across their crimes?
- 5) Do offenders display cross-situational consistency (at the thematic level) between their criminal and non-criminal lives?

- 6) Are offenders who are more similar to one another with respect to their crime scene behaviours (at the thematic level) more similar to one another with respect to their background characteristics?

Methodology

Archived Homicide Data

The original sample for this study was the same as that used by Godwin (1998) for the purpose of his doctoral thesis. Before being adjusted to fit the parameters of the current study, the sample contained information on the crime scene behaviours and background characteristics of 96 serial sexual murderers. The majority of the sample (75%) was obtained from the Homicide Investigation and Tracking System (HITS) database of the Attorney General's Office in Seattle, Washington, while the remaining 25% of the sample was obtained from other various homicide databases, such as the Violent Criminal Apprehension Program (VICAP) and the Homicide Investigation and Lead Tracking System (HALT), as well as from court transcripts (Godwin, 2000).

The HITS database was developed in 1987 by Keppel and Weiss (Washington Office of the Attorney General; WOAG, 2005) with the goal of standardizing the collection of crime scene and victim information in cases of homicide, rape, arson, and abductions, in order to facilitate the linking and investigation of serial crimes. The database originally focused on crimes occurring in the Washington area, but has since been linked to law enforcement agencies in Oregon, California, Idaho, Kansas, and Canada (Godwin, 2000). Currently, the database contains information on solved and unsolved cases, including details about the victim, the offender, the offender's MO,

geographic locations, and any other pertinent information (Godwin, 2000; WOAG, 2005).

The crime scene and offender background variables included in the current database are all coded dichotomously, with a '1' indicating the presence of a variable and a '0' indicating its absence in the case file (with the exception of variables related to the age and race of the offenders and victims, which are coded continuously and nominally, respectively). As the data was collected directly by investigators at the crime scenes, there is no way to verify the inter-rater reliability of the data. However, there is an indication from past studies, which have used police data, that inter-rater reliability is not necessarily a serious concern. For example, Kirby (1993) found inter-rater agreement levels to be approximately 98% in his study of child sexual abuse in which the data was collected directly by police. In addition, the dichotomous coding of variables (as in the case of the HITS database) is known to substantially increase the degree to which high levels of inter-rater reliability can be achieved (Holsti, 1969; Krippendorff, 1980). This seems to be due to the finding that, when different coders have more coding options available to them, it is less likely that they will select the same options as one another (Krippendorff, 1980). It should also be pointed out that Godwin (1998) did attempt to contact the primary investigators for the cases included in his database in order to corroborate the data.

Current Sample

A sample of 53 serial homicide offenders (out of the original 96) was retained for analysis in the current thesis. Several exclusion criteria were employed to ensure that the sample fit the specific needs of this investigation. First, all female offenders were

removed from the sample, as Keppel and Walter's (1999) classification system is intended only for the classification of male serial homicide offenders. Second, all co-offending teams were excluded, as it is currently unknown whether operating in a team will affect the thematic classification of an offender. Third, all offenders who had less than three victims were eliminated from the sample, as the definition of serial sexual homicide adopted in the current thesis requires that the offender has killed at least three victims (Holmes & DeBurger, 1988). Finally, after irrelevant variables were excluded from the data set (i.e., those variables that were unrelated to Keppel and Walter's, 1999, model) any offender with missing data was removed from the sample.

A cap of three homicides per offender was established in order to ensure that all offenders were equally represented in the analyses (this is common practice in research of this type; see Salfati & Bateman, 2005). Also, if a higher number of crimes were chosen as a cut-off, this would have excluded a large number of offenders from the final sample since many of the 53 offenders were only known to be responsible for three crimes. In case more behavioural variability occur across an entire series (e.g., there is more opportunity for learning to occur if one examines crimes over a longer time period), the first, middle, and last crimes of each offenders' series was retained for analyses.⁸

Variables Included

Godwin's (2000) original sample included 251 crime scene variables and 47 background variables. For this thesis, 129 variables were retained (79 crime scene behaviours and 50 background variables) based on the themes proposed by Keppel and Walter (1999) of power-assertive, power-reassurance, anger-retaliation, and anger-

excitation (see Tables 4 and 5). As some of the variables in Godwin's (1998) data file were highly specific (i.e., more specific than the general behaviours discussed by Keppel and Walter), some variables were aggregated. For example, the Godwin data file included specific materials that were used to bind the victim (e.g., bound with rope, bound with tape, bound with coat hanger, etc.), whereas Keppel and Walter simply refer to a victim being bound. In such cases, these variables were collapsed to form a single variable (e.g., *bodybound*).

Several different variable samples were constructed, based on several inclusion criteria. The first sample consisted of only those behaviours that were explicitly described by Keppel and Walter (1999) as being characteristic of one of the four themes. This first inclusion method resulted in a sample of 55 crime scene variables and 17 offender background characteristics (see variables marked with an asterisk in Tables 4 and 5, and with a ¹ in Appendices A and B).

The second sample was more inclusive, as it contained all of the variables included in the first sample, as well as any behaviour that could be logically inferred from Keppel and Walter's (1999) description of the four themes. For example, if Keppel and Walter noted that an offender is organized, this does not provide specific variables which can be coded, but it does imply certain behaviours, such as destroying evidence at the crime scene, disposing of the body, and so on (Ressler et al., 1986). The only variables that were excluded from this second sample were those that were clearly not implied by Keppel and Walter. This second inclusion method resulted in a sample of 73 crime scene variables and 20 offender background variables (see all variables in Tables 4 and 5, and

⁸ Thus, the examination of stability undertaken in the current study can be viewed as conservative. That is, if stability is found to exist across the first, middle, and last crimes committed by an offender, it is likely to

those marked with a ² in Appendices A and B). While the first sample allowed for a strict verification of Keppel and Walter's model, this second sample allowed for the basic underlying concepts of the model to be tested, without restricting the investigation to the literal wording of its authors.

A third and fourth sample were also included in the study because, as indicated in the literature review, there is a high degree of overlap in the themes proposed by Keppel and Walter (1999). That is, many of the variables they discuss are expected to characterize more than one theme (e.g., six crime scene variables, such as the attack being directed towards a stranger, are expected to be present in all four themes). It is unlikely that such variables will be useful in differentiating between offenders. Therefore, the third and fourth samples used similar inclusion criteria to the first two samples, however, they *only* included variables that are indicative of no more than *one* theme. These samples have the potential to result in the most distinct regions in the MDS analysis that will be conducted (MDS will be discussed in more detail below). Thus, the third sample consisted of all those variables *explicitly described* by Keppel and Walter as being representative of only one particular theme (see variables marked with a ³ in Appendices A and B). This strict inclusion criteria resulted in only 39 crime scene variables and 12 background variables. Finally, the fourth sample consisted of those variables that Keppel and Walter explicitly mention as being indicative of only a single theme, as well as those that could be logically inferred by the variable descriptions (see variables marked with a ⁴ in Appendices A and B). This sample included 41 crime scene variables and 10 background variables.

exist across crimes that are committed closer together in time.

Procedure

Phase 1. The first two questions to be examined in this thesis are whether the crime scene variables and background characteristics of the offenders support the four themes proposed by Keppel and Walter (1999). Initially, a visual examination of the degree of co-occurrence between specific crime scene behaviours/background characteristics will be conducted to examine these issues. Following this, a non-metric MDS procedure known as proximity scaling (PROXSCAL; Commandeur & Heiser, 1993) will be used to answer these questions in a more comprehensive manner.

PROXSCAL is a module included in SPSS (v. 14) that essentially produces a spatial representation of the similarities and differences between variables. The basic premise of the PROXSCAL program is that the more closely associated two variables (e.g., behaviours) are to one another (i.e., the more they co-occur), the closer they will be in the geometric space (Commandeur & Heiser, 1993; Shye, Elizur, & Hoffman, 1994). The program calculates the coefficient of correlation between each of the variables, and then rank orders these correlations before plotting them into a geometric space. An attempt is made by PROXSCAL to identify a geometric configuration that fits the data well (i.e., where the rank orderings of correlations are preserved in the distances between variable points in the plot) in the smallest number of dimensions.

Fit between the plot and the original correlation matrix is estimated by calculating the *normalized raw stress* score, which ranges from 0 (indicating a perfect fit) to 1 (indicating a complete lack of fit) (Kruskal & Wish, 1978). Generally, a normalized raw stress score under .10 indicates a good degree of fit with the data. However, it is important to highlight the fact that many factors may influence the stress measure, such

as the number of variables included in the analysis, or the amount of error associated with the data (Canter & Heritage, 1990; Shye et al., 1994).

Due to the dichotomous nature of the data used in the analyses, the particular measure of correlation applied in the present study was the Lance and Williams measure (sometimes referred to as the Bray-Curtis coefficient) (Santtila, Korpela, & Hakkanen, 2004). This measure reflects the degree of association between variable pairs, while omitting any joint non-occurrences. In other words, the joint absence of variables in a particular case will not increase the degree of association between those variables. This is important in studies using data recorded by police, as the data are known to be largely unverifiable. That is, the absence of a variable does not necessarily mean it did not occur (e.g., the variable may not have been recorded by the police for some reason) (Canter, Hughes, & Kirby, 1998).

The geometric plots produced by PROXSCAL (i.e., for the crime scene and background characteristics) will be examined for evidence of the four themes of power-assertiveness, power-reassurance, anger-retaliation, and anger-excitation. Identifying these themes within the geometric space relies on the *principle of contiguity*, which states that variables related to a common theme or construct will be more highly related than those variables that are related to differing constructs and, thus, will be plotted closer together in the geometric space (Shye, 1978). Should the variables examined in this thesis co-occur as predicted by Keppel and Walter (1999), the PROXSCAL plot should show clear evidence of four regions representing the four themes. However, should the proposed themes not be evident in the present dataset, attempts will be made to discern other regions of similarly themed behaviours in the PROXSCAL plots.

Phase 2. Using the classification system identified in phase 1, the second phase of the study will involve an examination of the three basic assumptions of offender profiling: temporal stability, cross-situational consistency, and homology.

To examine the temporal stability of the themes in the proposed classification system, the first, middle, and last crimes of each offender will be classified according to their dominant theme (stability will exist to the degree that offenders exhibit the same dominant theme across the crimes they commit). Examining temporal stability at the level of behavioural themes is potentially more productive and sensible than the more common method of examining stability at the level of specific behaviours. As indicated in previous studies in both the criminal (e.g., Bennell & Jones, 2005) and non-criminal (e.g., Mischel & Peake, 1982) domains, it is very unlikely that individuals will exhibit the exact same set of behaviours across different situations. However, offenders may still be stable at a deeper, more psychological level (i.e., an offender may display different individual behaviours across his offences, yet all these behaviours may still be representative of a disposition within that offender towards, for example, power-assertiveness).

In order to assign an offender's crime to a dominant theme, a method proposed by Salfati and Canter (1999) will be used. For each offender, every one of his crimes will be given a score out of 100 for each of the four themes (indicating the proportion or percentage of behaviours from each theme that were exhibited by an offender in a specific crime). For example, it may be determined, after counting the crime scene variables on the PROXSCAL plot, that Offender A (in his first crime) displayed two out of the possible 21 variables assigned to the PA theme (9.5%), four of the possible 28

variables assigned to the PR theme (14.3%), 11 of the possible 38 variables assigned to the AE theme (29%), and 16 of the possible 26 variables assigned to the AR theme (61.5%). The offence would then be assigned a dominant theme if the score for one theme is higher than the total score for the other three themes combined. So, in the above case, the crime would be considered a predominantly AR crime, since the percentage of behaviours exhibited from that theme (61.5%) is greater than the combined percentage from the other three themes of PA, PR, and AE ($9.5 + 14.3 + 29 = 52.8\%$). In cases where the combined scores exceed the percentage of behaviours exhibited from any one theme, the crime would be classified as a hybrid offence.

Results will be reported in terms of the frequency with which offenders display the same dominant theme across all three crimes, across only two crimes, and the frequency of those who do not display any stability at all.

To examine cross-situational consistency, only those offenders who were found to be stable across their entire series (i.e., all three crimes classified into the same dominant theme) in the previous step will be included in the analysis, for if an offender's crime scene behaviour is not stable, to which theme are the background characteristics being compared? It is a relatively safe assumption that at least some of the sample will be temporally stable, as this has been found in other studies of serial homicide offenders (e.g., Godwin, 2002; Salfati & Bateman, 2005). The background characteristics of each offender will also be assigned a dominant theme using the strategy discussed above. If serial sexual murderers do exhibit cross-situational consistency between their criminal and their non-criminal lives, the offenders' background characteristics will be classified

into the same theme as their criminal behaviours. The frequency of this occurrence will be reported.

Recall that homology refers to the assumption that the more similar two offenders are in their crime scene behaviours, the more similar they will be in their background characteristics (Mokros & Alison, 2002). To test this assumption, each of the 26 background characteristics that comprise the second sample will be examined to determine if offenders who commit similar crimes show a greater degree of homology with respect to their respective backgrounds. First, an association matrix will be created for the offenders' thematic classification of crime scene behaviours (once again, only those offenders who are stable across their entire series will be included in this analysis). For every possible pair of offenders (i.e., offender 1 and offender 2, offender 1 and offender 3, etc.), the cells of the matrix will be dichotomously coded, indicating whether the crime series of the two offenders belonged to the same theme (1), or to different themes (0). Another association matrix will be created for each of the background variables. For example, the matrix for age will consist of all the possible pairs of offenders. Each cell will indicate whether the two offenders are the same in terms of this characteristic (1; both have it or both do not), or whether they are different (0). In other words, if offender 1 has a juvenile record and offender 2 does not, the cell that corresponds to offender 1-offender 2 will contain a 0. However, if both offenders *do* have juvenile records (or conversely, both do not), the corresponding cell will contain a 1. These two matrices will then be subjected to a standard chi-square test.

Results

Step 1: Validating Keppel and Walter's (1999) Classification System

Before analyzing all of the crime scene and background variables using PROXSCAL, certain variables were selected from the sample, and their degree of co-occurrence with each other was examined (note that the behaviours included in this analysis were specifically selected because they appeared to have high face validity in terms of representing each of the four themes proposed by Keppel and Walter, 1999). If Keppel and Walter's model accurately describes the way in which serial sexual murderers commit their crimes, behaviours within each of the proposed themes should co-occur with one another to a greater extent than they do with behaviours from other themes. However, as can be seen from Table 6, there are actually very few occasions where this happens (to see a similar table for background characteristics, see Appendix C). Indeed, behaviours from one predicted theme often co-occur more frequently with behaviours from a completely different theme, than they do with behaviours from their own theme.

Table 6

Co-occurrence of selected crime scene behaviours from each of the four themes proposed by Keppel and Walter (1999)

	Power-Assertive (PA)				Power-Reassurance (PR)				Anger-Retaliatio (AR)				Anger-Excitation (AE)			
	Destev	Forced	Ligat	Semen	Casual	Choke	Fire	Stalk	Facec	Friend	Famil	Multi	BdBur	Cloth	Capt	Inter
PA																
Destev	-															
Forced	.15	-														
Ligature	.21	.11	-													
Semen	.24	.39	.42	-												
PR																
Casual	.13	.05	.00	.05	-											
Choke	.32	.05	.47	.47	.07	-										
Firearm	.36	.23	.15	.23	.10	.02	-									
Stalk	.00	.33	.07	.32	.00	.08	.16	-								
AR																
Facecov	.24	.09	.00	.07	.25	.13	.06	.00	-							
Friend	.10	.05	.00	.07	.00	.04	.14	.00	.00	-						
Family	.07	.06	.00	.00	.00	.00	.00	.00	.00	.00	-					
Multistab	.29	.27	.19	.44	.00	.08	.26	.21	.07	.00	.00	-				
AE																
BodyBury	.35	.04	.07	.06	.17	.18	.34	.00	.14	.00	.10	.25	-			
Clothcut	.15	.27	.04	.09	.00	.00	.09	.00	.29	.12	.15	.14	.14	-		
HeldCapt	.38	.32	.30	.38	.28	.28	.20	.26	.32	.04	.00	.47	.28	.28	-	
Interject	.03	.05	.12	.14	.27	.07	.13	.13	.00	.00	.00	.07	.07	.00	.07	-

Note: Boxes have been placed around those values that should have the highest degree of co-occurrence given that they represent the same proposed themes.

Despite the discouraging results presented in Table 6, it may still be the case that, when examined at a more general level, support for Keppel and Walter's (1999) model can be found. Thus, all of the behaviours/characteristics included in each of the sub-samples (see above) were subjected to PROXSCAL analyses (for brevity, only the analyses from Sample 1 are included here; the remaining crime scene behaviour plots can be found in Appendix D and the remaining background characteristic plots can be found in Appendix E). According to the hypotheses, the behaviours within each theme are expected to co-occur with one another to a greater extent than they are with behaviours from other themes. Thus, the plots presented below should consist of regions of similarly shaped symbols (in Figures 1 and 2 circles designate PA variables, triangles designate PR variables, diamonds designate AR variables, stars designate AE variables, and squares designate variables that belong to more than one theme). However, despite the respectable normalized raw stress scores obtained,⁹ it is reasonably clear from the plots that the predicted regions could not be identified.

⁹ For Samples 1 through 4, the PROXSCAL plots for crime scene behaviours had normalized raw stress scores of .09, .10, .10, and .10, respectively. For these same samples, the PROXSCAL plots for the background characteristics had normalized raw stress scores of .08, .07, .06, and .05, respectively. As noted earlier, a normalized raw stress score of .10 or less is considered to indicate a good degree of fit with the data (Meulman, Heiser, & SPSS, Inc., 1999).

Figure 1. PROXSCAL of the crime scene behaviours included in Sample 1.

Figure 2. PROXSCAL of the background characteristics included in Sample 1.

In a final effort to determine whether there is support for Keppel and Walter's (1999) model, several further attempts were made to identify an underlying structure in the crime scene variables. Two specific strategies were used. First, variables that had been inferred (by the present author) from Keppel and Walter's original variable definitions were removed from each theme to determine if these behaviours had somehow concealed the predicted themes. For example, in relation to the PA theme, certain crime scene behaviours relating to specific methods of body disposal were removed from the analysis, given that Keppel and Walter (1999) had never specifically mentioned them (e.g., *bodybagged*). However, this strategy did not result in PROXSCAL plots that were any easier to interpret.

Second, an attempt was made to find structure in more homogeneous subsets of variables discussed by Keppel and Walter (1999). For example, Keppel and Walter's original model includes crime scene behaviours that relate to the interaction between the offender and victim (e.g., victim's body was staged), as well as behaviours that are strictly related to the commission of the crime (e.g., weapon of opportunity was used). Given that other researchers have found interpretable MDS solutions when focusing solely on variables related to offender-victim interactions (e.g., Canter & Wentink, 2004) this was the strategy adopted here. To examine this issue, a new dataset was created using the behaviours available from Godwin's (1998) original data that: (a) were explicitly mentioned by Keppel and Walter and (b) pertained to the interaction between the offender and his victims. However, once again, there was no evidence of the hypothesized regions in the resulting PROXSCAL plots.

Step 2: Identifying an Alternative Structure

Having determined that there is no evidence in the current dataset to support the system proposed by Keppel and Walter (1999), the next goal was to see if any other previously proposed system would be evident in the crime scene behaviours and background characteristics contained in this database. In order to do this, the data was returned to its original form (i.e., as it was when obtained by Godwin, 1998), and a new sample was created for the analyses (however, this time, the data was not limited to behaviours or characteristics described or implied by Keppel and Walter).

Similar criteria to those used previously were used to construct this sample. That is, all female offenders, co-offenders, and offenders that committed less than three crimes were removed from the sample. In addition, all crimes, except for the first, middle, and last crimes of each offender's series were removed from the sample. Finally, variables that were extremely rare were aggregated into single variables (e.g., various ruses used to approach the victim [e.g., want-ad, job offer, emergency, etc.] were aggregated into a single variable, *ruse*). These adjustments resulted in a final sample of 61 offenders, 116 crimes scene behaviours and 47 background characteristics.

Using this new sample, attempts were made to determine if interpretable PROXSCAL plots could be constructed. Specifically, the plots were examined to see if the themes included in any of the classification systems described previously could be identified (including the organized/disorganized dichotomy proposed by Hazelwood and Douglas (1980), the motivational typology proposed by Holmes and Holmes (2002), or the thematic structure proposed by Kocsis et al. (2002)). Although no support was found for either the Holmes and Holmes (2002) or the Kocsis et al. (2002) classification

systems, some interesting findings did emerge in relation to the organized/disorganized dichotomy.

Organized and disorganized crime scene behaviours. When the present author reviewed the available crime scene behaviours and made a priori predictions regarding their level of organization and disorganization (see Table 7 and variables marked with an asterisk in Appendix A),¹⁰ PROXSCAL analyses revealed the predicted structure (see Figure 3). More specifically, with a normalized raw stress score of .05, it is clear from Figure 3 that the crime scene behaviours do appear to co-occur in the predicted manner, with disorganized behaviours occurring at the top of the plot, and organized behaviours clustering at the bottom.

¹⁰ While an attempt was made in the present investigation to select organized and disorganized variables that were explicitly described by Hazelwood and Douglas (1980), most of the behaviours they included in their original study do not correspond directly to behaviours in the current dataset. Thus inferences had to be made. However, it should be noted that none of the variables included in the present study contradict the underlying logic of the organized/disorganized dichotomy. For example, bringing restraints to the crime scene is not something explicitly mentioned by Hazelwood and Douglas as being characteristic of an

Table 7

Crime scene behaviours predicted to represent the themes of organization and disorganization

Organized	Disorganized
Victim's body bound (<i>bodybound</i>)	Approach was by blitz attack (<i>blitz</i>)
Victim's body hidden (<i>bodyhidden</i>)	Cannibal acts performed (<i>cannibal</i>)
Victim's body moved (<i>bodymove</i>)	Victim's body disfigured (<i>disfig</i>)
Victim's body scattered (<i>bodyscat</i>)	Victim's body dismembered (<i>dismemb</i>)
Offender destroyed evidence (<i>destevid</i>)	Foreign object inserted into vic. (<i>foreobj</i>)
Victim's face covered (<i>facecov</i>)	Injuries occurred after death (<i>injurpost</i>)
Victim held captive (<i>heldcapt</i>)	Stab wounds on lower body (<i>lowbody</i>)
Injuries occurred ante-mortem (<i>injurante</i>)	Multiple stab wounds to vic. (<i>multistab</i>)
Restraints used by offender (<i>restoff</i>)	Evidence of piqueurism (<i>pieueur</i>)
Sex occurred before death (<i>sexante</i>)	Scattered clothing (<i>scatcloth</i>)
Weapon brought by offender (<i>weapoff</i>)	Semen found at scene (<i>semen</i>)
	Victim was tortured (<i>torture</i>)

Note: Variables in bold were specifically included by the FBI, the others were logically inferred from the definitions of the two themes.

organized offender, yet it is easy to see how this behaviour is reflective of the planning that was involved in a crime (which *is* a characteristic listed by the FBI).

Figure 3. PROXSCAL of the crime scene behaviours proposed to represent organization and disorganization.

Organized and disorganized background characteristics. Similarly, a priori predictions were made in terms of those background characteristics that were thought to best reflect an offender's level of organization and disorganization in their day-to-day life. These decisions were based on existing literature (e.g., Douglas et al., 1986; Prentky

& Burgess, 2002; Turvey, 2002) and the definitions of the terms provided by Hazelwood and Douglas (1980) (once again, the present data set did not include the exact characteristics included in the original organized/disorganized model, so attempts were made to interpret the available characteristics). Table 8 outlines the characteristics expected to represent each of the themes (see variables marked with an asterisk in Appendix B) and Figure 4 displays the resulting PROXSCAL plot (with a normalized raw stress score of .07). As can be seen from Figure 4, the background characteristics fall essentially where predicted, with the exception of *mental* (the offender, as a juvenile or adult, was treated for mental health problems) and *lawwork* (indicating that the offender has worked at some time in some capacity as a law enforcement officer, including work as a security guard or other similar professions).

Table 8

Background characteristics expected to represent organized and disorganized themes

Organized	Disorganized
Employed at time of offences (<i>employ</i>)	History of domestic disturbance (<i>domestic</i>)
Past record for fraud (<i>fraud</i>)	Past record for drug offences (<i>drugoff</i>)
Worked in law enforcement (<i>lawwork</i>)	Juvenile record (<i>juvrecor</i>)
Was in the military (<i>military</i>)	Treated for psychiatric condition (<i>mental</i>)
Exhibits fetish(es) (<i>fetish</i>)	High school dropout (<i>hsdrpout</i>)
Obtained a postgraduate degree (<i>postgrad</i>)	Experienced emotional setback (<i>setback</i>)
Self-employed (<i>selfemploy</i>)	Unemployed (<i>unemploy</i>)
Completed a university degree (<i>univdegree</i>)

Figure 4. PROXSCAL of background characteristics expected to represent organization and disorganization.

Step 3: Testing for Temporal Stability, Cross-Situational Consistency, and Homology

Evidence of temporal stability. Recall that, according to the stability hypothesis, offenders are expected to behave in a stable fashion across each of their crimes (Alison et al., 2002). In other words, if an offender is organized in his first offence, he should be expected to behave in this manner in all subsequent crimes.

In order to test for temporal stability, each crime (first, middle, and last) from each offender's series was assigned to a dominant theme. Although the original intent was to use the assignment method proposed by Salfati and Canter (1999),¹¹ that decision was based on the assumption that a four-fold thematic structure (i.e., Keppel and Walter's, 1999, model) would be found. Now that a model has been found consisting of only two themes, the assignment method proposed by Salfati and Bateman (2005), which was formulated for two-theme structures, will be adopted. More specifically, for a crime to be assigned to a dominant theme in the present study, the percentage of behaviours displayed in one theme must be at least 1.5 times higher than the percentage of behaviours displayed in the other.¹²

Using this assignment strategy, Table 9 displays the frequencies with which the 47 offenders who had crimes that could be assigned to a dominant theme displayed the same theme across their entire series (i.e., exhibited temporal stability), or portions thereof. As can be seen from the results, approximately 44% of the total sample of

¹¹ To reiterate, this approach consists of assigning an offence to a dominant theme if the percentage score for one theme is higher than the total percentage score for the other three themes combined.

¹² Salfati and Bateman (2005) tested three different strategies for determining a dominant theme in situations where a two-theme MDS structure emerges: (1) assigning a dominant theme if one theme displays a higher proportion of behaviours than the other theme, (2) assigning a dominant theme if one theme contains a proportion of behaviours that is 1.5x higher than the other theme, and (3) assigning a dominant theme if one theme contains a proportion of behaviours that is 2x higher than the other theme. The second strategy was deemed optimal because it results in the highest number of assignments while allowing a clear distinction between the two themes.

offenders exhibited the same theme across all three of their crimes (in 39% of cases the three crimes were organized and in the other 5% of cases the crimes were disorganized), which is greater than what would be expected by chance (the chance of finding an organized series is 14%, the chance of a disorganized series is 3%). Furthermore, nearly 23% of the total sample had two of their crimes assigned to a dominant theme (in 21% of cases the two crimes were organized and in the other 2% of cases the two crimes were disorganized), and approximately 10% of the offenders had only one crime assigned to a dominant theme (in 7% of cases the crime was organized, in the other 3% of cases the crime was disorganized).

Table 9

Number of offenders whose crimes could be classified into each of the themes

Theme	All 3 crimes	Across 2 crimes	Only 1 crime	Total
Organized	24 (39.34%)	13 (21.31%)	4 (6.56%)	41 (67.21%)
Disorganized	3 (4.92%)	1 (1.64%)	2 (3.28%)	6 (9.84%)
Total	27 (44.26%)	14 (22.95%)	6 (9.84%)	47 (77.05%)

Note: Numbers in brackets are percentages of total offenders in the sample (n = 61).

Evidence of cross-situational consistency. The consistency hypothesis posits that offenders should behave consistently across different situations (Alison et al., 2002). In other words, if an offender is disorganized in his crimes, he is also expected to be disorganized in his non-criminal life (e.g., at work, etc.). In order to test for cross-situational consistency, the offenders' background characteristics have to be assigned to a

dominant theme (and these themes have to be compared to the themes characterizing the offenders' crime scene behaviours). To accomplish this, the method described above was used, whereby an offender had to display a proportion of background characteristics in one theme that was 1.5 times greater than the proportion of characteristics in the other theme in order to be assigned to a dominant theme. Using this procedure, approximately 82% (49 offenders) of the offenders were assigned to a dominant theme in terms of their background characteristics. Of these, 22% (11 offenders) were organized, while the remaining 78% (38 offenders) were disorganized.

In order to test for the consistency assumption, only offenders who were considered thematically stable across all three of their crimes were included in the analysis. In total, it was possible to classify both the entire crime series and the backgrounds characteristics of 23 offenders (37.7% of the total sample) into a dominant theme. Of these, only nine offenders (39.13% of the 23 offenders or 14.75% of the total sample) were cross-situationally consistent (i.e., these offenders displayed the same dominant theme in their crime scene behaviour and their background characteristics). Of these nine offenders, seven (11.48% of the total sample) were consistently organized and two (3.28% of the total sample) were consistently disorganized. Again, these percentages are greater than what would be expected by chance (for an organized offender the chance of being cross-situationally consistent is 2%, for a disorganized offender chance is 1%).

Evidence of homology. In order to examine the existence of homology in this dataset, each of the 47 background characteristics (e.g., age, past convictions, marital status, etc.) was examined to see if offenders who were similar in terms of their crime

scene behaviours (i.e., they displayed the same dominant theme in their crime series) were also more similar in terms of background characteristics.¹³

As indicated in the methods section, the procedure was a multi-step one. First, an association matrix was constructed for the offenders' crime series classification (once again, only offenders who were stable across all three of their crimes were included in these analyses). For every possible pair of offenders, the cells of the matrix were dichotomously coded, indicating whether the crime series of the two offenders belonged to the same theme (1) or to different themes (0). Second, another matrix was constructed for each of the 47 background characteristics, in which each pair of offenders received a 1 if they were similar with respect to this variable and a 0 if they were not. Standard chi-square tests were then run for each of the background variables to determine if there was an association between crime scene similarity and background similarity. Table 10 includes the results of these analyses.

¹³ Please note that the results for some of the 47 background characteristics will not be reported, as they were either missing data, or were a constant. For example, the results for *postgrad* (i.e., the offender received a post graduate degree) are not reported, as this variable was a constant (i.e., none of the offenders had received a post graduate degree).

Table 10

Chi-square tests for homology

Variable	X ²	Variable	X ²
Experienced emotional setback	66.49***	Offender was a police buff	2.59
History of voyeur behaviour	40.87***	Member of church group	2.40
Unemployed at time of offences	25.02***	Dropped out of university	2.40
Sex of victim	23.34***	Victim was over 18	1.66
Race of offender	14.86***	Offender was a transvestite	1.39
History of domestic disturbance	5.97*	Victim/offender not same ethnicity	.75
Arrest or conviction for fraud	5.97*	Marital status is divorced	.59
Used alcohol/drugs prior to offence	4.67*	Arrest or conviction for burglary	.43
Offender was homosexual	4.67*	Marital status is single	.26
Race of victim	4.67*	Victim is juvenile under 10	.24
Offender was heterosexual	4.34*	Obtained a high school diploma	.12
Self-employed at time of offences	4.34*	Employed at time of offences	.08
On parole at time of offences	3.57	Has a juvenile record	.08
History of drug offences	3.09	History of sexual offences	.08
Victim was juvenile under 18	2.73	Enjoys the outdoors	.06
Offender was a pedophile	2.73	Age of offender	.01
History of violent offences	2.73	Dropped out of high school	.01
Obtained a university degree	2.59	Marital status is married	.00
Offender was bisexual	2.59	Past psychiatric treatment	.00

Note: *p < .05, ***p < .001.

Contrary to recent research on the subject (e.g., Mokros & Alison, 2002), but in line with other studies (e.g., Canter & Fritzon, 1998), there does appear to be some evidence of homology in the present sample. For offenders that are thematically stable across their entire crime series, 11 (approximately 29%) of the background characteristics display homology at a significant level. In other words, there is clear evidence that if two offenders are more similar in terms of their crime scene theme (e.g., both are organized), they are also more likely to be similar in terms of certain background characteristics (e.g., whether or not they have experienced an emotional setback prior to committing the offence). The offender characteristics found to be homologous in the present dataset include: using alcohol or drugs prior to the offences, having a past record for domestic

disturbance, having a previous arrest or conviction for fraud, being heterosexual, being homosexual, race, experiencing an emotional setback prior to the offences, being unemployed at the time of the offences, the preferred race and sex of their victims, and having a previous arrest or conviction for voyeuristic activities.

Further descriptive analyses of these 11 background characteristics revealed that when homology was found, it was because offenders were more similar in terms of *not* having a characteristic. For example, evidence of homology was found for the background characteristic *fraud* (the offender has a past arrest or conviction for fraud). However, this was because offenders who were similar with respect to their crime scene behaviours were also similar in terms of *not having* a past arrest or conviction for fraud. The two exceptions to this were for the background characteristics associated with *offender heterosexual* (offender was a heterosexual) and *victim sex* (sex of the victim). In these cases, offenders who were similar in their crime scene behaviours, were also similar in the sense that they were both heterosexual, and both preferred female victims.

Discussion

Having never been empirically tested, the present thesis set out to empirically validate the classification system proposed by Keppel and Walter (1999) for serial sexual murder/murderers. Using multidimensional scaling (MDS) analysis, attempts were made to examine the hypothesis that the crime scene behaviours and background characteristics of a sample of US serial sexual killers could be classified into the themes of power-assertiveness (PA), power-reassurance (PR), anger-retaliation (AR), and anger-excitation (AE). The analyses did not support this model, however, evidence was found to support of the FBI's organized/disorganized dichotomy (Hazelwood & Douglas, 1980). After

finding support for the FBI's model, the basic underlying assumptions of offender profiling were tested. Although temporal stability, cross-situational consistency, and homology are all necessary components of the profiling process, the current investigation only found moderate support for temporal stability and lower levels of support for cross-situational consistency and homology. These results will now be examined in turn, and the implications of these findings discussed.

RQ 1: Do The Offenders' Crime Scene Behaviours Cluster Into The Four Themes

Proposed By Keppel And Walter (1999)?

To date, the only evidence in support of Keppel and Walter's (1999) classification system is the four case studies the authors provide in their article as prototypical examples for each of the thematic categories (i.e., PA, PR, AR, and AE). As noted earlier, the sheer number of serial sexual homicide investigations that have been conducted to date ensures that Keppel and Walter could find at least one case to represent each category (Homant & Kennedy, 1997). Therefore, the existence of these cases do not, in and of themselves, provide substantial support for the validity of this system (i.e., even though these cases exist it is not clear that the system could be used to classify all, or even the majority, of serial sexual homicide offenders). Indeed, when the proposed system is examined more systematically, as it was in the present investigation, virtually no support can be found for the model. This was the case regardless of how the model was examined (e.g., by exploring co-occurrences between specific behaviours/characteristics or by examining the pattern of co-occurrences across many behaviours/characteristics).

While this finding certainly represents a serious blow to the proposed classification system, it is important to stress that the conceptual basis of their system may still have some merit. In other words, despite the results presented here, it may still be the case that serial sexual homicide can best be conceptualized as the product of anger or power, and it may even be the case that PA, PR, AR, and AE are valid themes within this context. The present results may simply reflect the fact that Keppel and Walter got it wrong when they translated Groth et al.'s (1977) motivationally-based system into a more behaviourally-based model – by selecting the wrong behaviours/characteristics to represent each of the four themes, for example. As mentioned previously, motives for crime are often unknown, even to the offenders themselves (Canter, 2000; Holmes & DeBurger, 1988), and therefore it may be a formidable task to assign behaviours/characteristics to underlying motivations. If the original set of behaviours/characteristics focused on by Keppel and Walter fail to capture the essence of the themes proposed by Groth and his colleagues, the results reported here should come as no surprise.

RQ 2: Do The Offenders' Background Characteristics Cluster Into The Four Themes Proposed By Keppel And Walter (1999)?

As was the case with crime scene behaviours, the results from this study do not support the hypothesis that the background characteristics of serial sexual murderers cluster into themes of PA, PR, AR, and AE. Having said this, the point that has just been made above applies equally well to the non-criminal context. In addition to this general issue, there is one other important point that is specific to the analysis of the background characteristics that should be highlighted.

Although Keppel co-developed the model that is tested in this thesis, and was the creator of the HITS database from which the majority of the present dataset was obtained, there is a considerable number of variables that are presented in the original 1999 article that are not, in fact, included in the HITS database. This created a situation in the present study whereby variables that were necessary to meaningfully assess Keppel and Walter's model were not available in the dataset. This problem was far more pronounced in relation to the background characteristics (as compared to crime scene behaviours) with many of the characteristics discussed by Keppel and Walter (1999) not existing in the dataset (e.g., Keppel and Walter suggest that the AR offender is quick-tempered in his non-criminal life, however, the HITS database contains no variables that reflect this predisposition). The proposed solution to this problem was to select background characteristics from the existing database that matched the target variables as closely as possible, but of course the inability to find support for the four themes proposed by Keppel and Walter could be a reflection of this selection process.

Clearly, further research is needed to address this specific problem (as well as the issue discussed in relation to the crime scene behaviours). Ideally, this research should draw on a set of variables that allow one to directly examine the behaviours/characteristics discussed by Keppel and Walter (1999). Only once this research is done can any firm conclusions be reached about the validity of Keppel and Walter's classification system, and until then, it would be wise for investigators to use extreme caution when applying this classification system to serial sexual homicide investigations. Indeed, it would be sensible for practitioners and researchers alike to be

skeptical of Keppel and Walter's system until future research provides strong empirical support for the model.

RQ 3: Are There Visible Clusters of Crime Scene And Background Variables Other Than Those Proposed By Keppel And Walter (1999), And If So, What Are They?

Despite the apparent lack of support for Keppel and Walter's (1999) classification system, the analysis of crime scene behaviours and background characteristics presented in this thesis was not devoid of structure. Although the present study found no support for the Holmes and Holmes' (2002) motivational typology in the MDS analysis, nor support for the model of single sexual homicide proposed by Kocsis and his colleagues (2002), strong support was found for Hazelwood and Douglas' (1980) often cited organized/disorganized typology, at least at a conceptual level (i.e., when the underlying concepts of organization and disorganization were used to assign crime scene behaviours and background characteristics to respective themes).

Indeed, in the present investigation, all of the crime scene variables expected to reflect organized and disorganized crime scene behaviors fell into the predicted regions of the PROXSCAL plot. In addition, nearly all of the background characteristics (82%) fell into the predicted regions – the exceptions were *lawwork* and *mental*. More specifically, having previously worked in law enforcement was predicted to be an organized characteristic since control over oneself would presumably be needed to work in this setting. However, *lawwork* co-occurred more frequently with other disorganized characteristics. Despite numerous attempts to find an explanation for this finding in the research literature, none could be found, nor could common sense explanations be thought of. This finding may simply be attributable to random error (e.g., some

peculiarity of the specific sample tested in this thesis). Only future research with other samples will indicate whether it is a stable finding that requires explanation.

In addition, having received psychiatric treatment (i.e., *mental*) was predicted to be a disorganized background characteristic since this characteristic was thought to reflect instability on the part of the offender. However, this particular characteristic co-occurred more frequently with other organized characteristics. By way of an explanation for this finding, it seems clear in hindsight that the nature of this background characteristic depends to a large extent on what mental health problem was the target of treatment. Unfortunately, this level of detail was not included in the present dataset. For example, certain mental illnesses, such as obsessive-compulsive personality disorder (OCPD) or psychopathy, are characterized by maladaptive needs to control and manipulate situations (the very opposite of how the variable was initially interpreted by the present author).¹⁴ If *mental* in the current study is more compatible with these sorts of disorders perhaps it makes sense that this variable co-occurs with other organized characteristics. On the other hand, other mental conditions, such as schizophrenia, are typically characterized by a loss of control over one's functioning (e.g., with respect to one's senses and perceptions). For example, schizophrenia often includes symptoms such as delusions, hallucinations, and verbal and behavioural disorganization (Reid & Wise, 1995). In these cases, the disorganized interpretation of *mental* seems more appropriate.

The fact that the organized/disorganized dichotomy emerged from the present analysis was somewhat surprising given the results of recent research that has failed to

¹⁴ For example, the DSM-IV training guide explains that the essential feature of OCPD is a "pervasive preoccupation with perfectionism, inflexibility, and control" (Reid & Wise, 1995).

validate the same model (e.g., Canter et al., 2004).¹⁵ Recall that Canter and his colleagues found that organized behaviours characterize the typical serial killer, while disorganized behaviours, which were found to be less frequent in their study, serve to differentiate between offenders (see Figure 5a). In contrast to Canter et al.'s findings, the results presented here suggest quite a different structure, one that is much more in line with the original conceptualization presented by Hazelwood and Douglas (1980) (see Figure 5b). In the present case, there is a clear separation between organized and disorganized behaviours – an offence may be predominantly organized *or* disorganized.

Figure 5a. Canter et al. (2004)'s structure

Figure 5b. Structure found in the present study

It is not totally clear why different results have been obtained in this and Canter et al.'s (2004) study. One distinct possibility is the fact that different variables were tested.

¹⁵ As noted earlier, Canter et al.'s (2004) study did not attempt to validate the dichotomy with respect to the offenders' background characteristics, and so this comparison really only applies to evidence of the dichotomy in the offenders' crime scene behaviours.

That is, although both investigations test the same basic model, each did so using its own dataset that contained behaviours and characteristics which were similar, but not identical. This would appear to indicate that, despite the evidence for the organized/disorganized dichotomy presented in this thesis, this particular model of serial sexual murder/murderers is very sensitive to the specific behaviours (and potentially to the specific background characteristics) that are examined (i.e., the system may not be robust). Further research would need to be conducted to determine if certain crime scene behaviours (and background characteristics) are more compatible with the organized/disorganized model of serial sexual homicide.

RQ 4: Do The Offenders Display Behavioural Stability (At The Thematic Level) Across Their Crimes?

Consistent with previous research findings (e.g., Bennell & Canter, 2002; Epstein, 1979; Grubin et al., 2001; Shoda et al., 1994), when using the organized/disorganized typology there was moderate evidence of temporal stability in this study with 44% of offenders displaying the same behavioural theme across all three of their crimes, and this is a higher level of stability than would be expected by chance. This finding, that nearly half of all offenders display the same behavioural theme across their crimes, suggests that the behaviours exhibited by many serial sexual murderers are stable enough to withstand the situational variation that is likely to occur across crimes (e.g., with respect to victim resistance, etc.). In other words, many serial sexual murderers are apparently predisposed to act in a particular way, regardless of situational factors. Having said this, it is important to reemphasize the fact that, in the present study, stability could be found (where it was examined at the thematic level) even if behavioural variation occurred

across crimes at the level of individual behaviours (i.e., an offender could be considered organized across two crimes even if they exhibited totally different organized behaviours during those crimes).

It is also important to highlight the fact that, when measured at the thematic level, the degree of temporal stability that is found is determined largely by the criterion used to assign offenders to dominant themes. Depending on the assignment criterion that is used, levels of stability can increase or decrease. For example, in the present study, the reported level of temporal stability would have been much higher if, instead of using the 1.5x assignment criterion, a more liberal criterion were adopted, such as assigning a crime to a dominant theme if the offender displayed a higher percentage of behaviours in one theme compared to the other. In fact, if this criterion had been used in the present study, the level of stability would have increased from 44% (of offenders exhibiting the same theme across all three offences) to 77%. The decision to use this 1.5x criterion was predicated on the findings by Salfati and Bateman (2005) that this assignment method was ideal for use with two-theme structures. However, in light of the present findings, it might be useful in future research to examine more carefully the impact that different assignment methods have on stability levels.

Levels of stability could also increase if behaviours other than those that were tested in this thesis were examined. A number of studies have clearly indicated that stability varies depending on the behaviours selected for analysis (e.g., Bennell & Canter, 2002; Bennell & Jones, 2005; Funder & Colvin, 1991). In particular, an offender's spatial behaviour appears to be particularly stable across crimes (e.g., the area where an offender decides to target). This has been found in studies of serial rape (Goodwill & Alison,

2005; Grubin et al., 2001) and serial burglary (Bennell & Canter, 2002; Bennell & Jones, 2005). In line with thinking in the area of personality psychology (e.g., Funder & Colvin, 1991), the differences in stability across crime scene behaviours appears to be due to the fact that some behaviours are more situation-independent (i.e., largely determined by the offender, such as when and where crimes take place) than others are (such as the amount of aggression exhibited towards the victim). It is not particularly surprising that situation-independent behaviours are typically exhibited in a more stable fashion across situations and this opens up important research possibilities once more data is collected on serial sexual killers (e.g., with respect to their spatial behaviours).

Despite the fact that moderate levels of stability were found, and the fact that higher levels of stability could be found in the future, the reality of the current situation is that over half the current sample of offenders did not display temporal stability across their series. This cannot be ignored and has serious implications. At a general level, this finding indicates that criminal investigators should be cautious about relying on the organized/disorganized model when attempting to determine whether a series of crimes are the work of a single offender. Clearly, just because an organized and a disorganized crime are committed in the same jurisdiction, this in no way means that different offenders committed the offences. In addition, and as indicated above, given that the stability results presented here are at the thematic level, even more caution should be used by investigators when attempting to link crimes by analyzing across-crime similarity at the level of individual behaviours. This is common practice in many police jurisdictions (Bennell & Canter, 2002), yet if thematic stability is 44%, stability at the behavioural level will be substantially lower.

*RQ 5: Do The Offenders Display Cross-Situational Consistency (At The Thematic Level)
Between Their Criminal And Non-Criminal Lives?*

Consistent with previous literature in the forensic and personality domains (e.g., House, 1997; Shoda et al, 1994), there was little evidence of cross-situational consistency in the present sample, with approximately 15% of the entire sample displaying the same theme in their crime scene behaviours and background characteristics. Although this number is greater than what would be expected by chance, it does not represent an overwhelming portion of the sample.

In the present sample, the majority of offenders who were temporally stable across their crimes were classified as organized, while their background characteristics were almost always classified as disorganized. In contrast to the stability findings, these results indicate that situational factors can have a very serious impact on the way offenders behave, especially if the situations differ markedly (i.e., crime versus work, instead of crime A versus crime B). This general finding, that stability/consistency varies as a function of situational similarity, is a well-established finding in the personality literature (Shoda et al., 1994). This finding also accords well with anecdotal evidence. For example, most well-known serial sexual killers are known to have behaved very differently in their criminal and non-criminal lives, in essence living a dual life. Consider Ted Bundy, Edmund Kemper, Dennis Rader, and so on. Each of these offenders stunned their neighbours, friends, and even the police when they were arrested. The story line is a common one: How could he, such a good father/husband/son, have committed such atrocious acts? Ted Bundy is a good example: an honours psychology student in University, who was well-liked by his professors; a campaign worker for the governor of

Washington; a volunteer at a crisis clinic; a commendation recipient from the Seattle police for saving a three-year old boy who was drowning in a lake. Clearly an organized individual. And all of this while also committing a long series of horrific crimes, many of which were highly disorganized in nature (Ressler, 1995). Although the present findings do not help explain this type of dual existence, they certainly support what has been long suspected – that serial sexual killers may be quite cruel in their crimes, but they often appear as regular, law-abiding people in their everyday lives.

Had more lenient assignment criterion been used to determine crime scene stability it is possible that levels of cross-situational consistency would also have been higher in the present study. Still, the fact that cross-situational consistency does not appear in a greater proportion of the current sample is discouraging, particularly since it is one of the most fundamental assumptions underlying the profiling process. If the majority of offenders do not behave consistently across their criminal and non-criminal lives, how can knowledge of their crime scene behaviours help profilers determine anything about their non-criminal behaviours and characteristics? If an offender commits a series of organized crimes, but this does not necessarily reflect the fact that the offender behaves in an organized fashion in the non-criminal context, what is a profiler to do?

The fact that this finding fits well with other studies that have also examined the issue of cross-situational consistency in the criminal and non-criminal domains (e.g., House, 1997; Shoda et al., 1994), makes this finding particularly alarming. Clearly, the results presented in this thesis (in relation to consistency) suggests that extreme caution should be used when implementing offender profiles, especially if the organized/disorganized dichotomy was used as part of the profiling process.

RQ 6: Are Offenders Who Are More Similar To One Another In Terms Of Their Crime Scene Behaviours (At The Thematic Level) More Similar With Respect To One Another In Terms Of Their Background Characteristics?

Based on the results of this study, there does appear to be some limited support for the homology assumption, with 29% of the background characteristics examined here showing evidence of homology. More specifically, the results indicate that offenders who were more similar in terms of their crime scene behaviours (i.e., both were organized or both were disorganized), were also more likely to be similar in terms of several potentially important background variables (from an investigative perspective). This finding was somewhat surprising in light of the fact that Mokros and Alison's (2002) recent study clearly demonstrated that the homology assumption was not supported in the case of rape. However, the present findings correspond to results reported by Canter and Fritzon (1998) in their study of serial arsonists.

As indicated in the results section, further analyses revealed that, within the current dataset, homology exists mostly in terms of non-occurrences. In other words, the results presented here indicate that two offenders who are more similar in terms of their crime scene theme are also more likely to *not* possess a particular background characteristic (e.g., domestic abuse). While this result was not anticipated, and was initially viewed as somewhat discouraging, it certainly is the case that this sort of knowledge can be very useful to criminal investigators. More specifically, this form of homology could help profilers reduce the seemingly infinite number of possibilities when considering what background characteristics an offender might possess. For example, if two offenders are similar in terms of their crime scene behaviours, and one does not, for

example, have a past record for fraud, then investigators can be relatively confident that the other offender also does not have a previous conviction for fraud.

Implications

To summarize, in light of the findings reported in this thesis, it would be sensible for law enforcement agencies to refrain from relying too heavily on Keppel and Walter's (1999) classification system, at least until further research can be conducted. No evidence could be found in this study to support the existence of the four proposed themes (PA, PR, AR, and AE). This was the case in both the criminal and non-criminal contexts. It would be wise for research of this type to move beyond the simple case study approach adopted by Keppel and Walter. Although it is clear from their study that offenders do exist that fit nicely into each of the proposed themes, the results of the present study strongly suggest that these offenders are the exception rather than the rule.

In contrast to Keppel and Walter's (1999) model, the present study does provide evidence in support of the FBI's organized/disorganized dichotomy of serial sexual murder. This is despite the fact that some recent research (e.g., Canter et al., 2004) suggests that the dichotomy cannot be used to differentiate between offenders. This discrepancy between past and present results may imply that the organized/disorganized model is very sensitive to what crime scene behaviours or background characteristics are focused on; further research is needed to examine this issue more closely. Nevertheless, the current study provides a preliminary indication that offenders can be distinguished based on the level of organization they display in their crime scene behaviours and background characteristics.

Going back to the characteristics of classification systems mentioned in the literature review, what started out as an *anecdotally-derived*, behaviourally-based, predictive classification system is now an *empirically-supported*, behaviourally-based, predictive system (though it is always prudent to wait until results are replicated and extended, before relying exclusively on any system). Should there be further empirical support found for the organized/disorganized model, it would be the first system that exists for the classification of serial sexual homicide offences and offenders that exhibits all three of the ideal attributes that were discussed earlier. This would be encouraging for the profiling field.

Unfortunately, the results of the next phase of the investigation do not bode well for the future of profiling (at least profiling based on the organized/disorganized model). Although the current sample demonstrated stability in their crime scene themes at a rate greater than chance, less than half the offenders demonstrated temporal stability across their series. In addition, while cross-situational consistency levels in the current sample were also greater than would be expected by chance, the overall consistency levels were quite low. Finally, while the homology assumption received partial support, only 29% of the background characteristics examined in the present study can reliably be said to be the same for offenders who display similar crime scene themes. Thus, despite an empirically supported model by which to classify offenders and offences, in light of the present results there appears to very little evidence of temporal stability in relation to this model, even less homology, and just a few instances of cross-situational consistency. This is not good news for profilers who often rely on this model to construct their profiles or for the police who often implement such profiles in their criminal investigations.

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Appendix A
Glossary of Crime Scene Variables

Anthropophagy (see also Cannibal)^{2*}

The offender engaged in cannibalism and/or dinking of the victim's blood.

*Bite (bite marks)*²

Describes any evidence of bite mark(s) on the victim's body. This would include any evidence of chewing on a particular body part.

Blitz^{12*}

The sudden and immediate use of violence, which may or may not be preceded by a confidence or ploy approach, and which incapacitates the victim.

*Bludgeon*¹²³

The weapon used was any type of blunt instrument, such as a club or statue.

*Bodybag (body bagged)*²⁴

The victim's body was disposed of in a bag.

Bodybound (body bound)^{1234*}

The victim's body was bound by one of various things, including, for example, panty hose, rope, an electrical cord, and electrical tape.

*Bodybury (body buried)*¹²³

The victim's body was buried completely in the ground so that no part of the body was exposed or could be seen.

*Bodyburn (body burned)*¹²³⁴

The victim's body, when found, was burned, either in part or completely.

*Bodycar (body in vehicle)*²

The victim's body, when found, was in a vehicle.

*Bodyhang (body hanging)*²⁴

The victim's body, when discovered, was found hanging.

Bodyhidden (body hidden)^{2*}

The victim's body, when discovered, was found hidden. The body could not be viewed with ease and visibility was obstructed by trees or other barriers.

Bodymove (body moved)^{1234*}

The victim's body was moved from the assault or murder site to the disposal site. This would include either moving the body by foot or transport.

*Bodyopen (body openly displayed)*²⁴

The victim's body, when discovered, was found openly displayed. The body could be viewed with ease, and it was not obstructed by any barriers.

Bodyscat (body parts scattered)^{24*}

The victim's body parts were found scattered away from the area where the body was lying. This category includes any body part found any distance away from the crime scene.

*Bodyweight (body weighted down)*²⁴

The victim's body was weighted down by an object such as rocks, metal, cement, a tire, or a chain.

Cannibal (see also anthropophagy)^{2*}

The offender engaged in cannibalism and/or dinking of the victim's blood.

*Carving (carving or writing on body)*²

This variable includes any evidence of writing or carving on the victim's body using various instruments, including, for example, a knife, lipstick, or a pen.

*Casual (casual acquaintance)*¹²³

At the time of the offence, the relationship between the victim and offender was casual in nature (i.e., they saw each other once a year).

*Choked*¹²³

The offender choked the victim.

*Clothcut (clothing cut)*¹²³⁴

The offender cut the clothes off the victim.

*Con*¹²

The offender initiated contact with the victim prior to the attack by use of a con or deception. This would include any verbal contact, questions asked, pseudo introductions, or story told. This would also include any pseudo names or businesses used to gain entry into victims' homes.

*Conceal (concealed body)*²⁴

The victim's body, when discovered, was found completely covered or concealed.

*Crimekit (crime kit)*¹²³⁴

This variable describes an offender who possesses a crime kit for torturing his victims. This would include any items to torture the victim, such as pliers, electrical devices, etc., and anything that may be used to bind the victim, such as duct tape and rope.

Destevide (destroyed evidence)^{123*}

The offender destroyed or attempted to destroy physical evidence at the crime scene. Indicates some amount of forensic awareness. This would not include simply wearing gloves, which is a common practice. This involves activities such as wiping and washing the victim, as well as removal from the scene of incriminating articles or other evidence.

Disfig (disfigurement)^{12*}

The offender committed acts of torture or unusual assaults on the victim's body. This would include any removal of body parts, burns, and/or mutilation of body cavities.

Dismemb (dismembered)^{1234*}

The offender dismembered the victim's body by any of various means, including, but not limited to, biting, sawing, and cutting.

*Drawscene (drawing or writing at the crime scene)*²⁴

The offender wrote or drew at the crime scene using various instruments, such as a knife, blood or lipstick.

*Exposed (body exposed)*²

The victim's body, when discovered, was completely exposed.

Facecov (face covered)^{1234*}

At any time during the attack, the offender used any physical article to cover the victim's entire head.

*Family*¹²³⁴

The victim and offender were related by blood. This variable also included any extended family relationships.

*Firearm*¹²³⁴

Describes the type of weapon that caused the death of the victim; includes any type of gun (e.g., shotgun, rifle, or handgun).

*Forced (forced entry)*¹²³⁴

Entry into the victim's house was by force, through windows, locks, etc. This does not include physical force upon the victim.

Foreobj (foreign object inserted)^{1234*}

This variable describes any evidence that a foreign object had been inserted into the victim's body cavity.

*Friend*¹²³⁴

At the time of the offence, the victim and offender were friends. This means that the victim and offender socialized and saw each other on a regular basis.

*Hand/Club (hand or club)*¹²

The offender's method of attack was by hand, fist, or clubbing weapon.

*Hand/Feet (hand or feet)*¹²

This variable indicates any use of the offender's hands, feet, legs, or arms to strangle or beat the victim.

Heldcapt (held captive)^{1234*}

The victim was held captive for more than eight hours prior to their murder.

*Hitchhike (hitchhiker)*²⁴

At the time of the offender-victim encounter, the victim was hitchhiking.

Injurante (injury ante-mortem)^{12*}

The victim incurred injuries prior to their death.

Injurpost (injury post-mortem)^{12*}

The body incurred injuries post-mortem.

*Interject (interjected into investigation)*¹²³⁴

This variable refers to offenders who like to interject themselves into the investigation, either by taunting authorities or by 'helping' them.

*Knife*¹²

The weapon used was any sharp instrument that could stab or cut, such as a knife or sword.

*Ligature (weapon ligature)*¹²³

This variable includes any article the offender may have used to strangle the victim, with the exception of the offender's hands, legs, or feet.

*Lowbody (lower body stab wounds)**

This variable described the location of the stab wounds on the victim's body. This would include any stabbing or cutting wounds below the waist.

Multistab (multiple stab wounds)^{1234*}

The victim suffered multiple (10 or more) stab wounds.

*Night (night entry)*²⁴

Entry into the victim's home was during the night. This included any entry made between sunset and sunrise.

*Notdisturb (body not disturbed)*¹²³⁴

The victim's body was found undisturbed since the time of its death.

*Nude*¹²³⁴

When discovered, the victim's body was completely nude.

*Photos*²⁴

The offender took photos or videos of the victim prior to or after death.

*Pileneat (piled neatly)*¹²³⁴

The victims clothing found at the crime scene but not on the victim are found piled neatly nearby.

Piqueur (piqueurism)^{24*}

This variable describes acts performed on the victim's body with a knife or other sharp instruments that indicates excessive stabbing, cutting, or ripping of the flesh. These wounds are usually inflicted near the genital or breast areas.

*Ploy*¹²

The offender initiated contact with the victim prior to the offence by the use of a ploy or subterfuge. This would include any roles the offender might take, such as faking a broken arm or leg.

Prewrap (see also weapon; pre-selected weapon)^{12*}

The offender pre-selected the weapon and brought it to the crime scene.

*Prostitute*¹²³⁴

At the time of the victim-offender encounter, the victim was working as a prostitute.

Restoff (restraints brought by offender)^{1234*}

The offender brought the restraining device(s) to the crime scene.

*Restfound (restraints found)*¹²³⁴

The offender left the restraining device(s) at the crime scene.

*Rip/Torn (ripped or torn)*¹²³⁴

Describes the manner in which the victim's clothes were removed. This would also include the tearing of victim's clothing.

*Ritual (ritualistic behaviour)*¹²

Describes any evidence found at the crime scene that suggests that the offender performed ritualistic acts on, with, or near the victim's body. This may include, for example, candle burning or dead animals found at the scene.

*Ruse*¹²

The offender initiated contact with the victim prior to the offence by the use of one of various forms of ruse, including pretending to be a repairman or by implying a family emergency.

*Scatcloth (scattered clothing)**

This variable describes the placement of the victim's clothing (not on the body) found at the crime scene, scattered away from the body.

Semen^{1234*}

The offender's semen was found in and/or on and/or around the victim's body.

*Sex (sexual assault)*¹²

This variable indicates that the offender sexually assaulted, or attempted to sexually assault the victim. This would also include evidence of masturbation at the scene.

Sexante (sexual assault ante-mortem)^{12*}

The offender sexually assaulted the victim prior to killing them.

*Sexpost (sex post-mortem)*¹²³

The offender sexually assaulted the victim post-mortem.

*Souvenir*¹²

The offender took small personal items from the victim (e.g., photos, drivers licence, jewellery, etc.). This variable does not include the taking of the victim's clothes.

*Stab*¹²

The offender's method of attack was to stab the victim.

*Staged (staged body)*¹²³⁴

The offender intentionally staged or posed the victim's body, usually with the intent of shocking those who discover it.

*Stalk (stalked)*¹²³

The offender stalked the victim for one day or more prior to committing the murder.

*Stranger*¹²

Victim was a total stranger to the offender.

Torture^{1234*}

The offender performed sadistic acts upon the victim's body while he or she was still alive. This may include acts such as cutting, burning, or electric shock. Also included in this variable would be any mental torture inflicted on the victim.

*Trophy*¹²³⁴

The offender retained personal items/clothes of the victim's for the purpose of personal gratification.

*Waistdown (undressed from waist down)*¹²³⁴

When discovered, the victim's body was undressed from the waist down.

*Waistup (undressed from waist up)*¹²³⁴

When discovered, the victim's body was undressed from the waist up.

*Water (body in water)*²⁴

The victim's body, when discovered, was completely immersed in water, and was not viewed with ease.

Weapoff (see also preweap; weapon pre-selected by offender)^{12*}

This variable describes an offender who pre-selected a weapon and then brought it to the crime scene.

*Weapopp (weapon of opportunity)*¹²

The offender found the weapon at the crime scene, or it was brought to the scene by the victim.

*Weaprecov (weapon recovered)*¹²³⁴

The murder weapon was recovered at the crime scene.

Appendix B

Glossary of Background Characteristics

*Alcdrug (alcohol and/or drugs)*¹²³

This variable indicates that the offender used alcohol or drugs prior to committing the homicides. The report of alcohol and drug use was taken from the offender's account or from the testimony of surviving victims.

*Burg (burglary)*¹²

This variable includes any charges, whether or not they were dropped, for crimes such as burglary, theft or robbery.

*Carnew (car new)*¹²³

The offender's vehicle is a newer model in good condition.

*Carold (car old)*¹²³⁴

The offender's vehicle is an older model in need of repair.

*Divorce (divorced)*²⁴

Offender's marital status was divorced.

Domestic (domestic disturbance)^{1234*}

This variable includes any police calls or criminal charges and/or convictions related to a history of domestic disturbances.

*Drugoff (drug offence)**

Includes any past drug-related charges and/or convictions that the offender has received.

Employ (employed)^{1234*}

At the time of his arrest, the offender was employed.

Fetish (fetishist)^{1234*}

The offender derives pleasure from interacting with specific body parts and/or the use of objects.

*Fraud**

Includes any charges incurred (whether or not they were later dropped) and/or convictions the offender has for fraud or forgery.

Hsdrpout (high school drop out)^{12*}

The offender was a high school dropout; in other words, they never graduated from high school.

*Hsgrad (high school graduate)*¹²³⁴

At the time of his arrest, the offender was a high school graduate or had completed a similar high school diploma course (e.g., GED).

*Juvrecor (juvenile record)**

This variable indicates the offender has incurred criminal charges of any kind prior to the age of 18.

*Lawwork (law work)**

This variable indicates that the offender has worked at some time, either past or present, in some capacity as a law enforcement officer (this includes work as a security guard or other similar professions).

*Married*¹²⁴

At the time of his arrest, the offender's marital status was married.

Mental (psychiatric treatment; see also psychiatric)^{123*}

The offender, as a juvenile or adult, displayed symptoms of/or was treated for mental health problems.

Military^{12*}

The offender was at some time in the military service. This was coded regardless of whether the offender received an honourable or dishonourable discharge.

*Outdoor (outdoor enthusiast)*¹²³

The offender is a sportsman or outdoor enthusiast.

*Partcol (part college)*¹²

The offender attended university, but did not complete a degree.

*Polbuff (police buff)*²⁴

The offender could be considered a police buff. He was interested in crimes and forensic subjects.

*Porn (pornography)*¹²

The offender read and/or collected a variety of pornographic material, including books and video.

Postgrad (post graduate degree)^{1234*}

At the time of his arrest, the offender had attended or graduated from a post graduate program.

Psychiatric (psychiatric treatment; see also mental)^{123*}

The offender, as a juvenile or adult, displayed symptoms of/or was treated for mental health problems.

*Selfemploy (self-employed)**

At the time of the arrest, the offender was self-employed (i.e., running his own business)

*Setback (emotional setback)**

In the days prior to the offence, the offender suffered an emotional setback of some kind (e.g., the offender lost his job, had a baby, etc.).

*Single*¹²

At the time of his arrest, the offender's marriage status was single.

*Unemploy (unemployed)**

At the time of the arrest, the offender was unemployed (not working at a legally held job).

Univdegree (university degree)^{1234*}

The offender has attended university and completed a degree.

*Univdrpout (university dropout; see also partcol)*¹²

The offender attended university, but did not complete a degree.

*Voyeur (voyeurism)*¹²³⁴

The offender engages in voyeurism. This includes any charges of being a peeping tom.

Appendix C

Table of Co-Occurrence for Some of the Background Characteristics Proposed by Keppel and Walter (1999) to Represent the Four Themes

Note: Boxes have been placed around those values that should be highest, as these behaviours should have the highest co-occurrences, being from the same classification theme.

	Power-Assertive (PA)			Power-Reassurance (PR)			Anger-Retaliatio (AR)			Anger-Excitation (AE)		
PA	Carnew	Alcdrug	Divorce	Carold	Mental	Voyeur	Outdr	Domes	Drugtrt	Employ	Unvdgr	Polbuff
Carnew	-											
Alcodrugs	.32	-										
Divorce	.08	.27	-									
PR												
Carold	.00	.45	.08	-								
Mental	.23	.40	.46	.45	-							
Voyeur	.00	.31	.24	.39	.41	-						
AR												
Outdoors	.22	.14	.00	.09	.09	.00	-					
Domestic	.24	.39	.47	.23	.00	.16	.00	-				
Dugtrmt	.17	.32	.16	.17	.38	.20	.22	.12	-			
AE												
Employ	.27	.41	.47	.58	.07	.42	.07	.11	.33	-		
Univdegree	.22	.07	.09	.09	.00	.12	.00	.00	.22	.15	-	
Police buff	.15	.24	.15	.20	.20	.38	.20	.22	.31	.32	.20	-

Appendix D
Plots of the Crime Scene Variables for Samples 2, 3, and 4

PROXSCAL of the crime scene behaviours included in Sample 2.

PROXSCAL of the crime scene behaviours included in Sample 3.

PROXSCAL of the crime scene behaviours included in Sample 4.

Appendix E
Plots of the Background Characteristics for Samples 2, 3, and 4

PROXSCAL of background characteristics included in Sample 2.

PROXSCAL of background characteristics included in Sample 3.

PROXSCAL of background characteristics included in Sample 4.