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The Organized / Disorganized Typology of Serial Murder: Myth or Model?

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Abstract

The dichotomous classification of serial killers into either <u>Organized</u> or <u>Disorganized</u> is widely cited and utilized. Yet only one, small-scale, empirical test of such a model can be found in the scientific literature and that study is open to a number of serious challenges. Despite many obvious weaknesses in the clarity and reliability of this typology it is commonly cited as a basis for the production of 'offender profiles' to help police investigations and has, on occasion, formed the foundation of some prosecution arguments in murder trials.

Murder scene information, available from law enforcement agencies provides the potential for systematic analysis that can be used to test the assumptions underlying the organized/disorganized dichotomy. Well-established psychometric procedures provide a basis for testing the model by examining the underlying structure within the co-occurrence of those crime scene actions proposed as crucial constituents of the model.

As a first step in testing this model the patterns of co-occurrence of 39 aspects of serial killings were identified from the crime scenes of 100 murders committed by 100 US serial killers. This information was subject to a multidimensional scaling procedure that examined the co-occurrence of every one of the 39 aspects with every other. This analysis revealed that there are no discrete sub-sets of offence characteristics that can be regarded as distinctly related to the organization or disorganization of the killings. Instead there appears to be a sub-set of organized features typical of most serial killings with disorganized features being much more rare and not co-occurring as a distinct type. The general implications for testing typologies offered to support expert opinion and to develop our understanding of crime are discussed.

 Key words: disorganized/organized classification, serial killers, profiling, multi-dimensional scaling.

The Organized / Disorganized Typology of Serial Murder: Myth or Model?

The Organized/ Disorganized dichotomy is one of the most widely cited classifications of violent, serial offenders. Although first introduced by the special agents of the FBI Training Academy at Quantico in an examination of lust and sexual sadistic murders (Ressler, Burgess, Douglas, Hartman and D'Agostino, 1986) the distinction has since been put forward to differentiate all sexual homicides and also types of arson in Douglas, Burgess, Burgess, and Ressler's (1992) Crime Classification Manual. These authors make the distinction between Organized and Disorganized offenders on criteria that they claim can be drawn from an examination of the crime scene, the victim, and forensic reports. Ressler et al (1986) claim that '…facets of the criminal's personality are evident in his offense. Like a fingerprint, the crime scene can be used to aid in identifying the murderer' (pg. 291). They propose that offenders' behavioral and personality characteristics can be determined from evidence at a crime scene (Ressler et al, 1986). This 'fingerprint' is proposed to take one of two distinct forms, either organized or disorganized.

The organized offender is described as leading an orderly life that is also reflected in the way he commits his crimes. Highlighting some proposed characteristics, he is claimed to be of average to high intelligence, socially competent, and more likely than the disorganized offender to have skilled employment. It is also claimed that he is apt to plan his offences, use restraints on his victim, and to bring a weapon with him to commit the murder and to take the weapon away with him from the crime scene. In contrast, the crime scene of the disorganized offender is described as reflecting an overall sense of disorder and suggests little, if any, pre-planning of the murder. The disarray present at the crime scene may include evidence such as blood, semen, fingerprints, and the murder weapon. There is minimal use of restraints and the body is often displayed in open view. The disorganized offender is thought to be socially incompetent and to have below-average intelligence.

The Disorganized / Organized Theory of Offender Characteristics

According to its proponents (e.g. Douglas et al., 1992) in general Organized offenders are hypothesized to kill after under-going some sort of precipitating stressful event, such as financial, relationship, or employment problems. Their actions are thought to reflect a level of planning and control. The crime scene will therefore reflect a methodical and ordered approach. This is seen as being a consequence of the Organized offender being socially skilled and adept with handling interpersonal situations. Organized offenders are thus more likely to use a verbal approach with victims prior to violence and all these aspects of the offender are presumed to be reflected in the crime scene.

By contrast, Douglas et al. (1992) hypothesize that the Disorganized offender kills opportunistically. S/he will live in close proximity to the crime scene. A lack of planning before, during, or after the crime will be reflected in the spontaneous style of the offence and the chaotic state of the crime scene. This mirrors the offender's social inadequacy and inability to maintain interpersonal relationships. The lack of normal, healthy, social relationships increases the likelihood of sexual ignorance as well as the potential for sexual perversions or dysfunctions as part of the homicidal acts.

In the Crime Classification Manual, Douglas et al (1992) introduced a third category to the taxonomy, the 'Mixed' offender. They suggest that the reasons for those offenders who cannot be easily discriminated as Organized or Disorganized are multifarious. The attack may involve more than one offender, there may be unanticipated events that the offender had not planned for, the victim may resist or the offender may 'escalate' into a different pattern during the course of an offence or over a series of offences. The suggestion is that in this sort of crime, although there may be some evidence of planning, there will be poor concealment of the body. The crime scene might be in great disarray and there will be a great deal of manual violence committed against the victim. The offender may be young or involved in drugs or alcohol.

The proposal of a 'mixed' category does, of course, raise fundamental questions about the possibility of finding empirical support for the basic dichotomy. If a large proportion of actual cases

are 'mixed' then the basic dichotomy is unlikely to survive systematic scrutiny. It will be little more than a theoretical proposal of no real utility.

It is important to draw attention to the source and status of the reports typically used to inform criminal investigative analysis, and crime scene classification, in particular. The information is most often disseminated in the form of popular books, clearly intended for a non-technical and inexpert audience, rather than in peer-reviewed journals. As a consequence it is less likely to be subjected to informed examination and the form of critical conisderation usual within a professional or scholarly framework. However, if anything, this enhances rather than detracts from the wide uptake of these ideas by law enforcement practitioners who often have no scientific training. Furthermore the mechanism, that Canter (2002) has called 'The Hollywood Effect', whereby loosely formulated and often unsubstantiated theories and models are featured in widely disseminated movies and given extra credibility by such broadcast, means that these ideas can become part of apparently accepted expertise that juries and other lay groups will be prepared to accept. This also can lead to the possibility that the ideas may be incorporated into practice casually and applied in a less systematic manner than their original authors had intended.   The organized/disorganized dichotomy has probably suffered this fate being cited in a number of Hollywood films and drawn upon as a valid model by police investigators around the world.

Part of the attraction of the dichotomy is that it was developed as part of attempts at 'psychological profiling', summarized by Ressler, Burgess and Douglas (1988) as, ' the process of identifying the gross psychological characteristics of an individual based upon an analysis of the crimes he or she committed and providing a general description of the person utilizing those traits' (p.3). In essence, an examination of the crime scene is used to assign the crime to either one of the two categories; 'Organized' or 'Disorganized'. Then it is assumed that an 'Organized' crime will be committed by offenders who have 'Organized' characteristics and a 'Disorganized' one by those offenders who are 'Disorganized'. Thus the dichotomy provides the central model that generates inferences about offenders from details of the crime scene.

Evidence for the way in which the Organized/Disorganized typology has grown to be widely accepted as a conceptual tool for assisting police investigations, at the heart of 'offender profiling' can be derived from a number of sources. For example, Jackson & Bekerian (1997) in their summary of approaches to offender profiling report that, 'investigative support, research and training in behavioral analysis in the USA has adopted the FBI approach and psychological profiling units in other countries such as Canada, the U.K. and the Netherlands have been based to a large extent on this approach' (pg. 6). The approach they are describing relies, as far as can be determined from published sources, on the Organized/ Disorganized dichotomy; indicating the importance of examining the empirical evidence for this dichotomy.

Despite its wide citation, there appears to be little in the way of detailed explication of the concepts and theory underlying this two-fold model. There are also ambiguities in its constituents. Furthermore in his extensive review of the etiology of serial killing, examining biological, psychological and social contributors to its occurrence, Stone (2000) provides no indication at all that a dichotomy that might relate to how 'organized' or 'disorganized' the offender is has support in any of the wide range of issues he considers. The distinction therefore remains a proposal in need of careful definition and systematic testing.

Although the conceptual roots of the two-fold typology are unclear it seems to have its origins in a 'syndrome' or 'disease' approach to classification. In this approach all individuals are assigned to one sub-set of the categorical framework. This assignment is based on all the members of the sub-category sharing a set of distinguishing features. In effect, a template is offered of a set of characteristics, say disease symptoms, or components of a syndrome, and if the individual exhibits a preponderance of those characteristics s/he is regarded as having the disease or reflecting the syndrome.

Challenges to this approach, especially as it is applied to human behavior have been legion over the past century. Indeed, whole areas of statistics and psychometrics have evolved to offer alternative approaches to classification that find more empirical support. In general, these start from the premise that human beings rarely fall into distinct types and therefore any approach that seeks to

use a template for defining the characteristics of a distinct type is not likely to find much empirical support. The general weakness of the typological approach adds further significance to reviewing the organized/disorganized dichotomy in order to establish if it is any more likely to be valid than other analogous typologies, such as the four-fold typology of 'cardinal humors' that now have merely historical significance.

Problems with the Evidence in Support of the Dichotomy

The Special Agents at Quantico, who developed the dichotomy, report (Ressler et al 1986; Ressler, Burgess, Hartman, Douglas, and McCormack, 1986) that it was derived from interviews and case information on 36 murderers. However, many methodological flaws have been identified in relation to the reliability and validity of these interviews and the ways in which conclusions were drawn from them.

Important weaknesses of the interviews lay in their lack of structure or a predetermined framework and in selection of the sample. The FBI agents conducting the study did not select a random, or even large, sample of all offenders and then explore how they may be appropriately divided into sub-groups. They had an opportunity sample of 36 offenders who agreed to talk to them. They developed the interviews in an *ad hoc* fashion, depending on the particular interviewee. To develop their ideas the FBI agents divided the people to whom they had talked into Organized and Disorganized categories on the basis of behaviors and characteristics that they felt would discriminate between the groups. They initially divided them into 24 organized and 12 disorganized offenders.

From the start, then, they were illustrating how certain offence behavior and certain offender characteristics combined in their sample. They never set out to test the discriminatory power of their dichotomy on a sample that was not specifically drawn up to illustrate this dichotomy. Indeed, they state themselves that 'our study was an exploratory one' (Ressler et al 1986, p.64). Since that initial, limited sample of 36 offenders, no subsequent test of the reliability of the dichotomy on other violent offences or offenders can be found in the academic literature. Thus, the widespread citation

of this typology is based on an informal, exploratory study of 36 offenders put forward as exemplars, rather than a specific test of a representative sample of a general population of serial murderers.

This circular reasoning, involving reification of a concept rather than an empirical validation of it, has the weakness of a self-fulfilling prophecy. Turco (1990) further criticizes these 'validation studies' because of the atheoretical fashion in which the offender interviews were collated and Rossmo (1997) for the lack of scientific method in the study design. Canter (2001) has gone further, suggesting that the concept of Organized and Disorganized offenders is not a genuine psychologically based distinction but, rather, is a commonsensical, day-to-day speculation about differences between people. Perhaps this relationship to lay beliefs explains the enduring, often unquestioned, acceptance of those 'psychological profiles' that are based on an Organized or Disorganized framework.

FBI agents, other than those who proposed the dichotomy, acknowledge that further research is required. Pinizzotto stated in 1984 that, 'currently, the Behavioral Science Unit of the FBI is developing a variety of research methods to statistically test for reliability and validity (of profiling)' p. 37. However, nearly 20 years later, there remains no further published evaluation. This has not prevented the literature concerning offender profiling being peppered throughout with references to the Organized/ Disorganized dichotomy as a clear and accepted way of distinguishing offenders and their crime scenes (Hickey, 1997, Holmes and Holmes, 1998). In Holmes and Holmes (1998), the reader is encouraged to accept that 'what this approach does do, *and it does appear to do this well* is to examine the crime scene characteristics and then, from that information, describe the type of person who may have committed the crime' p. 53. (Emphasis added).

Such endorsement of this investigative support tool can be found in a number of publications beyond the Crime Classification Manual (Hickey, 1997, Schechter & Everitt, 1997). For example, in an operational profile, published within Holmes and Holmes (1998), the following advice is given:

'He walks the streets at night because the night brings a cover to him, and the neighbors may be equally frightened of him because of his *Disorganized* personality. I would recommend you read the *FBI's literature on the Organized and Disorganized personality types.* This will give you an idea of the types of which I am speaking." (Emphasis added) Profile of Visionary Serial Killer: p. 73

The Organized/Disorganized dichotomy is not, of course, the only typology that has been proposed to facilitate the understanding of violent crime such as murder and rape. For example, Jenkins (1988) noted two types of serial murderers, the *predictable type* and the *respectable type,* largely determined by the presence or absence of a violent criminal history and whether or not alcohol abuse featured in their day-to-day life. This typology seems to be little more than a drawing of attention to differences that could be determined in some cases that Jenkins considered important. Dietz (1986) offered a more detailed set of discriminations based largely on the presumed psychopathology that was the basis of the killings, distinguishing between serial murders who were psychopathic sexual sadists, crime spree killers, organized crime killers, psychotics, and custodial poisoners. As Blackburn (1993) discusses, all these typologies of serial violent crime remain at the level of hypotheses and thorough empirical validation has yet to be undertaken.

Of all the typologies available the organized/disorganized dichotomy does remain the most influential, often being drawn upon by authors without apparently realizing, or at least declaring, that is what they are doing. The most notable example of this is a widely cited six-fold typology of serial killers proposed by Holmes and De Burger (1988). They put forward 14 features that can be used to assign offences and offenders to one of their six types. Curiously, every one of the Holmes and De Burger (1988) types has exactly seven features. In the account of these types they present a table of the distinguishing features that identify each type. However, their table has a somewhat arbitrary structure to it. It can be readily re-organized to place the features in a conceptually cumulative order as shown in Table 1.

■■
Table 1.   Re-Organisation of Holmes and De Burger's (1988) Classification of Serial Killers

■■
Feature   Types of Serial Killer

	Visionary	Mission	Comfort	Lust	Thrill	Power
DISORGANIZED	X					
SPONTANEOUS	X					
RANDOM	X	X				
NON-SPECIFIC	X		X			
AFFILIATED			X			
ACT-FOCUSED	X	X	X			
CONCENTRATED	X	X	X	X		
STRANGERS	X	X		X	X	X
ORGANIZED		X	X	X	X	X
PLANNED		X	X	X		X
SPECIFIC		X		X	X	X
PROCESS-FOCUSED			X	X	X	X
NON-RANDOM				X	X	X
DISPERSED					X	X
	External					Internal

This clearly shows that all the apparently distinct 'types' overlap one another in regards to the defining characteristics. Furthermore, the sequence runs from 'disorganized' and 'spontaneous' to 'non-random' and 'dispersed'.   Essentially, Holmes and De Burger are using the organized/disorganized dichotomy as if it were a continuum. They give labels to offender 'types' at different points along this continuum.

Two concerns arise upon examining this continuum. First, how is an offender assigned to a type if he does not have all seven of the features in the list for any given type? Secondly, what happens if an offender has a mixture of features from different columns, for example, the crime is classified as 'act-focused' but 'dispersed'? In other words, Table 1 is actually a hypothesis about co-occurrences of the offence characteristics. The typology proposes that specific characteristics only happen together with certain other characteristics e.g. that 'affiliated' offenders are the only ones

who are 'non-specific' and that those offenders are never 'spontaneous'. Therefore, table 1 encapsulates a whole set of assumed relationships between the features that describe the offenders. It assumes that only some features co-occur with each other and others never co-occur in the same crime. These assumptions may be plausible and are open to direct empirical test, but until they have been properly tested against real-world data they are little more than speculations.

In a subsequent, revised edition of the book on serial killers Holmes and Holmes (1996) provided a slightly modified version of their model and utilize case examples to illustrate the five types of serial killers they identified. The substance of their proposed classification remained unchanged, although the 'comfort' killer category was dropped and 'power' now includes notions of 'control'. In addition, the original table of offender characteristics has been omitted leaving the reader to wonder the extent to which each case example serves to define the proposed offender type. But their debt to Douglas et al's dichotomy is still very clear. Their 'visionary' and 'mission' killers can be seen as having many of the characteristics of the 'Disorganized' type of killer and the 'Thrill' and 'Power/Control' category overlaps with the 'Organized' type. The five types can still be seen to offer a hypothesis that there is a loose ordering that reflects a continuum running from highly 'Disorganized' to highly 'Organized'. Further information provided by Holmes and Holmes in the form of case studies does allow a more explicit listing of the crime scene actions that can be hypothesized to indicate to which type a murder belongs. The crime scene actions derived from Holmes and Holmes (1996) are given in Table 2.

Those actions to the left of this table are strongly associated with Disorganized offenders in the Douglas et al framework, for example, ransacking, bludgeoning with a weapon that happened to be available, scattering belongings and leaving a trail of clothing. All of these actions are commonsensical descriptions of someone who is impulsive, incompetent, and generally confused. By contrast, a number of the actions to the right, such as concealing and covering the body, tampering with possible evidence, taking the murder weapon away from the scene, gagging and restraining the victim, are all obvious indicators that the offender is likely to have thought about his

actions in advance and was attempting to maintain some sort of control over the processes of murder.

Table 2 Crime Scene Actions indicated in Holmes and Holmes 1996 Classification of Serial Killers

Visionary	Mission	Lust	Thrill	Power/control
3.ransacking 7.belongings scattered 8. clothing scattered 21. bludgeoned 37. weapon left in victim 38.weapon of opportunity 39. trail of clothing leading to/from crime scene	21. bludgeoned 24. firearm used 25. murder weapon missing 35. throat cut	1. multiple crime scenes 2. multiple sex acts 5. torture 6. overkill 10. alive during sex acts 11. vaginal rape 12. object penetration 14. genital mutilation 15. thoracic mutilation 16. abdominal mutilation 17. innards extracted 18. facial disfigurement 20. beaten 22.manual strangulation 25. murder weapon missing 26. body covered PM 28. body positioned 29. body parts missing 30. dismemberment 33. body concealed 34. burns on victim 36. violence at genitalia	1.multiple crime scene 4. restraints 5. torture 9. gagging 10. alive during sex acts 11. vaginal rape 12. object penetration 13. bite marks 22. manual strangulation 23. ligature strangulation 25. murder weapon missing 26. body covered PM 31. tampered with evidence 33. body concealed 34. burns on victim	1. multiple crime scenes 4. restraints 5.torture 9. gagging 10. alive during sex acts 11. vaginal rape 19. tease cuts 20. beaten 23. ligature strangulation 25. murder weapon missing 26. body covered PM 29. body parts missing 30. dismemberment 31. tampered evidence 32. decapitation 33. body concealed 34. burns on victim

Table 2 also shows the difficulty of determining where Disorganization begins and Organization ends. Indeed Holmes and Holmes do put many crime scene actions in more than one category (1996) just as in Holmes and De Burger (1988). This adds to the complication of determining into which category a murder belongs. While such behaviors may occur in different types of offences, they do not serve to distinguish between offenders, which is the aim of a classification system. In general, as would be expected of any continuum, the greatest ambiguity occurs in the central region, those types of murder that they call 'Lust' and 'Thrill' murders. Not only is it difficult to be clear what combination of actions would lead to a murder being assigned to

the 'Lust' or 'Thrill' categories, Table 2 also shows that it is very difficult to determine where the simpler dividing line between Organized and Disorganized can be drawn.

This difficulty of establishing such a dividing line is rather different from merely suggesting that a 'mixed' category exists as Douglas et al (1992) propose. A mixed category could, presumably, include actions from both ends of the continuum, such as concealing the body and scattering belongings. The question here is whether the actions listed under Lust and Thrill types can be drawn upon at all to indicate any form of distinct type. These sorts of questions are fundamental to the development of any behavioral assessment tool, such as for personality, intelligence or trustworthiness, for example. They are usually recognized as problems in scaling.

The examination of these models illustrates the two central assumptions of any typology, firstly that the set of criteria that define any type consistently co-occur and, secondly, that criteria that distinguish types tend not happen together. In the case of a dichotomy this assumption is even more definitive. It is that a) the characteristics that define one type always occur together, b) those that define the second type always co-occur and c) the characteristics that define one type do not occur together with the characteristics that define the other type.

For illustration, biological gender is an obviously rigid dichotomy. The characteristics that define females are not expected to be part of the definition of males and vice versa. The genitalia of one gender are not expected to be present at the same time as, say, the reproductive system of another gender. If they are then a clear third gender, hermaphrodite, can be defined. There is no doubt under these conditions into which category an organism falls. The defining characteristics are objective and specific and have been found to distinguish virtually every organism for which they are relevant.

One point to emphasize is that there is a *set* of criteria that are relevant for making the distinction between male and female. All the genitalia and reproductive systems are expected to be of one gender or the other. The typology would not be much use if nature tended to mix and match female genitalia with male reproductive systems and so on. Where the criteria are distinct there is no debate about what leads to an individual being assigned to one category or the other.

Of course gender can be treated as a continuum rather than a dichotomy, but in doing this quite different criteria are drawn on to those used to make the biological distinction. Sexual preferences may be considered as well as emotional sensitivity, physical abilities, or determination to achieve. In these circumstances there is much more debate about how to divide up a population. Which criteria should be given most weight? Does a mix of one sub-set of criteria outweigh others? For example is a biological male who is physically strong and shows other emotional reactions considered typical of men, but has a sexual preference for other men, more or less of a 'man' than someone who is physically week and has the emotional reactions considered typical of women, but who is heterosexual? The only way to answer these questions is by agreement on the definition of what constitutes 'masculinity' and then to show how the various possible criteria should be combined to achieve the appropriate level of this underlying theme.

A Problem of Scaling

Like any other typology the dichotomy of serial killers makes a number of assumptions:

(1) That the criteria for assigning individuals to types can be objectively and reliably specified, for example in the case of criminal actions that it is clear when a property has been 'ransacked' rather than 'disturbed'.

(2) The criteria consistently co-occur; for example in those offences in which there is violence directed at the genitalia, purportedly characteristic of Disorganized offences, is there typically for instance also the similarly characteristic scattering of clothing?

(3) Clear thresholds can be established for which combination of features is needed for an individual to be assigned to any particular type; if there is a mix of features, such as body positioned and torture, that would indicate 'Organized', but there is also the manual strangulation of 'Disorganized', what combination of these can be reliably established to determine which category an offender can be assigned to and the consequent inferences that are appropriate?

(4) That the criteria used for assigning crimes to one type do not frequently occur in crimes assigned to any other type. Even if criteria can be established for reliably assigning individuals to categories will they discriminate one category from another? So, for example, if the use of restraints is taken as a crucial criterion for Organized, their frequent co-occurrence with, say, the thoracic mutilation that is apparently the hallmark of being Disorganized would make both criteria ineffective.

It should be emphasized that this test of the possibility of reliably assigning crimes to one of two categories is only the first step towards showing the validity of such a classification scheme. It is however the crucial first step before further study can be productively carried out linking the crime type to offender characteristics. If crimes cannot be reliably classified then there is no basis for demonstrating the link between features of the crime and of the offender. A study was therefore carried out to test the assumptions listed above.

Method

Both the selection of the data set and the criteria adopted for this study were matched as closely as possible to those adopted by the FBI model found in the Crime Classification Manual (CCM). The cases selected for analysis are therefore categorized as serial sexual homicides as defined within the CCM as "a homicide that involves a sexual element (activity) as the basis for the sequence of acts leading to death. The act may range from actual rape involving penetration (either before or after death) to a symbolic sexual assault, such as insertion of foreign objects into a victim's body orifices" (Douglas et. al. 1992, p. 123).

The criteria selected for coding crimes are those crime scene characteristics or offender characteristics explicitly mentioned within the text of the CCM as relating to either the Organized or Disorganized offender. The hypothesis under examination is that the features hypothesized to be

characteristic of Organized crime scenes will form a distinctly different and coherent pattern from those of Disorganized crime scenes. In order to determine whether the criteria explicitly mentioned in the CCM distinguish distinct 'types' of crime scenes, the co-occurrence of these criteria across a 100 cases are examined using the psychometric procedure of multidimensional scaling.

Sample

The data set used for this study is taken from the data archives at the Centre for Investigative Psychology. This material was collected from published accounts of serial killers and their crimes that were cross checked with court reports and, where possible, with investigating officers. The material was brought together over a number of years by the late Dr. Christopher Missen and is therefore referred to as the Missen Corpus of Serial Killer data. This material consisted of secondary sources of nationally and internationally known United States' newspapers, periodicals, journals, true crime magazines, biographies, trial transcripts, and case history narratives. In all the cases that true crime magazines and articles were utilized the journalists themselves obtained the details from court transcripts and police reports. As in using all archival sources, caution is necessary in dealing with this material, but it does have the advantage that individuals outside of this study collected data for purposes other than research and therefore any biases are not influenced by assumptions made by the current authors.

Further support for the reliability of the material on which this study is based can be drawn from there being little disagreement between different accounts of the same case. The information provided in these accounts can also be regarded as objective data of legal relevance. These accounts of murders are based on information presented in court that is subjected to strict legal scrutiny prior to being introduced as evidence. These cases moreover are high profile, leading to their investigation by several reporters further supporting the reliability of the information. A number of studies have been carried out to test the validity and reliability of this material and although, like all

such data, it has some weaknesses, it has been generally found to be robust and trustworthy (see Missen, 1998 for a general review of the results obtained from this data).

All the cases are from the United States. Data was collected for three crimes in the series, assumed to be the first three to have occurred. For brevity, results from the third crime in the series are reported for the present paper, although similar results were also obtained for the first and second crimes. Whilst the particular crime to be used always has some arbitrariness it is especially appropriate to present the results for third crime in the series. The first and second crimes might be expected to be exploratory ones, which would not necessarily reflect the distinct style of the offender. Investigators often also have some difficulty in ascertaining which were the earliest crimes. Beyond the third crime it may be hypothesized that the offender would be developing special skills that were partly a product of his particular experiences, especially of the reactions of his victims or of police interventions. If there were a style of offending as posited by classification schemes it may be most likely to be revealed in the third offence. Of course future studies with other offences in the series, or summaries of actions across the series, are essential to further test the models being explored. For the present study 100 crimes were selected, one from each of the series of 100 convicted serial killers.

A content analysis of the case report material in the Missen Corpus enable 39 criteria to be identified that corresponded to those crime scene characteristics outlined in the Crime Classification Manual as distinctive of either an Organized or Disorganized offence. These behaviors were coded dichotomously (present = 1, behavior not present/presence not known = 0) across the offences. This tactic of coding variables dichotomously is one that has been developed for research in this area (cf. Canter 2000) in recognition of the lack of precision in the data.

The coding of actions that occur, as revealed from the crime scene, is not a straightforward process even though the possibility of doing so is assumed without question by FBI profilers and their followers. Of particular difficulty is that many actions derive their significance from the context. For example putting a hand over a victim's mouth in a public place, where any noise could attract attention, could have quite different implications from doing the same in a secluded location.

Great care therefore needs to be taken in how the content dictionary is prepared as that defines the actions to be considered so that they are as independent of context, and overt and objective as possible.

The use of archival material as a data source, as utilized here, recognizes that this material can form the basis of what Webb, Campbell, Schwartz, Sechrest & Grove (1981) identified as 'unobtrusive' methods, recently extensively reviewed by Lee (2000). Such use of archival material has long been recognized by anthropologists and archeologists. Whilst it has not been very usual for them to derive quantitative data from it, nonetheless examples can be found. An interesting early instance was the classification of gravestones, (Hudson et al 1971) in which numeric values were derived from the content analysis of these historical artifacts and multi-dimensional scaling used to distinguish different historical periods. Another example of the use information derived from records of 'scenes' is the study by Canter and Lee (1974) of Japanese living rooms. Analysis of records of what furniture is found in which room was used to establish the patterns of co-occurrence and thereby distinguish 'types' of room in an otherwise alien culture.

In reviewing this approach to deriving productive data from police archives and related material Alison, Snook and Stein (2001) have pointed out that a range of information collected as part of police investigations and related procedures is open to systematic examination to reveal its general trends. This is at variance with the view of many lawyers and police officers who think that each case is unique, being alert to the special, often unique, aspects of any case. However, a number of published studies have shown the power of using material collected as part of police investigations to reveal general trends and test specific hypotheses (e.g. Canter and Fritzon 1998, Salfati and Canter, 1999) .

The process of converting such archival information into data amenable to analysis requires the identification of criteria that can be used systematically to specify distinct variables relating to the models or hypotheses under study. In the present case these variables are derived from indicators in published accounts that are proposed to be characteristics of whether a crime is Organized or Disorganized. Not all variables mentioned in the Crime Classification Manual depicting Organized

or Disorganized offences were included in the analysis. This was either due to being unable to reliably code the information, i.e. offender's mood during the crime, and manner of conversation with victim, or a frequency of the criteria in the sample below 3%, e.g. voyeurism and bestiality. Such low frequencies could distort the analysis because of idiosyncrasies of the one or two offenders who happened to exhibit these actions. Where two variables were mutually exclusive one was omitted for clarity, i.e. if the planning of the offence was included then a separate variable indicating a lack of planning was excluded. One precludes the other.

Results

The variables identified for each of the two categories is given in Table 1. It is worth noting that almost twice as many disorganized crime scene actions as organized can be readily identified, suggesting that the disorganized categorization is rather more detailed and articulated. It is also important to note that the frequency of both sets of actions varies considerably in this sample from the 91 cases in which the victim was kept alive during the sexual activity through to the 3 cases in which the body was dismembered. Such variation alone raises questions about the validity and reliability of the classification dichotomy because such variations indicate that there will be many situations in which very few criteria will be present. This consequently shows the need for clear criteria as to when sufficient or necessary components exist for a case to be assigned to a given category. This need is not met in the current literature.

Of course the systematic derivation of variables from archive material is somewhat different from the way the dichotomy may be drawn on in the heat of an investigation, or as part of court proceedings. In such circumstances it will provide a loose framework for encapsulating what the investigator considers to be salient aspects of the crime scene. This may be influenced by information available at the scene but not recorded in any of the archive material. It is also likely to draw very heavily on the particular experiences of the investigator. It is extremely difficult to determine exactly how such processes operate in practice because the only accounts are those for a general audience in the form of autobiographies of investigators. These do not provide the sort of

detail that, say, a pathologist might give in describing how an autopsy is carried out. What is clear, though, is that investigators who offer up the dichotomy as central to their thinking claim that their practice is based upon the identification of those crucial aspects of the crime scene that have been specified as variables in the present study.

Table 1 Variables from the Missen Corpus reflecting Organized or Disorganized Crime Scenes

(Frequency across the sample of 100 cases indicated in parentheses.)

ORGANIZED		DISORGANIZED	
victim alive during sex acts	(91%)	vaginal rape	(74%)
body positioned	(75%)	overkill	(70%)
murder weapon missing	(67%)	multiple sex acts	(66%)
multiple crime scene	(61%)	beaten	(61%)
body concealed	(58%)	body left in isolated spot	(54%)
torture	(53%)	belongings scattered	(47%)
restraints	(40%)	tease cuts	(38%)
body covered PM	(37%)	bludgeoned	(38%)
ligature strangulation	(34%)	clothing scattered	(36%)
firearm used	(23%)	object penetration	(35%)
tampered with evidence	(21%)	improvised murder weapon	(31%)
gagging	(16%)	manual strangulation	(27%)
bitemarks	(5%)	violence directed at genitalia	(23%)
		weapon left in victim	(19%)
		facial disfigurement	(19%)
		throat cut	(19%)
		trail of clothing to murder scene	(13%)
		ransacking	(11%)
		genital mutilation	(10%)
		body parts missing	(10%)
		thoracic mutilation	(9%)

	burns on victim	(8%)
	abdominal mutilation	(8%)
	innards extracted	(6%)
	decapitation	(5%)
	dismemberment	(3%)

Do Organized Features Consistently Co-Occur?

Given the variation in frequency of the crime scene actions the question arises as to whether those 'organized' actions that do occur do so when other organized actions occur. In other words, one direct test of the Organized dichotomy is the co-occurrence of the various aspects of the crime that indicate the crime falls into this sub-group. This can be examined by considering the proportion of all occurrences of any pair of actions that are co-occurrences of those actions together. This proportion, that varies from zero when the two actions never co-occur to unity when the two actions always occur together, is known as Jaccard's coefficient (J) after its originator (Jaccard, 1908) being widely used in archeology, genetics and biogeography (e.g. Baquedano and Orton, 1991)

Table 2 shows these coefficients for those frequently occurring organized features, calculated across all the crimes in the present sample. Frequently occurring aspects of a crime potentially provide a high base rate that ought to characterize the crimes type. The dichotomy therefore leads to the hypothesis of very high degrees of co-occurrence in these frequent features if they are to provide discrimination beyond the base rate. No statistical test is possible for these coefficients because there is no stochastic model to determine what a random co-occurence would be. Would random crime scene actions never co-occur, or only co-occur in 50% of cases? In the present case it may be considered that a stringent test would be that actions co-occur in 2 out of every three cases. Only two different sets of variables reach this level. Sexual activity with a live victim happens in 75% of those cases where the body is also posed. In 70% of cases the body is

concealed and there are also multiple crimes scenes. None of the other combinations of variables reach these levels, the J value for them ranging from 0.63 to 0.46.

Table 2. Proportion of Co-Occurrences of Most Frequent Organized Features Across 100 Serial Killings

Organized Characteristics	Victim alive in sex	Body positioned	Weapon missing	Many crime scenes	Body concealed
Victim alive in sex					
Body positioned	0.71				
Weapon missing	0.61	0.54			
Many crime scenes	0.63	0.62	0.58		
Body concealed	0.57	0.58	0.52	0.70	
Torture	0.52	0.58	0.50	0.46	0.46

Such results are not a total indictment of the Organized category but do raise the possibility that rather than this being a distinct category it is merely a reflection of the base rate levels of actions in serial murder. Those acts that occur often in serial murder tend to co-occur, not as a function of any given 'type' or sub-set of offences, but merely as a consequence of the overall nature of most serial killings.

Do Disorganized Features Consistently Co-Occur?

Similar calculations for a set of Disorganized features are shown in Table 3. These show that Disorganized aspects of crimes co-occur even less often than Organized ones. Only multiple sex acts and vaginal rape both occur in more than two thirds of the cases, a relationship that might indeed be expected to be much higher. Most of the others co-occur in less than half of the crimes in which they happen. These results do again raise questions about the distinctiveness of the Disorganized criteria and whether they form a homogenous subset of crime scene actions.

Table 3. Proportion of Co-Occurrences of Frequent Disorganized Features Across 100 Serial Killings

Disorganized	Vaginal rape	Overkill	Multiple sex acts	Victim beaten	Left isolated
Vaginal rape					
Overkill	0.53				
Multiple sex acts	0.69	0.49			
Victim beaten	0.48	0.52	0.44		
Left isolated	0.47	0.43	0.43	0.35	
Belongings scattered	0.44	0.43	0.35	0.48	0.29

The finding of low co-occurrences *within* the sets of criteria that are purported to be characteristic of each of the two subsets raises the further question of whether the frequency of co-occurrences *between* the sets of criteria are even lower. If they were this would support a weaker version of the dichotomy, indicating that there were distinct sub-sets even though each subset was not strongly homogenous. Table 4 therefore shows the Jaccard coefficients between each of the sets of variables used in Tables 2 and 3.

Table 4 . Relationships between Frequently Occurring Organized and Disorganized Features (Organized are the columns, Disorganized the rows.)

Organized Disorg.	Alive	Pose	No weapon	Scenes	Conceal	Torture
Rape	0.72	0.64	0.48	0.53	0.50	0.37
Overkill	0.64	0.59	0.65	0.46	0.41	0.54
Sex	0.64	0.60	0.51	0.53	0.49	0.50
Beat	0.58	0.49	0.47	0.39	0.43	0.50

| Isolate | 0.54 | 0.57 | 0.51 | 0.74 | 0.72 | 0.41 |
| Scattered | 0.50 | 0.37 | 0.37 | 0.27 | 0.31 | 0.35 |

The values in Table 4 are no lower overall than those in Tables 2 and 3. Many of them are notably higher. So, for example the body being left in an isolated spot (variable number 18) that is proposed as a significant criteria for the offender being Disorganized occurs in 74% of the cases in which there are multiple crime scenes, a variable proposed as distinctly Organized. This is higher than any of the Jaccard's coefficients between variables *within* one of the types.

The Structure of Co-Occurences

Tables 2, 3 and 4, when taken together, demonstrate that the identified features of the crime scenes are neither coherent in consistently being part of similar crimes, nor are they distinct in discriminating between crime scenes. For simplicity only sub sets of all possible co-occurrences have been presented in these tables. But these weak findings do indicate that no strong claims can be made from the current data in support of the dichotomy proposed for serial killers. However, a weaker dichotomy is still feasible. It is possible that although the different aspects of the crimes do not co-occur very often together in the way that is predicted by the dichotomous model, that nonetheless they are more likely to co-occur within one type that between types. To test this weaker model it is necessary to compare every co-occurrence with every other co-occurrence across all 39 variables. Tables 2, 3 and 4 deal with inter-relationships between subsets of variables. It would of course be possible to create a complete table showing the relationships between every variable and every other variable as a way of exploring the broader implications of the co-occurrence of action but a more productive approach is to use Multi-Dimensional Scaling. This is a procedure that represents the co-occurrences as distances in an abstract space. The particular procedure that has been widely and productively used in this area is known as Smallest Space Analysis (SSA).

SSA is a statistical procedure developed nearly half a century ago (Guttman 1954). But because of the heavy computing demands it entails it is only relatively recently that is has been taken up widely across the social sciences (Canter 1985, Elizur 2001). It has proven of particular power in the examination of qualitative material derived from witness statements, police reports and crime scene information (e.g. Canter and Heritage1990).

SSA is one of the family of multi-dimensional scaling (MDS) procedures (Schiffman et al 1981) that represent the associations between variables as distances in a Euclidean space of dimensionality determined by the researcher. The greater is the co-occurrence of two variables the greater their proximity in the corresponding geometric space. These procedures are based upon the assumption that the underlying structure of complex systems is most readily appreciated if the relationship between each and every other variable is examined, but that such examination is much clearer if the relationships are represented visually not only in terms of numbers.

The structure of an SSA configuration, as with all other MDS procedures, can be examined directly without assuming underlying orthogonal dimensions (Shye and Borg, 1995). The distance between two variables (represented by points in geometric space) is the inverse of their association. The resulting configuration of points is thus based solely upon the relationships among variables, and not from their relationship to assumed dimensions as in factor analysis or membership types as in cluster analysis. This means that it is often appropriate to interpret MDS configurations in terms of the regions they exhibit and the relationships between those regions.

SSA is different from most other MDS procedures in that it operates on the rank order of the associations between variables rather than their absolute values. This gives SSA the power to produce solutions in the smallest possible dimensionality that adequately represents the associations as distances. The comparison of the ranks of the co-occurrences also facilitates the identification of patterns within data that may have low co-occurrences.

The degree of fit between the rank of the co-occurrences and the rank of the distances in the derived space is indicated by the Guttman-Lingoes coefficient of alienation (Borg and Lingoes 1987). A coefficient of 0.25 is considered a reasonably good degree of fit for data such as that

considered in the present study (Canter and Fritzon 1998, Canter, Hughes and Kirby 1998, Canter and Heritage, 1990).

In the context of the present study SSA allows a direct test of the hypothesis of two types of offence characteristics. In essence, if there is evidence for the distinction, the FBI's proposed variables will fall into two distinct regions of the SSA space. In contrast, if there is no discernible variation between the two sets of items, the null hypothesis, that there is no evidence for the Organized/ Disorganized typology must be accepted.

Figure 1 shows the two-dimensional SSA plot produced by the association matrix of the current data set. The two dimensional solution was chosen because the dichotomous model implies that the patterns of two types ought to be revealed in no more than two dimensions. The coefficient of alienation of 0.20 indicates that there is a reasonable fit between the ranks of the association coefficients and the ranks of the distances in the space. A three dimensional solution was not found to give any stronger support to the dichotomy than the solution presented here.

For clarity, each number in this figure represents the location one of the 39 crime scene actions listed in Table 1. The closer together these actions are the more likely they are to co-occur across the 100 cases studied. For example, the body being left in an isolated spot (variable 18), that had a Jaccard coefficient of 0.74 (as indicated in Table 4) with the variable of multiple crime scenes (number 4), are close together at the center of the configuration. By contrast, 16 (multiple sex acts) and 19 (belongings scattered) with a Jaccard of 0.35 between them are somewhat further apart. Superimposed onto the SSA configuration are contours indicating the frequency with which the variables occur across the whole sample.

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Figure 1 SSA of 39 Organized/ Disorganized Criteria

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If the disorganization dichotomy were a strong distinction between the cases then a clear division with the organized variables in one region of it and the organized variables in another would have been expected. No such regions can be seen in the SSA plot. The Disorganized variables are scattered across the plot and the Organized variables are mixed in amongst them. As would be expected from their generally higher Jaccard coefficients the Organized variables do tend to lie in a smaller region overall than the Disorganized variables, but this is not a region that is distinct.

The frequency contours help with the interpretation of Figure 1. It should be emphasized that there is no inevitable patterning of contours for SSA. The empirical finding of clear frequency contours is one that has been reported in a number of studies of criminal behavior (Canter and Fritzon 1998, Canter et al 1998, Canter and Heritage, 1990). The implications of this finding have been reviewed by Canter (2000), suggesting that it is a product of the existence of focal activities that help to define a broadly similar class of criminal events. This possibility leads to the interpretation of the high frequency activities at the center of these configurations as those actions that help to characterize the criminal activity. Furthermore, the radiation out from these 'core' activities indicates the process that gives rise to the differentiation of the different sub-sets within the overall crime type.

In the present case it is therefore interesting to note that the majority of Organized variables are in the central, high frequencies regions, but that the Disorganized variables spread out around the plot. These distributions suggest that what is characteristic of serial murders are those qualities, in general, that the CCM considers Organized. It follows that what distinguishes between serial killings are their forms of Disorganization.

The results here only relate broadly to the dichotomy. A number of the central high frequency variables are also drawn from those characterized by the FBI as Disorganized. Indeed, the ten variables in the central region that occur in more than 50% of cases are made up of equal numbers of Organized and Disorganized variables. So although, in broad terms the differentiation

of offences must draw upon those actions that are considered as essentially Disorganized, the empirical results here do indicate that differentiation will have its own inherent logic that does not rely at all on the proposed dichotomy.

That the high frequency, 'core' variables are a sub-set of those that are nominally Organized makes sense in that these are series of sexual offences. The killer gets away with a number of violent offences that involve the coercion of victims who are typically strangers. That his attacks are often sudden, surprise assaults, a form of 'blitz' in which he takes a weapon with him is perhaps to be expected. The offender must have some degree of planning and control if he is to be able to avoid detection and continue killing. Taking the murder weapon with him, using an isolated location to leave the body and concealing it, are all aspects that crime that will minimize detection. The violent overkill and rape are also clearly part of the central sexual rage that typifies these crimes. This set of related activities may be taken as what these crimes have in common.

The Basis for a Re-interpretation of Serial Sexual Murder: Regional interpretations

A parsimonious interpretation of these forms of abuse relates to the four primary terms that we have chosen to describe the interaction between offender and victim (or offender and victim's body). Various psychological interpretations may be employed to generate further hypotheses and levels of abstraction but, given the post hoc realization of this structure, it may be more appropriate to adhere as closely as possible to a simple descriptive analysis of what can be directly observed within each theme. Thus, the descriptor terms we have employed consider whether the victim has undergone an act of mutilation, execution, sexual control or plunder.

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Figure 2 SSA of 39 Organized/ Disorganized Criteria interpreted to show four styles of interaction with victim.

About here

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The difference between the offences is a product of the different modes of transaction with the victim that these central actions epitomize. For example, to the left of Figure 2 is a set of low frequency actions that nonetheless do co-occur that are all aspects of mutilation of the victim; dismemberment, disemboweling, decapitation and so on. These are often regarded as quintessentially Disorganized, but the results show that it would be inappropriate to regard them as the same form of Disorganization as those actions to the right of Figure 2. There, scattering belongings and clothing, ransacking the crime scene and bludgeoning the victim are all present. The emphasis in the former set of events involves violation of the victim's body, in the latter violation of their belongings. Thus, although Disorganization may logically describe both sets of actions it does not describe similar crimes. Events that involve mutilation and defilement of the body are distinct from those that involve an emphasis on ransacking and plundering the victim's belongings.

Whilst the organized variables form a relatively more coherent structure, they are, nevertheless, scattered from the top to the bottom of the plot. In the top region is a set of variables that relate to maintaining control of a live victim: gagging, restraints, victim alive for sex. For this set of co-occurring actions, the interaction between offender and victim appears to be one in which there is less interest in the victim's body as an object or 'plaything' for the offender, but rather that live interaction with the victim is important, albeit under the offender's complete control. This relates well to the process that Canter (2000) describes as treating the victim as a 'person'. In contrast, in the lower region, it appears that the swift removal and execution of the victim is central. Thus, it appears that once the sexual features of the offence have occurred, the victim is simply removed through strangulation, being shot, having their throat cut and/or having their body burned.

Conclusion

It has been shown that the division of serial murders into one of two types, other organized or disorganized underlies many discussions of the 'profiling' of such offenders, yet there has been no empirical examination of the reliability or validity of such a typology. The present study reports

one such examination. The results demonstrate that instead of being a basis for distinguishing between serial killings all such crimes will have a recognizable Organized quality to them, as might be postulated from the very definition of a series of vicious crimes in which the offender was not detected until he had carried out a number of the offences. Rather than being one sub-type of serial killer, being Organized is typical of serial killers as a whole. This conclusion is further supported by the central role that the high frequency, Organized variables play in the model of serial killers that emerges. They operate as the 'core' variables. This means that they are the variables that are most likely to co-occur with others.

The variables that radiate outwards from these show steadily lower frequencies and increased differentiation between offences. It has been noted that the lower frequency variables contain many of those that were previously considered as Disorganized. It therefore follows that the distinctions between serial killers are likely to be partly a function of the different ways in which they may exhibit Disorganized aspects of their activities. In other words, all serial killers are likely to exhibit some aspects that are Organized and some that are Disorganized, but the differences between them are more than likely differences in the particular sub-set of Disorganized variables that they exhibit.

Discussion

These results throw considerable doubt on the utility of this dichotomy in any academic considerations. The taxonomy proposed in the Crime Classification Manual (Douglas et. al. 1992) as a naturally occurring distinction between serial sexual murderers or their crime scenes does not garner even the weakest support from the data examined here.

The Organized crime scene is not directly opposed to the Disorganized; rather, it may represent a dominant style of serial sexual homicide or a possible bias that is characteristic of most serial murders within the present sample. Some distinctions in the way offenders may be disorganized have been suggested by the present analysis. These distinctions indicate that serial killers may differ in the forms of exploitation they make of their victims. However, the selection of

variables that was drawn on in order to explore the proposed dichotomy may be too limited to provide a full picture.

A more fruitful direction may be to consider the differentiation of offenders as an aspect of general personality differences and other aspects of individual differences that a century of psychological research has explored. As Canter (2000) states:

The systematic examination of the most appropriate ways to differentiate offenders has to be the proper basis for any professional derivation of inferences about offenders. It is also the basis for important new perspectives on the nature of crime and criminals. (page 44)

Beyond the academic questions raised by these results they also highlight the danger of relying on the Organized/ Disorganized typology to profile potential offenders or prioritize suspects in a live enquiry. In the earliest stages of an investigation caution is necessary since, if such advice is relied upon, it influences investigative policy and outcome, impacting upon time and financial resources.

As Prentky and Burgess (2000) point out, the use of such classification systems introduces at least two major problems. The first involves correctly classifying offenders based on limited and sometimes unreliable information. The second relates to drawing conclusions about aspects of the offender's characteristics based solely on what is known about subtypes. In the case of the organized / disorganized typology we do not have reliable evidence to support the validity of such categorization systems, let alone an indication of whether the hypothesized types are an appropriate basis on which to infer different background characteristics.

Legal implications

The legal relevance of the empirical test of the typology reported here is best understood in the context of the basis for admissibility of any form of scientific evidence. Courts in the UK, the USA Australia and Canada generally accept the standards for admissibility of scientific evidence set out

by the USA Supreme Court in Frye v. United States (293, F. at 1013 D.C. Cir. 1923). This emphasizes that scientific evidence must be, "sufficiently established to have gained general acceptance in the particular field in which it belongs." requiring that scientific evidence must be based upon a procedure that was, "sufficiently established to have gained general acceptance in the particular field in which it belongs".

In the US psychological contributions to the courts have been further clarified by drawing on the criteria set out in Daubert v. Merrel Dow Pharmaceuticals Inc. (727 F. Supp. 570, 572 (S.D. Cal. 1989)). The Daubert court stated that the admissibility of scientific (including psychological) evidence should be based on five factors: (a) is it falsifiable, testable and tested? (b) is it (can it be) subject to peer review? (c) is there an existence of maintenance of standards and controls? (d) does it have support of a body of the scientific community and is it generally accepted? and (e) does it have a known potential error rate?

The organized/disorganized typology could be drawn upon in courts in two rather different ways. The first, deriving from the idea of a 'psychological profile' is in essence a *Character* report. In this usage a 'profile' similar to one constructed for a police investigation derived from the typology, may be offered to the court in an attempt to illustrate that the defendant either matches (or does not match) that profile; in other words, that the defendant did (or did not) have the characteristics that were regarded as associated with a particular type of crime. Such expert opinions could contribute to the weight of evidence by supporting a view of guilt (match) or innocence (no match) based on the criteria set out in the profile.

A second use is to provide evidence on the *similarity* between crimes. In this situation, crime scene actions from a number of different crimes are examined to determine whether they are of a similar type and therefore more likely to have been committed by the same person. In this case claiming, for example, that all the crimes in a series show the same sort of organization would provide evidence in support of them all having been the product of the same offender.

Examples of Character Profiling in Court

On occasion, expert opinion testimony is admitted in court in order to prove or disprove that the defendant does or does not possess a personality trait that is consistent with the crime he or she is charged with. Although this type of evidence is generally excluded from court it has been allowed in a few cases. For example, in Wisconsin v. Richard (97-2737-CR, 1998) the appeal court dictated that expert opinion testimony deemed inadmissible in the initial trial was in fact admissible because, "the evidentiary code expressly recognizes a defendant's right to present evidence of a pertinent character trait."

A further illustration of how the use of typologies could play a role is given in Idaho v. Parkinson (1996). Although the court rejected the expert testimony, a psychologist and former FBI agent offered evidence that Parkinson did not exhibit the characteristics of a sex offender. Exclusion was based on the following factors: (1) the profile evidence was inadmissible because the defendant's character was not a "fact in issue" subject to expert opinion; (2) the evidence would not, "assist the trier of fact to understand the evidence" and (3) the expert opinion evidence would constitute a direct comment on the guilt or innocence, the 'ultimate issue' in question. The court further noted, although they did not rely on it for their decision, that the literature suggests that there is no psychological test or combination of tests that can determine whether a person has engaged or will engage in deviant sexual activity.

These examples show that it is important to examine any typology used as part of an investigation because of the possibility that it may be drawn upon in court. Our study raises questions about whether one of the most often cited typologies for police enquiries into serious crimes, the disorganized / organized dichotomy, comes anywhere near to providing a reliable basis for discriminating traits. It is certainly not widely recognized in the scientific community as a psychometrically valid test of personality. Importantly also, as we have illustrated, the disorganized components of the offence form the core set of actions in any given serial sexual homicide case and, therefore, could not be employed as a significant discriminator between individuals. This latter point serves to raise fundamental questions that should be applied to any utilization of a typology as

the basis for guiding an investigation or the courts. Are the features drawn upon distinct enough and can they differentiate between offences clearly enough to be the basis of proposals about the character of the offender?

Such questions were not paramount in North Carolina v. Wallace, 2000, when a former FBI agent provided testimony as to the classification of offences according to the organized/disorganized dichotomy. Perhaps unsurprisingly, given our present results, the former agent highlighted the fact that the nine crimes for which the defendant was being charged fit a 'mixed' category, displaying elements of both themes.

In an effort to draw upon the aspects of the defendant's character that might be inferred from these aspects of the offences to prove diminished responsibility, the defendant's counsel highlighted the disorganized characteristics. However, in cross-examination, the State elicited testimony from the expert that some of the crimes displayed signs of organization, thereby drawing the implication of a lack of mental illness. Under appeal to the Supreme Court of North Carolina, the defendant's counsel contended that the cross-examination was improper as it was prejudicial and had no probative value (North Carolina v. Wallace, 2000). The court concluded that the cross-examination was permissible, as the jury had been given proper instructions limiting their consideration of the expert's testimony.

This case highlights a number of factors relevant to the present study. First, the results reported here indicate that the majority of offences of this sort would display some 'organized' features, given the high frequency of such variables. They also suggest that any given offence is also likely to emphasize components of 'disorganization', as indicated by the other themes identified. Thirdly, the existence of a distinct type of offence, that reflects psychometrically reliable properties, is unlikely. The results reported here indicate that the behaviors that occur in such offences emerge from the transaction between offender and victim. Contextual, dynamic factors, rather than exclusively individual traits, play an important role in the generation of the actions that co-occur in these horrific murders.

<u>Examples of Similarity Profiling</u>

Similarity profiling may present less of a problem for the profiler wishing to adduce evidence in court. This is partly because, as Ormerod (1999) has previously comprehensively argued, the evidence is not connected directly to the defendant in question. In contrast to Character profiling, where the profiler is claiming that there is a correspondence between the current defendant and the profile, and in so doing is increasing the perception of guilt, Similarity Profiling, states that there are significant similarities between two or more crimes, thereby, not making a direct comment about the probable guilt or innocence of the defendant. Indeed, the profiler need know nothing about the defendant; he or she only needs knowledge of the proposed series of offences.

This form of profiling is consequently more common, being less open to prejudice or to being kept out of court because it addresses the 'ultimate issue' of guilt. In <u>Delaware v. Pennell</u>, (1991) substantial physical and circumstantial evidence was available linking the defendant to two of a series of three murders. In this case the trial court accepted testimony provided by an FBI agent that each of the three murders in question had characteristic behavioral similarities that suggested they were the work of the same offender. On appeal, the defendant's counsel argued that this evidence did not meet the standards of the <u>Frye</u> test - and therefore it should not be admissible in court. However, the court affirmed the original ruling, stating that the <u>Frye</u> test did not apply in this case because the FBI agent's linkage analysis was based upon his own knowledge and experience, and not scientific tests for which the <u>Frye</u> test would typically be applied. In their writings about investigations, FBI agents do often refer to the two-fold classification we have studied. So in future cases cross-examination may determine if this category scheme was implicit in their interpretation of their own experience.

In <u>Louisiana v. Code</u> (1993) an FBI agent's evidence was admitted at the pretrial hearing, to support the State's position that another set of crimes (consisting of four additional murders that the defendant was also charged with) were connected to the crimes the defendant was being tried for. The agent testified that, based on various ritual aspects of the murders that were (in the agent's

opinion) particularly rare, the eight murders were the work of one person. Although the agent did not testify before the jury, his testimony was accepted by the trial judge as evidence on the issue of 'identity'. On appeal before the Louisiana Supreme Court, the court found no error in the trial court's ruling to accept the FBI agent's linkage analysis. Our research shows the need for a more overt determination of how rare any actions are. It may be that the agent's experience is limited rather than that the actions are rare. The model we have presented shows that it is feasible to determine the rarity of criminal actions and to demonstrate the co-occurrence of even rare actions.

In a more recent case the Superior Court of New Jersey followed a route more in keeping with the arguments of the present paper. They reversed an earlier ruling that permitted a former FBI agent's linkage analysis to be used as evidence (New Jersey v. Fortin, 2000). The FBI agent provided testimony that, due to distinct similarities across the crimes in question, two crimes were the work of the same offender. Despite the fact that such evidence had been used in the previously cited cases, the court was not persuaded that these techniques were sufficiently reliable for use in this particular case due to the many differences that existed between the crimes in question.

In the cases described where behavioral linking was offered as evidence the basis of the linking appears to have been idiosyncrasies of the particular crimes in question. The court formed a judgment of its acceptability against the claimed experience of the expert before them. The results reported in this study would caution against accepting such expertise if it drew strongly on the disorganized/organized dichotomy. Moreover, despite some evidence for a degree of cross situational consistency across offences, the extent to which two crimes can be reliably shown to be committed by the same offender on the basis of behaviors alone, requires considerable further study. At present, particularly in regard to those often cited aspects of crimes drawn from the organized/disorganized typology, the degrees of consistent co-occurrence within each type is so low *within* a crime that *between* crime consistency is likely to be even lower. Further, because the results presented here reveal that many 'organized' features are likely to be common to the majority of offences, such behaviors are unlikely to prove sufficiently discriminating.

The questions raised about the organized/disorganized typology apply to any other classification scheme that may be drawn upon in a court of law, if that classification is based merely on the systematized experience of experts that has not been subjected to some form of psychometric testing. From the growing number of court cases throughout the world in which expertise from 'profilers' is offered or sought it is clear that there will be an increasing demand for scientifically rooted classification of offences and offenders. This study is a first step in showing the difficulties of carrying out such science but also of demonstrating some possible fruitful directions in which it may progress.

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APPENDIX A

Variable Content Dictionary

1. **Bitemarks** – bitemarks present on the victim's body
2. **Gagging**
3. **Facial disfigurement**
4. **Weapon left in victim** – weapon left in victim's body post-mortem
5. **Body covered** - victim's body was covered by the offender post-mortem
6. **Restraints -** restraints used, includes neck, wrist, and leg restraints
7. **Ligature strangulation**
8. **Multiple crime scene torture** - separate abduction site, murder site, and disposal site
9. **Improvised murder weapon -** weapon of opportunity; the offender used a readily available object at the crime scene as a weapon to use in the attack on the victim
10. **Isolated location -** body disposed of in an isolated location
11. **Body concealed** **-** victim's body concealed from immediate view at disposal site
12. **Posed body-**offender deliberately positioned body in a particular way
13. **Victim alive during sex acts**
14. **Rape**- vaginal rape
15. **Bludgeoned** - victim struck with a heavy blow(s)
16. **Beaten** - victim's body showed signs of having been beaten by the offender
17. **Belongings scattered –** victim's belongings scattered at the crime scene
18. **Clothing scattered** – clothing scattered at the crime scene
19. **Trail of clothing to murder scene**- trail of clothing leading to/ from the crime scene
20. **Ransacking** - the crime scene was in a state of disarray
21. **Overkill**
22. **Missing weapon**- murder weapon not found at scene
23. **Manual strangulation**

24. Firearm used - evidence of firearm use at the scene
25. Throat cut
26. Burns on victim – burn marks found on the victim's body
27. Multiple sex acts
28. Torture – offender subjected the victim to acts of torture
29. Object penetration – the offender inserted objects into the victim's body opening
30. Tease cuts – superficial knife cuts found on the victim's body
31. Tampered with evidence – the offender tampered with evidence that could lead to his identification in some way
32. Abdominal mutilation
33. Genital mutilation – deliberate genital mutilation
34. Violence directed at genitalia – evidence of violent attack specifically aimed at the genitalia
35. Thoracic mutilation
36. Body parts missing – one or more body parts missing from the victim
37. Dismemberment
38. Disembowel
39. Decapitation

Figure 1 SSA of 39 Organized/ Disorganized Criteria

(Contours indicate overall frequencies.)

Figure 2 SSA of 39 Organized/ Disorganized Criteria interpreted to show   four styles of interaction with victim.

(Contours indicate overall frequencies.)