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8 A Multivariate Model of Sexual Offence Behaviour: Developments in 'Offender Profiling'

Abstract

The extrapolation of characteristics of criminals from information about their crimes, as an aid to police investigation, is the essence of 'profiling'. This paper proposes that for such extrapolations to be more than educated guesses they must be based upon knowledge of a) coherent consistencies in criminal behaviour and b) the relationship those behavioural consistencies have to aspects of an offender available to the police in an investigation. Hypotheses concerning behavioural consistencies are drawn from the diverse literature on sexual offences and a study is described of 66 sexual assaults committed by 27 offenders against strangers. Multivariate statistical analyses of these assaults support a five component system of rapist behaviour, reflecting modes of interaction with the victim as a sexual object. The potential this provides for an eclectic theoretical basis to offender profiling is discussed.

'Offender profiling'

Over the last decade a variety of 'profiles' have been created by behavioural scientists to assist police investigations. Although most have been produced by the FBI Behavioural Science Unit (Hazelwood, 1983), there have been some notable successes in the United Kingdom (Canter, 1988). Indeed Hazelwood (1983) claims an accuracy rate in excess of 80%, and in a more detailed review Pinizzotto (1984) proposes that suspects were identified with the help of profiling in 46% of the 192 cases he examined.

Holmes and DeBurger (1988) describe a psychological profile as a report on a violent crime, utilising information and approaches from various social and behavioural sciences, intended to assist law enforcement personnel in their investigations. Other authors are even more vague, writing of a combination of brainstorming, intuition, and educated guesswork (Geberth, 1983) or a collection of leads (Rossi, 1982) about an offender. Vorpogel (1982) simply describes a profile as a biographical sketch of a criminal's behavioural patterns, trends, and tendencies. The question of how such profiles are produced and what the

underlying psychological principles are that enable them to be created is given less emphasis in the existing publications than descriptive accounts of what profiles may contain.

No profile is all inclusive, nor is the same information provided from one profile to another, being based on what was or was not left at the crime scene and on any other information that might be available from victim or witness statements, since the nature and amount of information varies, the profile may also vary. Ault and Reese (1980), for example, provide the following list of what may be included in a profile:

- (1) the perpetrator's race
- (2) sex
- (3) age range
- (4) marital status
- (5) general employment
- (6) reaction to questioning by police
- (7) degree of sexual maturity
- (8) whether the individual might strike again
- (9) the possibility that he has committed a similar offence previously
- (10) possible police record.

But this list omits aspects such as likely style of social interaction, general personality characteristics, possibility of associated undetected crimes and the very important matter of possible area of residential location, all of which are aspects that have been successfully included in University of Surrey profiles (Canter 1988, 1989).

The derivation of an account of the perpetrator of a crime from knowledge of the events associated with a crime is a process open to scientific development. As pointed out by Canter (1989) it reflects the central psychological questions of how characteristics of individuals are reflected in their behaviour. In this case the characteristics are those of value to the police in identifying suspects and the behaviour is that associated with the crime.

Present focus on sexual offences against strangers

Profiles as an aid to criminal investigation have been produced for a variety of offences covering homicide, rape and arson (Pinizzotto, 1984). As a starting point for empirical research, though, serious sexual offences are particularly suitable. They are crimes in which there is information about a great many of the perpetrator's actions. These actions in themselves, focusing as they do around interpersonal sexual aggression, are likely to be revealing of the individual who commits them.

The investigation of sexual assaults committed by a person unknown to the victim are also particularly difficult for criminal investigators to solve. Yet they do account

for a high proportion of sexual assaults. Mulvihill et al (1969) found 53% of victims reported being raped by a stranger. There may well be important cultural differences in these figures, because Kocis (1982) reports for Eastern Europe that 55% of the victims are known to the offender and a further 40% of the victims come into contact with the offender before the crime is committed; only a small minority of the victims appear to be absolute strangers. In Britain the figures available are rather closer to those for the U.S.A. Lloyd and Walmsley (1989) report that in 1973, 49% of rape victims were attacked by strangers. In 1985 the figure was 40%.

The studies reported here therefore focus on sexual assaults in which the victim had no prior knowledge of the offender. Some of these offenders also committed murders, usually with sexually related aspects. Sexual homicide is therefore included in the crimes examined.

The need for an eclectic model of offender behaviour

The central hypotheses of profiling, open to direct empirical test, relate to the idea that offenders differ in their actions when committing a crime and that these differences reflect (and therefore correlate with) overtly available features of the offender. However, most published conceptualisations of variations in offender behaviour have tended to combine accounts of actions in an offence with explanations of the intentions, motivations and inferred offender characteristics. For example, a commonly cited approach to rapist typology, Groth's (1979), is premised on the assumption that rape is not an expression of sexual desire but the use of sexuality to express power and anger. The typology that is derived from this perspective, as a consequence, emphasises the various psychological functions that rape has for the offender not what varieties of action rape actually consists of. A further example is given by the work of Prentky et al (1985). Their attempts to characterise and classify rapists makes little distinction between the overt behaviour as it occurs in the sexual assault and the psychodynamic processes that are taken to account for or produce that behaviour. There is little attempt to distinguish aspects of the offender's motivations and life-style from his offending behaviour. Yet any attempt to understand the actions that occur in the offence requires the classification of offence behaviour as distinct from classifications of the person in either psychological or social terms. So although each approach to classification is guided by a particular explanatory framework any composite modelling of offence behaviour for use in 'profiling' will have to draw upon all those approaches that are supported by scientific evidence.

This confusion of action and person is less problematic in the clinical context, in which earlier theoretical formulations were derived. After all, unlike a police detective, Groth had actual patients present in interviews when carrying out his research and his therapeutic mission requires him to enable the offending person to deal with his actions. Such typologies undoubtedly contribute to the understanding of the motivations of rapists and this can help to indicate why certain sorts of rapist

will perform certain types of offence. Yet there remains the primary question of what variations in offence behaviour can be reliably identified without any knowledge of the person who committed them. The exploration of how any empirically validated variations relate to offender characteristics is an important issue for subsequent examination.

The focus on the perpetrator's actions is not a purely pragmatic requirement shaped by the limitations of criminal investigation, nor is it naïvely behaviourist, assuming that it is only behaviour that is open to scientific investigation. Rather the emphasis points to the social/interpersonal nature of criminal behaviour, especially in crimes against the person. It is the variety of actions that happen in sexual attacks that indicate the different modes of relationship that offenders have with their victims. Any empirical model of offence behaviour must therefore encapsulate and explicate these variations in mode of interaction with the victim.

The literature points to a number of aspects of the relationship that a rapist has with his victim. The most obvious of these are sexuality, and aggressiveness, the behaviour on which Groth (1979) bases his typology. But other writers, notably Rada (1978) and Scully and Marolla (1983) point to the fact that many rapes of strangers are carried out by men who carry out other criminal acts and for whom rape is one such mode of criminal activity. This perspective indicates that, besides the sexual acts and the violence, attention also needs to be paid to those aspects of the offence that relate to its fundamentally criminal nature.

In contrast to the issues of sexuality, aggressiveness and criminality emphasis has also been given recently to the argument that it is the desire for social contact, or intimacy that is a primary motivation in rape (Marshall, 1989). Yet it is the difficulty the offender has in achieving intimacy that leads to an assault. This perspective may be contrasted with the others, from the viewpoint of profiling research, in the attention it draws to behaviour that goes beyond physical contact to attempt some sort of personal relationship with the victim.

The contrast of Marshall's (1989) emphasis on intimacy with Groth's (1979) focus on power and aggression serves to show that, as logical as each one is, there is some potential for inherent contradictions between them. At the very least they raise questions about how a quest for intimacy and the desire for power or aggression are combined in actual behaviour in actual offences, if at all. Such possible contradictions, although not as strong, may also be seen in the difference between the emphasis on the essentially psychopathological nature of sexual assaults, as argued by those with a clinical perspective (e.g., Groth 1979, Prentky et al, 1985), compared with the views of sociologists such as Scully and Marolla (1983) who see these offenders as essentially normal males operating within criminal mores.

A further contradiction of perspective can also be seen between those such as Marshall and Groth who emphasise the fact that the attack is based upon psychological contact with a person, whether for aggressive or intimacy reasons, and those who argue that rape is fundamentally impersonal (notably Scully and Marolla 1983). From the latter perspective the victim is an object used to satisfy a physical craving with whom the offender wishes to have completely 'impersonal

sex'. A view expressed strongly by Symons (1979: 284) is that 'males tend to desire no-cost, impersonal copulations'.

Broadly, then, at least five modes of interaction with the victim are suggested by these different perspective. Each of these would be expected to have an observable counterpart in the actions that happened during an offence. Some of these actions would be hypothesised as unlikely to co-occur in the same offence, being contradictory.

In summary they refer to the following elements of sexual offence behaviour:

- (1) sexuality
- (2) violence and aggression
- (3) impersonal, sexual gratification
- (4) criminality, and
- (5) interpersonal intimacy.

A number of hypotheses can be derived from this fivefold framework about the likely co-occurrences of specific behaviour in sexual assaults, given that all of these types of behaviour may potentially occur in any sexual assault.

One hypothesis is that they all occur with each other in any combination across a range of assaults. This would suggest that none of the explanations provides a basis for distinguishing between offences. A completely random combination of any behaviour with any other would also suggest that there is no consistently coherent distinction to support empirically the concepts used by each author. This is, in effect, a null hypothesis that no interpretable relationships will be found between the actions that occur in offences.

A second hypothesis is that a sub-set of conceptually related actions, (e.g., physical and verbal aggression) will consistently happen together. Any such grouping would support the perspective related to that behaviour. If, for example, different forms of aggressive behaviour co-occurred but various attempts at intimacy were quite independent of each other, then there would be support for aggressiveness as a coherent salient aspect of sexual assault, but not for intimacy. In effect, such a result would reduce the number of explanations that are empirically distinct.

A third hypothesis is that all of these aspects of offence behaviour can be identified in details of actual events and that they therefore combine together to provide a composite model of offence behaviour. Such an eclectic model would be expected to have an interpretable structure to it. For instance, those types of behaviour that are associated in the literature, such as the sexual nature of the offence and its violence (cf. Groth, 1979) would be expected to have some empirical relationship distinct, say, from the relationship between the criminal actions and those dealing with the victim as an impersonal sex object (cf. Scully and Marolla, 1983).

Empirical evidence for either the second or third hypothesis would contribute to scientific support for the possibility of offender profiling because it would indicate that there are indeed structured variations between offenders, revealed in what they

did when they committed a crime. Furthermore, such a structure, or system of behaviours, could be used as the basis for specific hypotheses about the aspects of behaviour that would be associated with differences between offenders.

This proposal, then, hypothesises that an examination of the behaviours as they occur in actual sexual offences will reveal a structure that reflects the variety of modes of interpersonal interactions that underlie those offences. The study reported here describes an empirical test of that hypothesis.

Relationships between offence and offender characteristics

The study to be reported is part of a series of studies being carried out at the University of Surrey. The central quest throughout this research is to identify associations between aspects of the offender's characteristics and offence behaviour. There are a number of ways in which such associations can be established, but whatever methods are used they will be more powerful in their application if they are part of a logical explanatory framework. The framework (or theoretical stance) adopted in the present paper (first outlined in Canter, 1989) may be characterised as a cognitive social one, in which the offender's interactions with others, on a daily basis, is seen as the key to his criminal behaviour.

This is a generalisation of the hypotheses underlying the study by Silverman et al (1988). They analysed the case records of 1,000 consecutive rape victims seen at a crisis centre. They found that broad differences in the approach to the victim were related to many other aspects of the offender and the offence. They showed that crimes in which an offender used a sudden attack (blitz) and those in which he used a confidence trick form of access (con) were distinct in a number of ways; the victims' characteristics, the rape settings, the victims' activities before they were raped, the assailants' characteristics, and the victims' immediate responses to the assault. The present study is the first step in elaborating a more detailed conceptualisation of sexual assaults and their perpetrators.

A study of the structure of offence behaviour

As discussed, the scientific basis to profiling requires an identification of what the main variations in the actions of offenders in relation to a given offence are. There are many possible aspects of an offence that may be considered as significant, especially if there is a victim's account to consider. The present study was an initial exploration of a range of crimes on which full information was available. It is therefore of interest as an indication whether future research following this approach is likely to be worthwhile.

Sample selection and features considered

A total of 33 offence variables were identified through data available such as victim statements and other police reports, in order to provide a list of categorical descriptions of the behaviour across all the offences. Behavioural variables with very low frequencies across the sample were not included since little would be gained from their inclusion at this feasibility phase of the analysis. Indeed the rare characteristics may be important for linking offences to one individual, but are likely to be unique to particular individuals and therefore of less value in developing general principles. Care was taken to define variables so as to allow an easy decision to be made as to the category of behaviour. All variables were treated as dichotomous with no/yes values based on presence/absence of each behaviour in any one offence.

The full list of variables, with explanatory elaborations, used to describe offence behaviour is given in Appendix I in relation to the five modes of interpersonal interaction discussed above.

Data were collected across 66 offences, made available by a number of English police forces in response to a request for details of sexual assaults against victims unknown to the offender. These offences were committed by 27 offenders. The 33 dichotomous variables across the 66 offences provided the data matrix on which subsequent analysis was conducted.

Smallest space analysis (SSA) of behaviour matrix

These data were subjected to an SSA-I (Lingoes, 1973). In essence, the null hypothesis is that the variables have no comprehensible relationship to each other. In other words, it is possible that those offenders who change their actions in response to the reactions of the victim are not the same as those who talk to the victim and encourage her to indicate her reactions to the attack. It may be a common sense assumption that these two variables will relate to each other because they both indicate a desire to indicate some relationship with the victim, but the SSA allows a test of this assumption and all the other possibilities suggested by the relationship every one of the 33 variables has to every other variable.

Although the literature, reviewed above, does suggest a fivefold way of classifying the variables and this provides a set of hypotheses for the interpretation of the SSA, the use of SSA also allows the generation of hypotheses both about the components of the behaviour under study and about the relationships between those components, the system of behaviour that exists. In other words, the analysis to be presented may best be regarded as both hypothesis testing and also of heuristic value in helping to indicate if there are any directions from the results that can be used to focus future studies aimed at developing profiling.

Smallest Space Analysis (Lingoes, 1973) is a non-metric multidimensional scaling procedure, based upon the assumption that the underlying structure, or system of behaviour, will most readily be appreciated if the relationship between every

variable and every other variable is examined. However, an examination of the raw mathematical relationships between all the variables would be difficult to interpret so a geometric (visual) representation of the relationships is produced.

SSA, then, is one of a large number of procedures that represent the correlations between variables as distances in a statistically derived geometric space. Although it was first used a number of years ago (Guttman, 1954) only recently have developments in computers made it readily available for general use. As described by Guttman (1968), Smallest Space Analysis (SSA) was so called because, when compared with other approaches to multidimensional scaling, it produces a solution of smallest dimensionality. This is primarily because it operates on the rank order of the original correlations rather than their absolute values.

The SSA program computes correlation coefficients between all variables, then rank orders these correlations. In this case transforming an original rectangular data matrix into a triangular matrix consisting of correlation coefficients for each variable as correlated with all other variables. It is these correlation coefficients that are used to form a spatial representation of items with points representing variables, the rank order of the distances between points being inversely related to the rank order of the correlations. Iterations are performed comparing the rank order assigned to the correlations with the rank order of the distance while adjustments are made to the geometric representation. The closer the two rank orders the better the 'fit' between the geometric representation and the original correlation matrix, or as it is called technically the lower the 'stress'. The iterations continue until the minimal 'stress' possible is achieved, within the predesignated number of dimensions. A measure of stress called the coefficient of alienation (see Borg and Lingoes, 1987 for details) is used within the computing algorithm as the criterion to use in bringing the iterative procedure to an end. It can therefore be used as a general indication of the degree to which the variables' intercorrelations are represented by their corresponding spatial distances. The smaller the coefficient of alienation, the better is the fit, i.e., the fit of the plot to the original correlation matrix. However, as Borg and Lingoes (1987) emphasise, there is no simple answer to the question of how 'good' or 'bad' the representation is. This will depend upon a complex combination of the number of variables, the amount of error in the data and the logical strength of the interpretation framework.

In the present case the data is mainly derived from statements taken by the police from victims. As such they were not collected for research purposes, nor was the information recorded against a detailed protocol and careful training. Furthermore, the content analysis of this material was an initial exploratory attempt of the possibilities for drawing out clear, descriptive variables from this data. It would therefore be expected that the data was not error free and would contain considerable 'noise' that would reduce the possibility of interpreting the results. On the other hand, the published literature is quite rich in suggestions about the behaviour under study and, as presented above, a reasonably clear set of distinguishing concepts can be derived. A reasonable fit to the conceptual system presented would therefore be acceptable, as of heuristic value for future research, even with a high 'stress' value in the SSA results.

In the SSA configuration, then, in broad terms, the more highly correlated two variables are, the closer will be the points representing those variables in the SSA space. Since the configuration is developed in respect to the relationships among variables and not from their relationship to some given 'dimension', or axis, the orientation in space of the axes of the resulting geometric representation are arbitrary, even though the relationships between the points are replicably determined. Therefore, the pattern of points (regions) can be examined directly without the need to assume underlying orthogonal dimensions.

The testing of the evidence for ways of classifying variables by examination of the regional structure of an SSA is part of an approach to research known as Facet Theory (Canter, 1985). The 'facets' are the overall classification of the types of variables. The spatial contiguity of the points representing them provides a test of the major underlying differences amongst these variables as revealed through their co-occurrence in actual incidents, and is therefore a test as to whether the 'facets' are empirically supported. The SSA representation therefore offers a basis for testing and developing hypotheses about the structure of relationships between offence behaviours. Contiguous behavioural variables, forming an element of an interpretable facet, provide a productive basis for future research to distinguish between offenders.

The postulation of facets goes beyond the rather arbitrary proposals of 'grouping', by using the principle of contiguity (Foa, 1958; Guttman, 1965; and Shye, 1978), which states that because elements in a facet will be functionally related their existence will be reflected in a corresponding empirical structure. In other words, variables that share the same facet elements would be more highly correlated and thus should appear closer together in the multidimensional space than variables not sharing the same element.

This idea of contiguity can be extended as a general, regional hypothesis. Items that have facet elements in common will be found in the same region of space. Likewise, variables which have very low intercorrelations will appear in different regions of the plot, indicating dissimilarity, and no membership of the same facet element. Contiguous regionality in a multidimensional space is a quite specific identification of a facet element, provided a clear statement can be made of what the variables in that region have in common. Of course, once the exploratory phase of hypothesis generation has led to the establishment of facets, or when a literature suggests facets, then the existence of contiguous regions can be used as a strong, precise test of the hypothesised facets. The usual processes of scientific replication can also be carried out.

Areas of the SSA plot which contain few or no points are also of interest. Cases such as this, may indicate weak areas in the data or in fact missing facet elements. Subsequent studies may then be carried out with new data sets to test for the existence of these missing elements. In this way the interplay between the formal theory, as specified in the facets, and the empirical structure, as revealed in the regional contiguity, can lead to the identification of issues not within the original set of data.

The approach taken to hypothesis test and generation, then, is to establish

whether the SSA plot, shown in *Figure 1*, has any interpretable regional structure to it. The general hypothesis (null) being tested here is that the variations amongst offenders as discussed above are so diffuse that no coherent interpretation of the SSA plot is possible.

Results of SSA

The SSA-I was carried out on an association matrix of Jaccard coefficients, these being the most appropriate measures of association for this type of binary data. The 3-dimensional solution has a Guttman-Lingoes' coefficient of alienation = 0.22

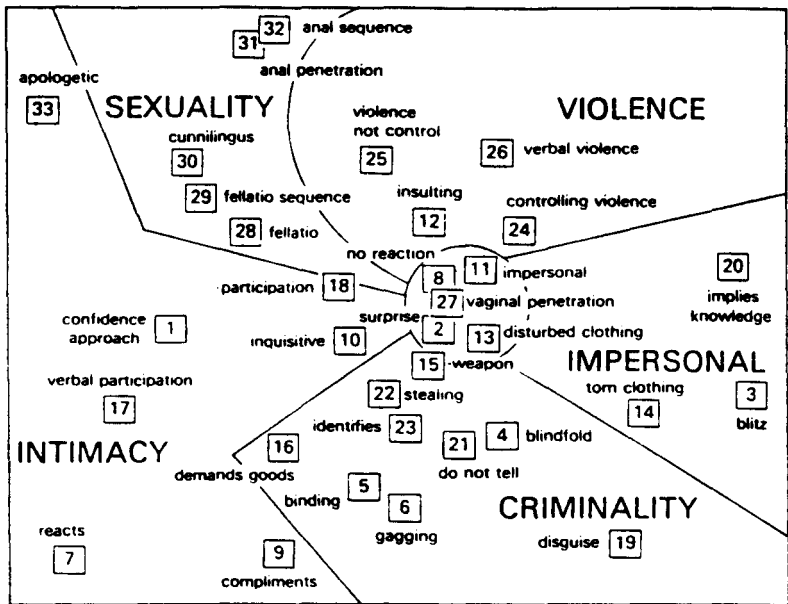


Figure 1 SSA of behaviour in 66 sexual assaults with regional interpretations. (Numbers refer to variables in Appendix I. Labels are brief summaries of content analysis categories.)

with 22 iterations, indicating a reasonable fit for this type of data. However, the interpretation of this configuration turns out to be very close to the regional structure of the 2-dimensional solution (which has a coefficient of alienation of 0.30 in 11 iterations) so for simplicity the 2-dimensional structure will be presented. Figure 1 shows this projection of the resulting configuration.

For clarity it should be reiterated, each point is a variable describing offence behaviour. The numbers refer to the variables as listed in Appendix I, although for simplicity a brief title for the variable has also been placed on the plot. The closer

any two points the more likely are the actions they represent to co-occur in offences, in comparison with points that are farther apart.

Focal aspects of rapes

A first stage in the interpretation of Figure 1, to test the hypotheses and explore the structure of offence behaviour, in the present case, is to consider the frequency of occurrence of each of the variables. Because they are all binary indications of the occurrence of actions each variable has an associated frequency in the whole sample. The SSA is derived from the associations between the variables and so has no inevitable link to their overall frequency. However, with dichotomous variables

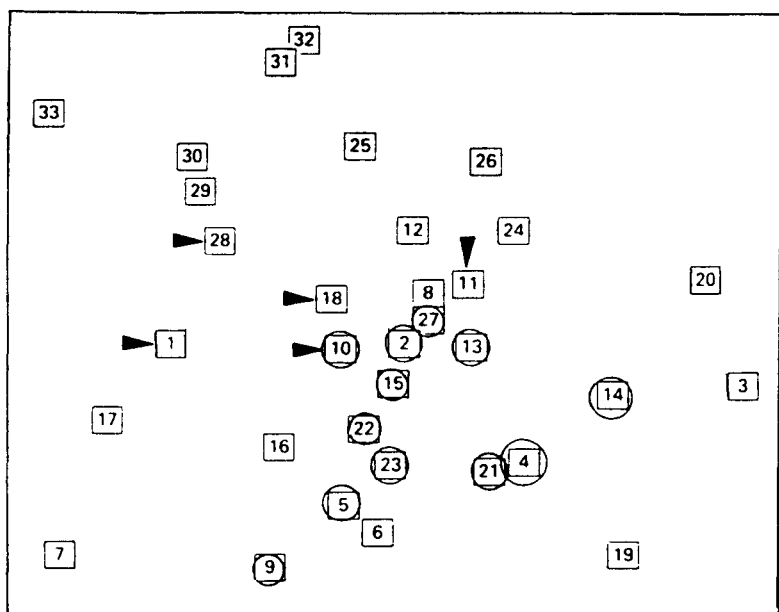


Figure 2 SSA of 66 assaults illustrating one offence as circles, one as arrows. (Numbers refer to variables in Appendix I.)

it is possible for those variables that are frequent to have higher associations with each other, unless there is one or more subsets of variables with lower frequencies that co-occur with high probability. The relationship, then, between the frequencies of the actions and the SSA structure is not artifactual. It is an empirical one open to some substantive meaning. *Figure 3* presents the frequencies of occurrence of every offence action.

As can be seen it is possible to draw very clear contours on this diagram to cover variables that occur in more than 65% of cases, 40% to 60%, 25% to 35%, 20%

- vaginal intercourse (27)
- no reaction to the victim (8)
- impersonal language (11)
- surprise attack (2)
- victim's clothing disturbed (13)

This core is not the overtly aggressive set of actions that Groth's (1979) typology would emphasise. It includes sexual intercourse, but not the variety of sexual activity that might have been expected if sexual desire was a totally dominating aspect of the offence. Nor are those variables central that indicate a desire to relate to the victim as might be indicated from Marshall's (1989) considerations. The discussion that best fits these variables is that of Scully and Marolla (1983), indicating an impersonal, surprise attack in which the victim's response is irrelevant to the offender. The five variables here could be regarded as the *sine qua non* of a sexual assault; dealing with the victim impersonally with a surprise attack disturbing her clothes and having vaginal intercourse. Their position at the centre of the plot, therefore, does add credibility to the whole structure and shows that the use of a woman as a sexual object is at the core of sexual assault.

Modes of interaction with the victim

The results allow a further development of the idea of sexual assault being essentially an interaction with a woman as an object, by the identification of the other related regions in the plot. Because there is an interpretable core to this plot it is appropriate to consider the various emphases that can be given to this focus by examining the variables around the plot. This allows a further test of the hypotheses derived from the published literature, by exploring whether any of the emphases in the literature have empirical support and, if they do, how they may relate to each other.

Attempted intimacy with the victim

As noted earlier, some discussions of rape suggest that it is the lack of ability to form intimate relationships with women that is an important aspect of the motivation to rape (Marshall, 1989). If this were ever dominant in rape then it would be expected that those actions that would indicate an attempt at intimacy, or at least some preparedness to relate to the victim as a person rather than an object, would co-occur in some rapes. Five variables, particularly, indicate that the offender is attempting to, or at least not deterred from, entering into some sort of personal relationship with the victim:

- the victim's reaction influences/deters the offender (variable 7)
- the offender requires the victim to participate verbally during the assault (17)
- the offender requires the victim to participate physically during the assault (18)

the approach is one of a confidence trick (1)
 the offender is inquisitive about the victim (10)
 offender compliments the victim (9)
 the offender apologises to the victim (33)

These seven variables can be found in the lower left quadrant of the plot. There is therefore some support for this interpersonal aspect of the offence being a coherent and possibly significant feature of offence behaviour.

This distinct aspect of offence behaviour provides an initial heuristic for generating hypotheses of associations between offender and offence. Those offences in which most of these five actions happen, especially those actions which are less frequent in the present sample, would be hypothesised to be correlated with significant aspects of an offender's interpersonal background. For example, following Marshall's (1989) arguments, it would be hypothesised that these offenders would have had difficulty in formulating intimate relationships with women, but that they may well have attempted this. For example, marriage to a younger woman with a very short courtship and subsequent distancing in their relationship would be predicted. Considerably more research, however, is needed both to replicate this facet element and to establish the hypothesised correlations.

Sexual behaviour

Although it is often underemphasised in clinical accounts of rape, there can be little debate about the fact that sexual activity is a crucial component of the attack. There is therefore an important question about whether the different types of sexual behaviour are related and form distinct constituents of an attack or whether they are diffuse, related more to other aspects of the offender's behaviour.

Six variables dealt specifically with the sexual behaviour:

vaginal intercourse (27)
 fellatio initially (28)
 fellatio as part of the attack sequence (29)
 cunnilingus (30)
 initial anal intercourse (31)
 anal intercourse as part of the offence sequence (32)

The top left quadrant of the plot contains all these variables.

It is interesting to note that vaginal intercourse is central to the whole plot, so that the upper left quadrant is defined by the other sexual activities.

The sexual variables, then, do form a region indicating that together they provide an aspect of offence behaviour that needs to be considered further. This accords with the arguments of Scully and Marolla (1983) that the desire for certain sorts of sexual experience is a significant facet of rape, leading to hypotheses that when a variety of sexual activities take place the offender may have been found to have either considerable earlier sexual experience or a great interest in such experience as

revealed through a collection of pornographic material. In general, however, the existence of a distinct region in the SSA configuration indicates that the actual sexual aspects of a sexual assault should not be undervalued, as some authorities have tended to do.

Overt violence and aggression

The clinical literature on sexual offences usually places most emphasis on the fact that these are aggressive violent attacks. Violence therefore seems to be a salient issue for consideration. Groth (1979), in particular, as discussed above, argues that aggression is a primary motivation in sexual assault. The following four variables dealt directly with overt violence and aggression:

- violence used as means of controlling the victim (24)
- violence used, but not as a means of control (25)
- aggressive verbal behaviour (26)
- insulting language (12)

All four variables are to be found in the top right quadrant of Figure 1. These therefore appear to be coherent aspects of the offence behaviour. For some offenders, then, this is a distinct aspect of their offending. However, it is a distinct aspect which is not overtly apparent in many offences. Their relationship to prior history of aggressiveness is worthy of exploration.

The adjacency of these aggression variables to the sexual variables is of interest, showing that they are quite likely to be linked, as the clinical literature suggests. In particular the closeness of the violence not used as control variable (25) and the anal intercourse variables (31 and 32) does indicate that this particular form of sexual act is likely to be associated with violence and may indeed be motivated by similar psychological processes.

Impersonal interaction

The antithesis of the actions that indicate the offender is trying to relate to a person (as presented in (1) above) are the actions that treat the victim very much as an object, dealing with her as an entity entirely for the criminal's use. Six variables relate to these aspects of the offence:

- 'blitz' attack (3)
- impersonal language (11)
- no response to the victim's reactions (8)
- surprise attack (2)
- tearing of victim's clothing (14)
- victim's clothing disturbed by offender (13)

These six variables are all to be found in the middle right segment of the plot. They

therefore provide a graphic combination of quite wide ranging behaviours indicating the offender's callous disinterest in his victim. They do, however, include a number of variables that were identified as having a high frequency and at the core of sexual assaults. The existence of a distinct region indicates that for some offenders this may be the dominant characteristic of their offending even though overall offender behaviour is somewhat biased to this aspect of assaulting, as reflected in the off-centre position of the 'core' actions.

The variable recording that the offender implies knowledge of the victim (20) is also at the edge of this region. This is difficult to interpret at this stage but possibly implies that the offender had prior knowledge of the victim, having identified her as a desirable object.

The distant, impersonal contact with the victim, indicated by this sub-set of variables is hypothesised to be a reflection of a general approach to women that would be apparent in the offender's daily life. He would be predicted to be known as someone who does not regard women as experiencing the world in the same way he does, seeing them as vessels for men's desires. Clearly, such a perspective on an offender has implications for approaches to therapy as well as for assisting criminal investigations.

Criminal behaviour and intent

Rapists often also operate as criminals committing crimes not obviously sexually motivated. There are also a number of aspects of their sexual crimes that have non-sexual but still distinctly criminal components, such as the wearing of a mask to hide the offender's identity, or the carrying of a weapon to the crime scene. The question therefore arises as to whether these actions have some relationship and coherence.

There are seven variables that can be interpreted as reflecting criminality:

- the use of bindings (5)
- the use of gagging (6)
- stealing from the victim (22)
- the use of some form of disguise (19)
- blindfolding the victim (4)
- demanding goods (16)
- controlling the victim with a weapon (15)

Some of these actions may be considered as more directly related to sexual sadism, notably binding and gagging, with the implication that the offender obtained some sexual gratification from these actions. That, of course, may be true in some offences, but the position of these actions in the SSA configuration near to wearing a disguise and carrying a weapon indicate that in the present sample the behaviour of binding and gagging is more readily associated with criminality of the actions. The position of these variables on the opposite side of the plot from the sexuality and violence variables also supports the proposal that, within these offences at least,

the behaviours do not indicate sexual sadism.

All seven of these criminality variables, then, are in the same regional segment of the plot at the bottom right. Interestingly two other variables are clearly within the same region; the threat to the victim not to tell anyone about the offence (21), and the informing of the victim that she is known by the offender (23). It is not difficult to conceptualise these actions as part of the criminal repertoire.

Taken together these nine variables indicate an emphasis to a criminal's behaviour that, if present to any degree, would be hypothesised to correlate with aspects of his previous criminal offences. In particular, it is hypothesised that offenders who commit many of these actions are likely to have extensive history of non-sexual crimes.

Summary and conclusions

In order to establish whether it is possible to derive the characteristics of a criminal from his actions when offending ('offender profiling') it was proposed that it was first necessary to demonstrate that the behaviour of offenders during a crime had some comprehensible coherence to them. Focusing on sexual assaults against strangers, theoretical accounts of variations between offenders were reviewed in order to establish the range of offence behaviours that should be examined. This review revealed that there were a variety of proposals as to the differences between sexual assaulters, some of these being contradictory.

From these considerations five aspects of a sexual assault were identified. These aspects provided a set of hypotheses about the behaviours that would co-occur during an assault. To test these hypotheses 66 offences, committed by 27 offenders were content analysed into 33 behavioural categories. The occurrence of these categories of behaviour across all offences was examined using SSA-I.

The results of the SSA indicate that sexual assault can be understood as various ways of carrying out sexual acts in an impersonal fashion, treating the unwilling victim as an object. The results, further, lend support to all five different aspects identified from the published literature. They show that the various explanations given may be construed as different emphases of an assault, different ways of engaging in rape, any offence drawing on one or more aspect.

This set of aspects of elements that make up a rape attack form a circular order in the SSA space. This implies that those regions which are closer together are more likely to contain actions that occur in the same offence. The sequence around the plot is therefore of some substantive, theoretical interest.

Broadly, the actions on the top half of the SSA deal with actions of interest, and often noted by those with a psychopathological perspective on rape such as Groth (1979). They cover the variety of sexual activities and the aggressive acts. As such they cover actions that may be akin to the expressive aggression to which Prentky et al (1985) draw attention. Their concept of 'instrumental aggression' may be more closely aligned with the behaviours in the lower half of the plot. These actions are also more in accord with those perspectives that take sociological or social

psychological perspectives (e.g., Scully and Marolla, 1983), covering actions that are very impersonal, criminally oriented. Interestingly the social psychological view of Marshall (1989) falls between these two regions.

The closeness of the sexual activity to the violence does lend credence to the view that many sexual offences have a strongly violent aspect. The adjacency of this violence to the impersonal behaviour does reflect rather well the ways in which the one can merge into the other. The criminal behaviour is adjacent to the impersonal behaviour, reflecting the likelihood that criminality is indeed antisocial in the strong sense that it relates to an unpreparedness, or inability, to relate to other people. However, there are offences in which this inability is shown through the inappropriate attempt to form a relationship with the victim, as revealed by the adjacency of the 'intimacy' region. That such actions should be next to the sexual behaviour is also logical in that, on occasion, that implies overlapping motivations.

The sequence of types of activity shown in Figure 1, from sexual activity through criminal behaviour back to sexual activity again is a circular sequence. No simple linear dimension running from one obvious extreme to the other can be identified. This leads to the hypothesis that all five types of activity represent different emphases of the same overall phenomena, rather than providing positions along a continuum. A further test of the validity of this hypothesis of a circular order of activities is provided by considering the frequencies of the actions, as indicated in Figure 3. As has been noted, although there is no statistical necessity for the higher or lower frequencies to be found in a specific region of the plot, it none the less turns out to be the case that the lower the frequencies the further are the actions from the centre of the configuration.

Yet quite independently of the frequencies, it is the nature of an SSA configuration that those actions at the centre of the configuration are the ones that empirically have most in common with each other. Those at the periphery are the most functionally discrete. Therefore, in the present results, as action frequencies become lower so those actions became more distinctly part of the most functionally specific regions of the plot. This means that there are some actions that have a lot in common with each other, providing a core to these sexual assaults, whereas other actions reflect more specific emphases for those assaults. In other words, the distribution of the frequencies support the hypothesis of a coherent system of behaviour that has different emphases to it, adding weight to the validity of the circular order.

The overall combination of the frequencies and the radial elements (a 'radex', Guttman, 1954) all therefore reflects different aspects of the same overall phenomena, differing in their reference around the focus of the victim being treated as a sexual object by the offender, yet in a variety of different ways.

This radex model of sexual offending has a number of heuristic values. For example, examination of it indicates gaps in the empirical space where no variables are found. It can be hypothesised that the current sample does not include actions which would have gone into those locations. Future data can be used to test this hypothesis. One such instance is the occurrence of overtly sadistic aggressive behaviour in which the victim is bound as a form of humiliating and is arousing to

the offender. There is no indication that any such extreme form of sexual sadism was present in the sample. If it were it is hypothesised that an SSA would place it at the extreme edge of the plot in the top region of the aggressive behaviour, but close to the boundary with the sexual behaviour. Other researchers will be able to derive many other similar hypotheses.

A further heuristic value derives from the fact that all five aspects of sexual assault contribute to all offences, but there is likely to be different combinations of constituents for different individuals. The differences in an offender's repertoire of offence behaviour can therefore be clearly established. Establishing what these combinations of major classes of behaviour are is an important objective for future research. It could be used for considering how an offender develops over a series of offences or more pragmatically for establishing whether two or more offences were committed by the same person.

Each of these five aspects also has the potential of correlating with different sets of characteristics of offenders. Study of these correlations will be a major step in the furtherance of a scientific base to offender profiling.

Appendix I: Variables used to describe offender's behaviour during an offence as derived from content analysis of victim statements

Coding of variables

Thirty three offence variables were created from a content analysis of available police records and victim statements in order to provide a list of elements common to offences. Variables with a very low frequency were not included. Care was taken to describe the definition of variables so as to eliminate discrepancies in category assignment. All variables are dichotomous with values based on the presence/absence of each category of behaviour. A description of the categorisation scheme is given below.

Offence characteristics

Variable 1. Confidence approach

1 = No 2 = Yes

The style of approach used by the offender in which any ploy or subterfuge is used in order to make contact with the victim prior to the commencement of the assault: this would include any verbal contact - questions asked, false introductions, story told.

Variable 2. Surprise attack

1 = No 2 = Yes

The immediate attack on the victim, whether preceded by a confidence approach or not, where force is used to obtain control of the victim: force in respect of this variable includes threat with or without a weapon. Violence is for the physical control of the victim, i.e., exercised against the victim in order to render her available to the offender, but not the actions covered in variable three.

Variable 3. Blitz attack

1 = No 2 = Yes

The sudden and immediate use of violence, whether preceded by a confidence approach or not, which incapacitates the victim: typically this is the sudden blow which leaves the victim unable to respond or react to the attack. This variable focuses on the extreme violence of the initial assault which leaves the victim incapable of reaction.

Variable 4. Blindfold

1 = No 2 = Yes

The use at any time during the attack of any physical interference with the victim's

ability to see: this only includes the use of articles and not verbal threat or the temporary use of the offender's hands.

Variable 5. Binding

1 = No 2 = Yes

As above in respect of the use of articles to disable the victim: the categorisation does not include the possible situational effect of partial stripping of the victim, nor the temporary use of manual control of the victim.

Variable 6. Gagging

1 = No 2 = Yes

As above in respect of the prevention of noise: this does not include the manual gagging of victims commonly associated with the attack variables.

Variable 7. Reaction (1) Deter/change

1 = No 2 = Yes

One of two reaction variables, to examine how the offender copes with, or reacts to, active victim resistance: the resistance of the victim can be verbal or physical but does not include the act of crying alone. The categorisation addresses the offender and not the victim. This variable assigns a 2 to the offender who is deterred or, who changes or negotiates his intended actions upon victim reaction. The category emphasises the change or negotiation of any act as a result of victim resistance.

Variable 8. Reaction (2) No difference

1 = No 2 = Yes

As above, but this variable categorises those offenders whose action and/or intentions are not changed by victim resistance; this offender will continue the assault against an actively resisting victim. An offence in which the victim offers no resistance will be found in the categories of 1 on both variables 7 and 8.

Variable 9. Language (1) Compliments

1 = No 2 = Yes

The first of five variables concerned with the complexities of what is said by the offender to the victim. This is not necessarily the result of verbal interchange but is focused on the style of speech used by the offender, in the non-violent context.

This variable assigns a category of 2 to those offences in which the offender compliments the victim, usually on some aspect of her appearance.

Variable 10. Language (2) Inquisitive

1 = No 2 = Yes

The second language variable categorises the offender's speech in being inquisitive of the victim. This includes any questions asked about the victim's life-style, associates etc. There are other variables which deal with the identifying of the victim and the requirement, for example, of the victim to participate in the acts committed against her. This therefore focuses on the questions asked of the victim which are those of a non sexual nature.

Variable 11. Language (3) Impersonal

1 = No 2 = Yes

This language variable categorises those aspects of the offender's impersonal/instructive dealings with the victim. The focus is the impersonal style of the offender rather than the categorised differences between personal/impersonal. The personal style of speech will be shown in one or more of the other language variables.

Variable 12. Language (4) Demeaning/insulting

1 = No 2 = Yes

A non-violence language variable which categorises offender's speech with or towards the victim that is demeaning and/or insulting: this would include profanities directed against the victim herself or women in general.

The focus of this variable is the insult and not sexually orientated comment.

Variable 13. Victim clothing disturbed

1 = No 2 = Yes

One of two clothing variables: this categorises the offender's removal of the victim's clothing himself. The alternative category, i.e., category 1, includes the act of disrobing carried out by the victim. This act is always at the instruction of the offender and therefore the same category is used in the circumstances of a naked or semi-naked victim. The focus of this variable is on the actions of the offender and can be seen in comparison with the activities of the offender in the second clothing variable (14). It categorises any act of removal by the offender as 2, regardless of whether the victim assisted or not.

Variable 14. Victim clothing cut/torn

1 = No 2 = Yes

This variable addresses the offender's removal of clothing by particular methods. Although there are obvious differences in the tearing or cutting of clothing, this category deals with the offender who is prepared to use an apparently more violent

style in his treatment of the victim. Category 1 covers the disturbance of clothing as well as the undressed victim. The focus is on the removal of clothing and not what the offender does with it after removal.

Variable 15. Control weapon

1 = Threat 2 = Weapon

The categories differentiate those offenders who are prepared to display a weapon in order to control the victim, from those who do not. Threat of the possession of a weapon and threat of physical presence are coded as '1'.

Variable 16. Demand goods

1 = No 2 = Yes

This variable categorises the offender's approach to the victim that includes a demand for goods or money. Importantly the demand categorised in this context is that which is made in the initial stages of the attack. A later variable deals generally with stealing from the victim (V22).

Variable 17. Victim participation verbal

1 = No 2 = Yes

There are two variables dealing with the requirement of the victim to participate in the offence. Both have been found to occur at the instruction of the offender. Those instructions may appear in many forms, therefore this categorisation deals with the offender's requirement that the victim say words or phrases to him at his insistence. The category does not cover the occasions where an offender directs a question to the victim which does not appear to require her to answer.

Variable 18. Victim participation acts

1 = No 2 = Yes

As above, but this is categorised to cover the offender's requirement that the victim physically participate. The acts demanded of the victim are those which may be in association with specific sexual demands made of her but are in addition to those sexual acts. Therefore an example may be the requirement made of the victim to kiss the offender, or to place her arms around him.

In other words, it focuses on the requirements that the victim participate in any act committed against her; in this context the expectation is to differentiate between those offenders who will commit, say, fellatio against the victim and those who commit the same act but accompanied by instructions to do specific acts associated with oral sex.

Variable 19. Disguise

1 = No 2 = Yes

Various disguises can and are worn by offenders, categorically the definition of them all would result in an unwieldy variable. The category of disguise in this variable, therefore, deals with those offenders who wear any form of disguise.

Variable 20. Implied knowledge

1 = No 2 = Yes

Instances occur within the attacks, at various times, in which the offender implies knowing the victim. This categorisation records the implication that the offender knew or knew of the victim before the sexual assault.

Variable 21. Threat ... No Report

1 = No 2 = Yes

This is specific categorisation of the verbalised threat made to a victim that she should not report the incident to the police or any other person. This may take many forms however the specific threat against the victim in this context is plain when made.

Variable 22. Stealing

1 = No 2 = Yes

The general category of stealing differentiate those offenders who do steal from those who do not.

Variable 23. Identifies victim

1 = No 2 = Yes

This categorisation covers offences in which offenders take steps to obtain or attempt to obtain from the victim the details which would identify her. This may take many forms including verbal approaches, the examination of personal belongings before or after the actual sexual assault, or indeed the stealing of personal identifying documents following the assault. The act is complete if the offender acts in any way that allows him to infer to the victim that he has, or can, identify her.

Variable 24. Violence (1) Control

1 = No 2 = Yes

This categorisation of 'violence to control' identifies the use of force which is more than the physical control of the victim and which, situationally, is not the initial attack to obtain control of the victim.

The category in this variable describes the punching, kicking etc of the victim in order to reinforce the control the offender is seeking to exercise on the victim.

Variable 25. Violence (2) Not control

1 = No 2 = Yes

This categorisation here deals with the offender who is prepared to use excessive violence in retaliation to perceived resistance or, in some cases, the use of violence apparently for its own sake.

Variable 26. Violence (3) Verbal

1 = No 2 = Yes

This variable is distinct from those dealing with the speech types directed at the victim which can be categorised as impersonal (V11), or demeaning (V12). The categorisation in this variable is to address the use of intimidating language in the form of threats to maim or kill which are not necessarily associated with control or resistance. Focus is therefore on verbal violence which is *not* associated with control or resistance.

Variable 27. Vaginal penetration

1 = No 2 = Yes

This variable covers whether vaginal penetration was achieved or attempted.

Variable 28. Fellatio (1)

1 = No 2 = Yes

This is one of two variables dealing with the forced oral penetration of the victim. The categories of this variable deal only with whether oral penetration was carried out or attempted.

Variable 29. Fellatio (2) In sequence

1 = No 2 = Yes

The second variable of fellatio categorises offenders' requirements that their victims submit to oral penetration and are those whose performance of the act is part of a sequence of sexual acts. The offender who does not engage in the oral penetration of the victim will be identified as being categorised as '1' in both variables 28 and 29. Similarly the offence in which only oral sexual activity occurs will be differentiated by being categorised as '2' in variable 28, and '1' in the other sexual act variables.

Variable 30. Cunnilingus

1=No 2=Yes

This variable deals with the performance of a particular sexual act committed against the victim's genitalia by the offender's use of his mouth. In the present sample there is no sequential variable in this context as to date no cases have been seen where this act is performed alone. There is always some other sexual activity accompanying the act of cunnilingus.

Variable 31. Anal penetration

1=No 2=Yes

This is one of two variables dealing with penetration *per anus* committed against a victim. This categorisation deals only with those cases where the act was carried out. In the present sample categorised cases the penetration is by male organ only. It includes attempts where there is clear indication of intent.

Variable 32. Anal penetration in sequence

1=No 2=Yes

The second variable dealing with anal assault: the category addresses anal assault in sequence with other sexual acts. The offence in which anal penetration occurs or is attempted will be categorised '1' on both variables. Similarly the attacks with an anal assault only will be categorised as '2' in variable 31, and '1' in respect of the other sexual act variables.

Variable 33. Apologetic

1=No 2=Yes

This is a further language variable to deal with the specific apologetic speech used by an offender, most typically at the end of a sexual assault.

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References

- Ault, R.L. & Reese, J.T. (1980), 'A Psychological Assessment of Crime Profiling', *FBI Law Enforcement Bulletin*, Vol. 49(3), pp. 22-5.
 Borg, I. & Lingoes, J. (1987), *Multidimensional Similarity Analysis*, Springer

Verlag, New York.

- Canter, D. (1985), *Facet Theory: Approaches to Social Research*, Springer-Verlag New York.
- Canter, D. (1988), 'To Catch a Rapist', *New Society*, 4 March.
- Canter, D. (1989), 'Offender Profiling', *The Psychologist*, Vol. 2, pp. 12-16.
- Davies, G.M. (1988), 'Use of Video in Child Abuse Trials', *The Psychologist*, Vol. 1, pp. 20-2.
- Foa, U.G. (1958), 'The Contiguity Principle in the Structure of Interpersonal Relation', *Human Relations*, II, pp. 229-38.
- Geberth, V.J. (1983), *Practical Homicide Investigation*, Elsevier, New York.
- Groth, N.A. (1979), *Men Who Rape: The Psychology of the Offender*, Plenum, New York.
- Guttmacher, M.S. & Weihofen, H. (1952), *Psychiatry and Law*, Norton, New York.
- Guttman, L. (1954), 'A New Approach to Factor Analysis: The Radex', in Lazarsfeld, P.F. (ed.), *Mathematical Thinking in the Social Science*, Free Press, London.
- Guttman, L. (1965), 'A faceted Definition of Intelligence', *Studies in Psychology, Scripta Hierosolymitana*, Vol. 14, pp. 166-8, Hebrew University, Jerusalem.
- Guttman, L. (1968), 'A General Nonmetric Technique for Finding the Smallest Coordinate Space for a Configuration Point', *Psychometrika*, Vol. 33 (3), pp. 469-506.
- Hazelwood, R.R. (1983), 'The Behaviour-oriented Interview of Rape Victims: The Key to Profiling', *FBI Law Enforcement Bulletin*, pp. 1-8.
- Holmes, R.M. & DeBurger, J. (1988), *Serial Murder*, Sage, London.
- Kocis, L. (1982), 'Posudzovanie sexualnych delikventov', in *Forenzne Aspekty Sexuality, Sexualita zeny*, Zbornik referatov: Kosice, September, pp. 186-94.
- Lingoes, J. (1973), 'The Guttman-Lingoes Non-metric Program Series', MA thesis, University of Michigan.
- Lloyd, Ch. & Walmsley, R. (1989), *Changes in Rape Offences and Sentencing* (Home Office research study No. 105), HMSO, London.
- Marshall, W.L. (1989), 'Intimacy, Loneliness and Sexual Offenders', *Behavioural Research in Therapy*, Vol. 27(5), pp. 491-503.
- Mulvihill, D., Tumin, M. & Curtis, L. (1969), *Crimes of Violence. A Staff Report Submitted to the National Commission on the Causes and Prevention of Violence*, Vols. 11-13, US Government Printing Office, Washington DC.
- Pinizzotto, A.J. (1984), 'Forensic Psychology: Criminal Personality Profiling', *Journal of Police Science and Administration*, Vol. 12(1), pp. 32-40.
- Prentky, R.A., Cohen, M.L. & Seghorn, T. (1985), 'Development of a Rational Taxonomy for the Classification of Sexual Offenders: Rapists', *Bulletin of the American Academy of Psychiatry and the Law*, Vol. 13, pp. 39-70.
- Rada, R.T. (1978), 'Psychological Factors in Rapist Behaviour', in Rada, R.T. (ed.), *Clinical Aspects of the Rapist*, Grune and Stratton, New York.

- Rossi, D. (1982), 'Crime Scene Behavioural Analysis: Another Tool for the Law Enforcement Investigator', Official proceedings of the 88th Annual IACP Conference, *The Police Chief*, January, pp. 156-59.
- Scully, D. & Marolla, J. (1983), 'Incarcerated Rapists: Exploring a Sociological Model', Final Report for Dept. of Health and Human Services, Rockville, Maryland NIMH.
- Shye, S. (1978), *Theory Construction and Data Analysis in the Behavioural Sciences*, Jossey Bass, San Francisco.
- Silverman, D.C., Kalich, S.M., Bowie, S.I. & Edbiel, S.E. (1988), 'Blitz Rape and Confidence Rape: A Typology Applied to 1,000 Consecutive Cases', *American Journal of Psychiatry*, Vol.145(11), pp. 1438-41.
- Symons, D. (1979), *The Evolution of Human Sexuality*, Oxford University Press, Oxford.
- Vorpogel, R.E. (1982), 'Painting Psychological Profiles, Charlatism, Charisma, or a New Science?', *The Police Chief*, January, pp. 156-9.