Paedophilia: pathology, criminality, or both? The development of a multivariate model of offence behaviour in child sexual abuse

DAVID CANTER, DEREK HUGHES and STUART KIRBY

ABSTRACT The present study investigates the variations in crime scene behaviour that exist among child sex offenders. Hypotheses concerning behavioural consistencies are drawn from the diverse literature on child sexual abuse wherein three conceptually distinct behavioural themes are identified, characterized by aggressive, intimate, or criminal-opportunistic modes of offender-victim interaction.

Crime scene data from 97 recorded child sex offences are analysed using multivariate statistical procedures to assess the validity of the themes. The results provide empirical support for all three themes, suggesting a multivariate model of offence behaviour in child sexual abuse. These findings effectively demonstrate that paedophilia can exist as both a pathology and a form of criminality.

Keywords: paedophilia, child sexual abuse, offender profiling

Child sex offenders are not all alike. Variations between different types of offender are reflected in differences in offence behaviour. An unambiguous identification of these differences may help to resolve the current debate about the true nature of child sexual abuse. At present, there is an ongoing controversy in academic and professional circles over the issue of sex offending.
against children as a pathology – a stable and deviant sexual disposition – or as a form of criminality – a general antisocial, exploitative style of interpersonal interaction. A direct examination of the actions associated with different offences will provide a basis for distinguishing between crimes that may legally share the same classification.

Within the voluminous body of published literature on child sexual abuse there is widespread recognition of paedophilia as a fixed, deviant sexual predilection whereby adults foster a pathological attraction toward children as preferred objects of sexual gratification. Early research by Groth and Birnbaum (1978) defined 'fixated pedophilia' as an arrestment of psychosocial maturation resulting in a persistent primary or exclusive attraction to significantly younger people. More recently, Li has reported that for many paedophiles 'sexual experiences with children are experienced as more satisfying than those with adults ... their first choice rather than a substitute' (1991: 133).

From a different perspective, there are other authors who describe paedophilia as a form of criminality – or a component of a life-style of interpersonal abuse. Canter and Kirby (1995) examined the prior convictions of 416 detected child sex offenders and report that contrary to popular belief, child molesters do not have an exclusive offence history relating to assaults on children. Their analysis reveals that of the 44% of offenders who had previous criminal convictions, 86% had a conviction for dishonesty. Furthermore, 11% had more than 8 prior convictions for offences ranging from theft and burglary to violence and indecent assault. These findings effectively demonstrate that for many child sex offenders, offences against children form part of an established criminal life-style. Lanning (1992a) identified a category of 'morally indiscriminate' child molesters; for such a molester 'the sexual abuse of children is simply part of a general pattern of abuse in his life. He is a user and abuser of people' (1992a: 6). Prentky et al. (1991) examined clinical file data on 157 child molesters and reported the existence of a subgroup characterized by a history of antisocial and criminal behaviour, low social competence and poor interpersonal skills.

There is an open question as to whether these two accounts of paedophilia are describing the same individuals or different subsets of an offending population. One approach to answering this question is to examine the offence behaviour itself to see if in those actions different 'styles' or 'themes' occur, which might distinguish between offenders.

**VARIATIONS IN OFFENCE BEHAVIOUR IN CHILD SEXUAL ABUSE**

Canter and Heritage (1990) developed a comprehensive multivariate model of offence behaviour in adult stranger rape which revealed that the major
distinctions concerned the ways in which the offender interacted with the victim rather than the sexual activity as such. Past attempts to classify child sex offenders, however, have in general focused upon the intention, motivation and psychodynamic processes of the offender, with little consideration of the varieties of behaviour which occur in offences and how they reflect the interpersonal qualities of the offence.

Groth and Birnbaum's (1978) 'fixed' and 'regressed' classificatory criterion considers the offender's psycho-social and socio-sexual maturation in addition to the precipitating factors and associated feelings in the offence. Their typology thus emphasizes the various psychological functions that child sexual abuse has for the offender; however, it does not consider the varieties of action which child sexual abuse actually consists of. Finkelhor (1984) developed a four-factor model of child sexual abuse which focuses on the offender's perception of the child as an easy target, an object of sexual desire, an alternative to an age-appropriate partner, or a source of situational gratification when inhibition is lowered. This model provides a framework for differentiating offender motivations in child sexual abuse; however, again there is little consideration of the actual offending behaviour which characterizes these different types of offender.

Typological models such as those cited above undoubtedly contribute to our understanding of the motivations of child sex offenders and thus offer some degree of illumination as to why certain types of offender commit certain types of crimes; however, they fall prey to the criticism of attempting to fit the offence into an existing theoretical perspective, rather than generating an explanatory model from data concerning the phenomenon itself (Hollin, 1989). Nevertheless, these typologies do carry implications for identifying the different styles of offence behaviour in child sexual abuse by providing the potential for the generation of hypotheses about varieties of sexual assault behaviour.

All sexual offences against children share a process of controlling the victim in a way that allows the offender to obtain some form of sexual gratification without the crime being interrupted. This usually requires the offender to isolate the child and to engage in sexual activity with him or her. The essential differences between offences are therefore likely to be in the ways that victims are approached or controlled and in the implicit or explicit relationship this implies.

Sexual assault is interpersonal behaviour and variations in offending behaviour during such crimes indicate differences in the roles that the victims have for their offenders. The existing literature identifies a number of different roles that child sex offenders assign to their victims. These styles of offender–victim interaction vary from each other in terms of interpersonal distance, and they represent the underlying themes in the offence behaviour of child sex abusers.
One distinct style of offence behaviour which emerges from an examination of the existing literature on child sexual abuse involves a highly intimate form of interaction with the child victim. Offenders who operate in this manner perceive a relationship with their victims analogous to a conventional sexual relationship among adults. In Finkelhor’s (1984) model of child sexual abuse this style of offence behaviour is held to arise from the offender’s perception of the child as an alternative to an age-appropriate partner. Lanning (1992a) describes a category of child molesters who engage children in sexual activity by ‘seducing them – courting them with attention, affection, and gifts’ and ‘over a period of time gradually lowering their sexual inhibitions’ (1992a: 8). Prentky et al. (1997) developed a classification system for child molesters known as the MTC:CM3, which includes an ‘interpersonal type’; molesters of this type seek to develop a relationship with known child victims through grooming strategies. Holmes (1991) describes how seductive molesters court their victims over an extended period in an effort to gain intimacy with them. Burgess et al. (1978) developed a system for classifying the motivational intent of child sex offenders, which includes a category of ‘sex pressure offences’. Within this category, offenders seek to develop a consenting sexual relationship with the victim through enticements such as attention, affection, approval, money, gifts and treats. The sexual activity is characterized by positive affect or ‘giving’ on the part of the offender through behaviours such as hugging, kissing, fondling and oral sex performed by the offender on the victim (Burgess et al., 1978; Holmes and Holmes, 1996). Wyre (1987) outlines the dynamics of the molestation process of seductive child sex offenders and describes a number of stages where the child victim is ‘groomed’ or desensitized to the offence behaviour. Non-sexual physical contact such as playful wrestling or tickling gives way to sexual touching while the child is fully clothed, over time this develops into genital fondling, which later leads to mutual masturbation and oral sex. Throughout this process the offender believes that the child is enjoying the sexual activity and encourages the victim to keep the shared behaviour secret. Lang and Frenzel (1988) interviewed over 100 child sex offenders and describe how many used a slow courtship or ‘grooming’ process to seduce children with gifts, attention and affection. The rewards or bribes used ranged from money and toys to designer clothes and trips to amusement parks.

The intimate mode of offender–victim interaction in sexual offences against children is therefore well established in the existing literature. Furthermore, past research leads to the hypothesis that this style of abuse is characterized by a number of offence behaviours that will be likely to co-occur consistently across a number of offences. These behaviours are desensitization, affection, reassurance, the promise of gifts, kissing, and oral sex performed by the offender on the victim.

A second pattern in offence behaviour identified in the existing literature on
child sexual abuse involves a predominately aggressive style of interaction with the child victim. Offenders in this style perceive the child as a focus for their aggression, which is expressive rather than instrumental in nature and is greater than that necessary to subdue the child. In Finkelhor's (1984) four-factor model of child sexual abuse this mode of interaction is held to arise from the offender's perception of the child as an easy target unlikely to present any substantive resistance to the offender. Prentky et al. (1997) included in their typology a category of 'non-sadistic aggressive child molesters' who inflict high amounts of physical injury on their victims. Burgess et al. (1978) describe a category of 'sex force offences' which are characterized by the threat of harm and/or the use of excessive physical aggression. Children are described as objects of prey in these offences, they are stalked and hunted, and become a target for the offender's rage and cruelty. The sexual activity is characterized by domination and anger, and necessarily involves degradation of the child victim through forcible acts such as sodomy. This offender relates to his victims in a manipulative way, sexuality and power are in the service of anger. In his discussion of child sex rings, Lanning cites the primary motivation of many offenders as 'anger, hostility, rage and resentment carried out against weak and vulnerable victims' (1992b: 19). Dutton and Newlon (1988) reported that 70% of their sample of adolescent sexual offenders admitted having sexually aggressive fantasies before committing their offences. Lang and Frenzel (1988) describe how many child sex offenders reported the use of power, threats and force in their crimes. The vast majority of those who employed aggressive coercion in their offences ignored the child's confusion at or resistance to the offending behaviour. Marshall and Christie (1981) report that 29 of the 41 paedophiles they studied used threats of violence or actual physical force to obtain compliance from unwilling victims. Avery-Clarke and Laws (1984) were able to correctly identify aggressive child offenders on the basis of their responses to imagined scenes of violence against children.

The aggressive mode of offender–victim interaction is therefore also established in the existing literature on child sexual abuse. Key definitional offence variables that are hypothesized to co-occur are violence beyond the level necessary to control, threats of violence, and the use of force from the outset.

Given the dynamics of anger, rage and cruelty in their offences, it is likely that aggressive offenders will not be deterred by adverse reactions from their victims and that abusive and/or sexual language will be used during the offence. Sodomy or anal penetration is a further offence variable characteristic of the aggressive mode of interaction for two principal reasons: first, the degradation, power and control inherent in the act itself fit the behavioural style of the aggressive offender; and second, the relative size of the male sexual organ and the child's anus means that severe pain will be experienced by the child if penetration is attempted – the induction of such pain requires an aggressive style of interpersonal interaction. Indeed Erikson et al. (1988)
analysed child sex offenders’ descriptions of their crimes and found that ‘where rectal penetration occurred, the victims usually had to be held forcibly and their cries muffled’ (ibid.: 42).

A third pattern in offence behaviour evident in the existing literature on child sexual abuse involves a *criminal-opportunist* style of interpersonal interaction. Offenders who operate in this style sexually abuse children not because of a stable sexual predilection, but rather as a function of having a general disregard for the rights of others, manifested in a life-style of criminality. Scully and Marolla (1983) draw attention to this style of interaction in stranger rape where the sexual assault is just one of many forms of criminal activity for the rapist. Child sex offenders who operate in this style have a generally antisocial manner of interpersonal interaction and sexual abuse of children is just one of a multitude of criminal activities they are likely to engage in. In Lanning’s (1992a) description of the ‘morally indiscriminate’ child molester, he contends that this individual offends simply because his victims are weaker than he is and he can get away with his crimes; his motive is purely the satisfaction of his sexual urge and his victims are frequently strangers. Burgess *et al.* (1978) identified the ‘sex-assault exploitative-type pedophile’ whose sole motivation is the accomplishment of the sexual act. It is not the intent of this offender to hurt the victim and the force used will not exceed that necessary to subdue the child. This offender uses his victim as an object for sexual relief, perceiving the child solely as an outlet for sexual gratification; his offences are opportunistic in nature with little emotional attachment involved. The offence is likely to be a one-off event not to be repeated with the same victim because the sex act constitutes the extent and duration of the relationship. In a review of 511 cases of alleged sexual abuse, Dube and Hebert (1988) identified this low attachment style of offending characterized by extrafamilial abuse involving a single episode occurring outside the home environment. Prentky *et al.*’s (1997) typological model of child molesters draws attention to a ‘narcissistic’ type of offence wherein the offender’s motivation is exclusively sexual gratification. This describes self-centred exploitative abuse, analogous to a criminal life-style.

Overholser and Beck (1989) attempted to differentiate between a group of child molesters and a group of rapists on the basis of psychological variables such as social skills, impulsiveness and attitudes towards sex and violence, and found that 25% of the rapists were mistakenly classified as child molesters. This effectively draws attention to the overlap between rape and child molestation – the dynamic of sexual gratification, which is the essence of the criminal-opportunist mode of offender–victim interaction in child sexual abuse. In addition, this research draws attention to the role of alcohol in facilitating sex offences through impairment of the ability to voluntarily suppress sexual arousal. Overholser and Beck contend that alcohol is more relevant to the assessment of rape than child molestation as a facilitator, and in doing so,
they underline the integral role of alcohol in criminal-opportunist child sex offences.

Groth (1978) draws attention to the lack of impulse control exhibited by some pedophiles; repetitive sexual assaults, frequent explosions of temper, non-sexual assaults, reckless driving and alcohol abuse characterize the lifestyle and criminal history of these offenders. In Finkelhor's (1984) four-factor model of child sexual abuse the criminal-opportunist mode of interaction results from the offender's perception of the child as a source of situational gratification when inhibition is lowered. The role of drugs such as alcohol in lowering inhibitions and facilitating sexual offences against children is again highlighted. This style of interaction is characteristic of general criminal patterns of behaviour.

The criminal-opportunist mode of offender–victim interaction is accordingly well established in the diverse literature on sex offences against children. Past research therefore leads to the hypothesis that a number of key offence variables which define this manner of interaction will consistently co-occur in offences. The low level of emotional attachment in this style of offending implies that offenders will target stranger victims for one-off offences which will take place outdoors. Furthermore, the integral role of intoxicating substances in facilitating sexual offences against children through lowering impulse control and enhancing perception of opportunity has been highlighted, and consequently criminal-opportunist child sex offenders are most likely to offend while under the influence of alcohol and/or drugs.

Broadly therefore, the existing literature on child sexual abuse suggests that there exist at least three distinct modes of offender–victim interaction. Each of these themes has defining characteristics in offence behaviour – actions which exemplify the different styles of interaction. The central hypothesis is therefore that the activities characteristic of each of the three themes will co-occur within any sub-group of offenders but that they will be less likely to co-occur across sub-groups. The definitional variables are summarized in Table 1.

<table>
<thead>
<tr>
<th>Intimate</th>
<th>Aggressive</th>
<th>Criminal-opportunist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desensitization</td>
<td>Violence beyond need</td>
<td>One-off offence</td>
</tr>
<tr>
<td>Affection</td>
<td>Threat of violence if reported</td>
<td>Offender stranger</td>
</tr>
<tr>
<td>Reassurance</td>
<td>Initial force used</td>
<td>Outside location</td>
</tr>
<tr>
<td>Promise of gifts</td>
<td>Offender not deterred by victim reaction</td>
<td>Offender intoxicated</td>
</tr>
<tr>
<td>Kissing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral sex by offender</td>
<td>Anal penetration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sexual/abusive language used</td>
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HYPOTHESES

The first hypothesis set forth is that an examination of the frequency of occurrence of the variables in a set of offences will provide an insight into the temporal nature of child sex offending. Those actions held in common across offences will have high frequencies while those which serve to differentiate between different types of offence will have lower frequencies.

The second hypothesis, proposed by the framework of offence behaviour, is that for each of the three modes of interaction, there exists a subset of conceptually related actions that will consistently occur together in sex offences against children. An empirical finding that the offence behaviours which define a particular theme consistently co-occur would provide empirical support for that mode of offender–victim interaction.

A third hypothesis suggested is that the defining actions of each of the three themes combine together to produce a composite model of offence behaviour in child sexual abuse with an interpretable structure to it.

Empirical support for these hypotheses would therefore indicate that there are structured variations in child sex offence behaviour providing a solid scientific basis for proposing a multivariate model of offence behaviour.

DATA

The dataset used in the present study was collected from the police records of the Lancashire Constabulary, UK and comprised offence descriptions of 97 recorded incidents of child sexual abuse in the Lancashire area between 1987 and 1989. In the offences considered, the victims were aged between 5 and 12 years at the time of the offence with more than half (54%) below the age of 9. In terms of gender distribution, two thirds of the victims (67%) were female. The offenders’ ages ranged from 10 to 61 years with the highest proportion (49%) between 17 and 27 years. All the offenders were male.

For empirical analysis, the key offence behaviours relevant to the three different modes of offender–victim interaction were identified in the offence descriptions. These variables were recorded in dichotomous form with yes/no values based on the presence/absence of each behaviour in any one offence. Dichotomies were used because the information was drawn from police records not initially collected for research purposes. Previous research has demonstrated that content analysis any more refined than presence/absence dichotomies is likely to be unreliable (Canter and Heritage, 1990). Three additional variables were included that were seen as potentially characteristic of all offences, being important for the actual perpetration of the offence. They allowed the first hypothesis to be tested and some focus to the structure of offence behaviour to be determined. These variables required
that the child was alone at the time of the offence, that vaginal penetration took place, and that offender ejaculation occurred.

A list of all the variables with full descriptions is included in the Appendix.

The use of 19 dichotomous variables across 97 offences provided a data matrix upon which subsequent analysis was conducted.

SMALLEST SPACE ANALYSIS (SSA) OF BEHAVIOUR MATRIX

The data were analysed using SSA-I (Lingoes, 1973). Smallest Space Analysis allows a test of hypotheses concerning the co-occurrence of every one of the 19 variables with every other variable. In essence the null hypothesis is that the variables have no comprehensible relationship to each other.

Although the literature reviewed above, by suggesting a threefold way of classifying the offence variables, 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 be regarded as both hypothesis-testing and hypothesis-generating in helping to indicate if there are any directions from the results that can be used to focus future research.

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. An examination of the raw mathematical relationships between all the variables, however, would prove difficult to interpret, so a geometric (visual) representation of the relationships is produced.

SSA is one of a number of procedures that represent the associations between variables as distances in a statistically derived geometric space. Smallest Space Analysis is 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 association coefficients between all variables and then rank-orders these, in this case transforming an original rectangular data matrix into a triangular matrix consisting of association coefficients for each variable with every other variable. It is these 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 associations. Iterations are performed comparing the rank order assigned to the associations with the rank order of the distances while adjustments are made to the geometric representation. The closer the two rank orders are, the better the 'fit' is between the geometric representation and the original association matrix, or, in technical terms, the lower the 'stress'. The iterations continue until a minimal change in the 'stress' is achieved, within the predesignated number of dimensions. A measure of stress called the coefficient of alienation (Borg and Lingoes, 1987) is used within the computing algorithm as the criterion 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 is, the better the fit, i.e. the fit of the plot to the original matrix. However, as Borg and Lingoes (1987) emphasize, 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 study the data are mainly derived from police crime records, which are not created for research purposes and thus do not adhere to strict collection protocol and procedures. It would therefore be expected that the data were 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.

In the SSA configuration then, in the present case, the more frequently two variables co-occur, 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 is 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, providing a clear picture of the structure of the relationships between the variables considered.

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 variables.

The postulation of facets goes beyond the rather arbitrary proposals of ‘grouping’, by using the principle of contiguity (Foa, 1958; Guttman, 1965; 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 that 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 that a clear statement can be made of what the variables in that region have in common.

Areas of the SSA plot that contain few or no points are also of interest as they may indicate weak areas in the data, or missing facet elements. Subsequent studies may then be carried out with new datasets 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-testing and generation, then, is to establish whether the SSA plot, shown in Figure 1, has any interpretable regional structure to it. The null hypothesis being tested here is that the variations between offenders, as discussed above, are so diffuse that no coherent interpretation of the SSA plot is possible. The directional hypothesis states that the variations between offenders have a coherent structure based upon differences in offender–victim interaction, a characteristic that varies across themes of intimacy, aggression and criminal-opportunism.

RESULTS OF SSA

The SSA-I was carried out on an association matrix of Jaccard co-efficients, which was considered the most appropriate measure of association for this type of data. Jaccard’s co-efficient of association does not take account of joint non-occurrence of variables, meaning that if two variables are both absent from a dataset, their level of association does not increase. Given the unverifiable nature of information from police records, and the possibility that although a variable was not recorded at the crime scene, it was in fact present, this is a suitable measure of association for dealing with the data in
the present study. The 2-dimensional solution has a Guttman-Lingoes' coefficient of alienation = .19 with 12 iterations, indicating a good fit for this data. Figure 1 shows the 2-dimensional spatial projection of the resulting configuration. Each point is a variable describing an offence behaviour and the closer any two points are, the more likely it is that the actions they represent will co-occur in offences, in comparison with other actions.

**Frequencies of variables**

The first hypothesis was that against a background of a common set of actions the differentiations would reflect different modes of transactions between the offender and victim in the offence. Therefore a first step in exploring the structure of behaviour depicted in Figure 1 is to consider the frequency of occurrence of each of the variables. It is hypothesized that the high-frequency variables will be at the core, or centroid, of the plot and that
Figure 2 SSA-I plot of 19 offence variables in 97 cases of child sexual abuse with frequencies

the frequencies of the variables will reflect reducing degrees of direct control of the victim.

The SSA configuration is derived from the associations between the variables and thus has no inevitable link to their frequencies. Any emergent frequency structure is therefore not artifactual but is an empirical finding with substantive meaning. Figure 2 presents the frequencies of occurrence of every offence action in the current data. It is possible to draw clear contours encompassing the variables that occur in over 70% of cases, in 39%–70% of cases, in 24%–38% of cases, in 16%–23% of cases, and in less than 16% of cases.

The polarizing structure of the contours in Figure 2 indicates that the actions that serve to differentiate between offences occur toward the edges of the plot while those held in common across offences are located toward
the centre. In the present data the variable 'child alone at time of offence' (17) constitutes the core of the facet structure as it is the singular variable that occurs in over 70% of the offences considered. The modulating facet depicted by these frequency contours can be conceptualized as representing the various stages that occur in controlling the victim. The first stage, at the core of the facet structure, is the targeting of a lone child (17) to commit the offence with. The next stage, encapsulated within the 39%–70% contour, involves the onset of the offending behaviour through desensitisation (4) or the use of initial force (8). The third stage, contained within the 24%–38% contour, suggests a progression of the offending behaviour to affection (3), reassurance (2), or the offender's not being deterred by an adverse reaction from the victim (9). The fourth stage, represented by the 16%–23% contour, involves the commencement of sexual activity in the form of kissing (6), oral sex (5), or the use of sexual and/or abusive language (11). The fifth and final stage in the process is represented by the variables that occur in less than 16% of the cases. This stage involves the culmination of sexual activity through vaginal (19) or anal penetration (12) followed by the use of threats (10) and/or violence (7) to prevent disclosure of the offence.

This modulating structure describes comprehensively the internal dynamics of child sexual abuse in the form of a stage model. Within the different stages in the abuse process, there is considerable behavioural variation evident in activity ranging from affection and reassurance to threats and violence. The next fundamental question is whether or not underlying behavioural themes can be identified within the configuration of points.

This modulating facet therefore supports the first hypothesis but also helps to clarify the ways in which the differentiation of paedophiles can be fruitfully examined by considering variations in the stages through which they proceed to control the victim in order to commit the crime.

**Behavioural themes**

The regional hypothesis states that items which have facet elements in common will be found in the same region of the SSA space. In order to test our hypothesized framework of child sex offence behaviour it is therefore necessary to examine the SSA configuration to establish whether three contiguous regions representing the three different modes of interaction can be identified on the basis of the definitional variables summarized in Table 1.

Visual examination reveals that the SSA configuration can be partitioned into three distinct regions representing the intimate, aggressive and criminal-opportunist modes of interaction in child sex offence behaviour (see Figure 3).
Figure 3 SSA-I plot of 19 offence variables in 97 cases of child sexual abuse with regional boundaries

1 Intimacy

The six variables that are identified in the literature as defining the intimate mode of offender–victim interaction are all located on the right-hand side of the SSA plot (see Figure 3). Their contiguous regionality provides empirical support for the intimate interpersonal style as a significant theme of offence behaviour in some cases of child sexual abuse.

2 Aggression

The six variables that are identified in the literature as defining the aggressive mode of offender–victim interaction are located in a region dominating the left-hand side of the SSA plot (Figure 3). This provides empirical support for an aggressive interpersonal style of offence behaviour in some child sexual abuse cases.
Of interest in this configuration of points is the proximity of the criminal-opportunist variable ‘offender intoxicated’ (16) to the variables that define the aggressive region. This suggests that child sex offenders with an aggressive style are also likely to be intoxicated at the time of their offence, which is plausible given the established disinhibiting effects of alcohol on sex offence behaviour (Overholser and Beck, 1989).

3 Criminal-opportunism

The four key variables that are identified in the literature as defining the criminal-opportunist mode of offender–victim interaction are all located in a region in the upper left area of the plot above the aggressive variables (see Figure 3). While their contiguous regionality provides empirical support for the criminal-opportunist style of offence behaviour in child sexual abuse, the positioning of the definitional variables, in relatively close proximity to the aggressive variables, suggests that these two styles of interaction have much in common. On this basis, it can be hypothesized that aggression in child sexual abuse represents an extreme form of criminality wherein an already abusive interpersonal style is compounded by anger and rage. In different terms, this explanation suggests that criminal opportunism is characterized by low-level aggression.

Of further interest in the configuration of points is the proximity of the aggressive variable ‘initial force’ (8) to the criminal-opportunist region. This suggests that the use of initial force is also likely to occur in criminal-opportunist offences and this is plausible given the exploitative, abusive and, to a degree, aggressive style of criminal-opportunist offenders.

The overall configuration of points in the SSA therefore reveals a degree of behavioural similarity between the aggressive and criminal-opportunist modes of offender–victim interaction. This is evident in the close spatial proximity of the points representing the definitional variables for both styles. In particular, the variables ‘initial force’ and ‘intoxication’ (8 and 16), although originally hypothesized to define different themes, on the basis of the SSA results, appear to be characteristic of both themes and thus somewhat interchangeable. They can therefore be considered as boundary variables, shared by both regions.

The additional variables included to examine their role in the framework of offence behaviour – vaginal penetration (19) and offender ejaculation (18) – are located in the boundary area between the intimate and aggressive regions in the SSA plot (see Figure 3). Their positioning suggests that these variables can be considered as common to both offence styles. Indeed this indicates that although aggressive and intimate child sex offenders exhibit very different behavioural repertoires in their offences, they appear to overlap on these variables.
A notable feature of the configuration of points in Figure 3 is that the variables that describe sexual activity are all located in a contiguous region in the lower right area of the plot. Kissing (6), oral sex (5), vaginal penetration (19), offender ejaculation (18) and anal penetration (12) comprise this region. This structure leads to the possibility of a sub-group of ‘intimate’ offenders who are highly focused on sexual activity as opposed to those who may be motivated to offend against children by a desire for company. These highly sexual offenders may be that sub-group of child molesters which Overholser and Beck (1989) reported were virtually indistinguishable from rapists. This structure also serves to emphasize that ‘criminal-opportunist’ offenders and ‘aggressive’ offenders may not indulge in many sexual activities and thus in some senses are not so directly motivated by the desire for sexual gratification.

TESTING THE FRAMEWORK

In order to test operationally this facet framework of child sex offence behaviour, each of the 97 offences in the dataset was individually examined to ascertain whether it could be assigned to a particular mode of interaction on the basis of the variables that occurred during the incident. Every offence was given a score for each of the three modes of interaction, reflecting the number of intimate, aggressive, or criminal-opportunist variables that occurred during the crime. The criterion for assigning a crime to a particular mode of interaction was a greater number of offence variables on that mode than the combined number of variables on each of the two remaining modes. For example, in one particular offence, four intimate variables occurred, no aggressive variables and one criminal-opportunist variable. Accordingly, this crime was classified as an intimate offence.

Using this system, 44 offences (45%) were classified as intimate, 14 offences (14%) as aggressive and 17 offences (18%) as criminal-opportunist. This left a total of 22 offences (23%) which could not be definitively assigned to any mode of interaction using the facet framework of child sex offence behaviour. It is likely that the reason for this high number of unclassifiable offences is the behavioural overlap between the aggressive and criminal-opportunist modes of interaction. This is reflected in the fact that the greatest number of offences were classified as intimate, a mode of interaction with little behavioural similarity to either aggression or criminal-opportunism, and by the finding that of the 22 unclassifiable offences, 17 can be classified as aggressive/criminal-opportunist ‘hybrids’ with a greater number of variables between the aggressive and criminal-opportunist themes combined than on the intimate theme alone.
SUMMARY OF FINDINGS

In order to reveal the variations that exist among child sex offenders in terms of crime scene behaviour, theoretical accounts of the differences between offenders were reviewed so as to establish the range of offence behaviours that should be examined. Behavioural consistencies were hypothesized within three distinct themes characterized by aggressive, intimate and criminal-opportunistic modes of offender–victim interaction. To test this framework, 97 child sex offences were content-analysed into 19 behavioural categories and examined using SSA-I to identify the behaviours that would co-occur during assaults. The results of the SSA indicate that sex offences against children can be conceptualized as various modes of interpersonal interaction. This research, by relating the statistical findings to the theoretical data, lends support to all three aspects of offence behaviour identified from the published literature, effectively suggesting a multivariate model of offence behaviour in child sexual abuse. It has also revealed that the variations between offenders can be seen as differences in the stages of control of the victim in order to commit the offence.

In the SSA configuration, the variables with the highest frequencies are located in the centre of the plot and empirically have more in common with each other. Those variables at the periphery of the plot are considered more characteristic of the sub-groups and functionally specific to different regions. This distribution of frequencies supports the hypothesis of a coherent system of behaviour in child sexual abuse that has different emphases to it. The modulating structure of the behavioural frequencies was an added elaboration representing the various stages that take place in child sexual abuse incidents. From the targeting of a lone child, through the use of force or seduction, offences culminate in sexual penetration, followed by measures taken in an attempt to prevent disclosure of the offence.

The combination of the frequencies and the radial elements reflects the varying aspects of child sexual abuse behaviour differing in their reference around the mode of offender–victim interaction. This radex model (Guttman, 1954) has important implications.

First, it indicates gaps in the empirical space where no variables are found. It can be hypothesized that the current sample of data does not include actions which would have mapped into those locations. For example, the empty circular region surrounding the centroid of the modulating facet (see Figure 2) would likely comprise behavioural variables relating to the offender's approach strategy. Variables in this region should differ from each other in line with differences in the style of offender–victim interaction. For example, behaviours such as sneaking into the child's bedroom, laying in wait for a blitz attack, and employing a confidence trick with the victim would be hypothesized to map into different regions of this circular space. Within the
intimate region, missing behavioural variables are hypothesized to be consistent with the seductive style of offending; behaviours such as accidental touching, suggesting a cuddle, and initiating horseplay would likely map into this region. In the aggressive region, the missing variables are those that would result in the physical injury or death of the child. Beating, strangulation and the use of a weapon should map into this space. Within the criminal-opportunist region, missing variables are those that relate to criminal activity. Behaviours such as theft from the victim would likely map into this area. Future data can be used to test these hypotheses.

A second implication of the radex model is that the three differing aspects of child sexual abuse contribute to all offences, but there are likely to be different emphases in different offences. In future research, establishing what are the most common combinations of behaviour could be used for considering how an offender develops over a series or for establishing whether two or more offences were committed by the same person.

Thirdly, the different styles of offence behaviour evident in the radex structure originate from differences in motivational emphasis. Further research on the causes or psychodynamic origins of intimate, aggressive and criminal-opportunist child sex offending is warranted.

**IMPLICATIONS OF THE PRESENT FINDINGS**

The emergence of a multivariate model of offence behaviour in child sexual abuse has a number of important implications.

First, the current model demonstrates that for offenders, child sexual abuse can exist as both a pathology (a stable disposition) and a form of criminality (a life-style of offending). This effectively provides a solution to the ongoing debate concerning the underlying nature of child sexual abuse.

Second, the findings in the present study, by taking the first step in the development of a system of accurately profiling child sex offenders, present a basis for generating hypotheses concerning associations between the offence and the offender responsible. This provides the potential for an offender-focused approach to investigations of child sexual abuse. At present investigating incidents of child sexual abuse represents a formidable challenge to police investigators as in the majority of cases there is no clear medical evidence of abuse (Dube and Hebert, 1988), and rarely are there objective witnesses to the offence (Pence and Wilson, 1994). As a result investigations conventionally adopt a victim-focused approach whereby the child is repeatedly interviewed, examined and assessed by different agencies. This approach, however, is problematic for a number of reasons ranging from the issue of children's credibility (Myers, 1995) to their competence in accurately recalling evidence (Dunne, 1995). In the past, a common police response to
these difficulties has been to defer investigative responsibility to child protection and social services agencies leaving child sexual abuse as one of the most under-investigated crimes by the police (Roberts, 1991). The emergence of a multivariate model of offence behaviour now enables police to adopt an offender-focused approach to investigations of child sexual abuse through an increased understanding of the interpersonal style of the offender in question – an understanding that will undoubtedly prove invaluable in suspect elicitation and prioritization. For example, an offence in which the behavioural variables are characteristic of a particular mode of interaction, whether intimacy, aggression, or criminal-opportunism, is likely to have been committed by an offender with an interpersonal background also characterized by that style. Thus aggressive child sex offences are likely to have been committed by offenders with an aggressive interpersonal style, criminal-opportunistic offences by offenders with an established criminal history, and intimate offences by offenders for whom conventional adult relationships are problematic. Future research is needed to establish these hypothesized correlations, which, if validated, will provide a reliable system of profiling child sex offenders on the basis of crime scene behaviour.

Third, the emergent model of offence behaviour suggests considerable potential for the development of thematically based interview strategies aimed at enhancing effective information retrieval from suspected child sex offenders. A better understanding of an offender’s style of abuse will enable police interviewers to ‘ask the right questions’ in order to secure a confession or eliminate the suspect from enquiries. Indeed the third author of this paper – a serving police detective specializing in the investigation of sex offences against children – recounts a recent case where an interview strategy developed on the basis of the offence behaviour of intimate child sex offenders resulted in twenty-one admissions to offences by a child molester who had previously denied any involvement in child sexual abuse during conventional police interviews.

Fourth, the present model, comprising empirically verified behavioural styles in child sexual abuse, provides a basis for examining allegations of abuse to provide a tentative indication of credibility, or its lack. The reported details of an offence could be examined in the context of established behavioural styles, to ascertain if the reported offence constitutes a recognized style of offender behaviour or whether it spans different patterns of interaction. This will provide a tentative indication of whether the offence allegation may have been falsified or not.

Fifth, there exists considerable potential for the development of treatment programmes for child sex offenders that are responsive to the variations between offenders drawn from a close examination of their behavioural profile. Offenders who recognize human, personal qualities in their victims need a sort of treatment different from that of offenders who treat their
victims as inanimate objects. The findings in the present study provide a scientific basis for the development of rehabilitation programs focusing on the variations between different child sex offenders.

Finally, the present findings direct attention to the potential value of behavioural offence details such as the offender's approach style, patterns of linguistic exchange, and the offender's reaction to the victim's behaviour. These are not conventionally considered key evidentiary elements in the investigation of child sexual abuse; however, they reveal as much about the offender as, if not more than, the sexual acts committed during the offence, to which attention is more commonly directed.

CONCLUSION

The application of psychological research to the study of child sexual abuse must surely culminate in the development of an empirically tested theory encapsulating the variations among child sex offenders in terms both of their crime scene behaviour and of their background characteristics. Such a theory would promote a better understanding of those who sexually abuse children and would have invaluable implications for their investigation, apprehension and ultimately rehabilitation. A necessary first step in the development of this theory is an unambiguous identification of the variations that exist among child sex offenders in terms of their crime scene actions. The present study has taken this step and presents an empirically tested multivariate model of offence behaviour in child sexual abuse. The results also demonstrate that paedophilia exists both as a pathology and a form of criminality. Further research must now endeavour to test the current findings and take further steps in the development of this emergent theory.

Professor David Canter, PhD, FBPs, professor of psychology, Department of Psychology, University of Liverpool, Eleanor Rathbone Building, Liverpool L69 3BX

Derek Hughes, MSc, clinical psychologist, Department of Psychology, University of Liverpool, Eleanor Rathbone Building, Liverpool L69 3BX

Dr Stuart Kirby, PhD, Superintendent, Lancashire Police, Lancaster Gate, Leyland, Lancashire PR3 1EX

REFERENCES


APPENDIX: VARIABLES USED TO DESCRIBE OFFENDERS' BEHAVIOUR DURING OFFENCES

Nineteen offence variables were created from analysis of available police records 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 categorization scheme is given below.

**Variable 1**  The offender *promised* the victim money or other presents and treats.

**Variable 2**  The offender *reassured* the victim by explaining what he was doing in order to minimize the victim's fear.

**Variable 3**  The offender showed *affection* towards the child through compliments, hugs, or spending time with him or her other than for sexual gratification.

**Variable 4**  Desensitization (a.k.a. minimization) occurred; this involves the lowering of a child's threshold to sexual behaviour and can include the following: allowing the child to observe sexual behaviour taking place physically (e.g. between the offender and the child's mother, or between the offender and other younger children), or through pictures (i.e. pornographic magazines or video-cassettes), or by physically touching the child – making any indecent action appear as a legitimate mistake.
Variable 5  The offender performed oral sex on the victim.
Variable 6  The offender kissed the victim on the lips.
Variable 7  Violence was used beyond the level necessary to control the victim for gratuitous purposes.
Variable 8  The offence was facilitated by the use of initial force or a threat of force was used in order to control the victim.
Variable 9  The offender was not deterred by an adverse reaction from the victim and carried on to commit the offence knowing that the victim did not consent.
Variable 10  Threats of violence were used by the offender to prevent the child from reporting the offence. Such threats often involve telling the child that he or she, or someone for whom he or she cares, will be subjected to violence if the offence is disclosed.
Variable 11  Abusive and/or sexually explicit language was used by the offender during the offence.
Variable 12  Penile-anal penetration or attempted penetration occurred.
Variable 13  The victim was a complete stranger to the offender.
Variable 14  The offence was committed outdoors.
Variable 15  The offence was a one-off event and the offender had committed no other indecent acts against the victim prior to being arrested for the current offence.
Variable 16  The offender was intoxicated with alcohol and/or drugs during the offence.
Variable 17  The child was alone at the time of the offence; this implies that when the offence was committed only the victim and the offender were present.
Variable 18  The offender ejaculated during the offence.
Variable 19  Penile-vaginal penetration or attempted penetration occurred.