

Sexual offenses against children as the abusive exploitation of conventional adult-child relationships

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ABSTRACT

A study was conducted to determine whether the relationship processes underlying offender-child interactions in child sexual abuse could be considered as abusive and manipulative variants of more conventional relationship processes that exist between adults and children. To explore this possibility, it was proposed that a circular order of behaviors (i.e., a circumplex) would exist in offender-child interactions that relates to circular models found in more conventional adult-child interactions. Furthermore, just as biases are found in conventional adult-child interactions towards particular relationship patterns, it was proposed that a bias would exist in offender-child interactions reflecting the predominant way in which child sex offenses are carried out. Using a multivariate statistical analysis that geometrically represents the co-occurrence of individual actions, the behaviors from 97 British child sex offenses were analyzed. The results provide preliminary support for the idea that the coercive nature of offender-child interactions in child sexual abuse relies on the offender gaining and abusing the trust of the victim by exploiting a range of conventional adult-child relationship patterns.

KEY WORDS: child sexual abuse • circumplex • pedophilia

This research was supported by an Overseas Research Scholarship awarded to the first author by the Overseas Research Students Awards Scheme. The authors would like to thank Derek Hughes and Stuart Kirby for their help with data collection and coding. The authors would also like to thank Dan Perlman and four anonymous reviewers for their helpful comments on earlier versions of this article. All correspondence concerning this article should be addressed to Craig Bennell, Department of Psychology, University of Liverpool, Eleanor Rathbone Building, Liverpool, L69 7ZA, UK. [E-mail: bennell@liverpool.ac.uk]. Dan Perlman was the Action Editor on this article.

Journal of Social and Personal Relationships Copyright © 2001 SAGE Publications (London, Thousand Oaks, CA and New Delhi), Vol. 18(2): 155-171. [0265-4075 (200104) 18:2; 015535]

Schaefer (1959, 1997) has provided evidence that interpersonal interactions between adults and children may be represented geometrically by a circular order of behavioral items. This circular configuration is defined by two underlying dimensions – autonomy versus control on the vertical axis and hostility versus love on the horizontal axis. Schaefer also demonstrated a bias of behaviors in conventional adult–child interactions towards the control pole of the autonomy dimension. This region included actions such as emotional involvement, fostering dependency, affection, positive evaluation of the child, and excessive contact. Therefore, nurturance and some degree of protectiveness appear to be of importance to conventional adult–child dynamics. Although attempts have been made to explore variants of this circular order in maladjusted adult–child interactions, no one has extended the hypothesis to more explicit forms of dysfunctional behavior such as child sexual abuse.

By drawing on police reports of child sexual abuse, the present study investigates the interactions that take place between child sex offenders and their victims. The goal was to use these accounts of offense behavior to determine whether the relationship processes underlying offender–child interactions are variations of more conventional interaction processes that exist between adults and children. In particular, this study had two objectives. First, it examined the possibility that a circular structure exists in these dysfunctional transactions similar to that found in more conventional adult–child interactions. Second, if a circular ordering of behaviors is found in offender–child interactions, this study sought to examine the possibility that a bias exists towards a particular quadrant of that structure indicating the predominant way in which child sex offenses are carried out.

The first objective relates to the assumption that, if offender–child interactions are interpersonal in nature, they should demonstrate a pathological reflection of conventional adult–child circular orders. A study by Canter, Hughes, and Kirby (1998) examined offender–child interactions in cases of sexual abuse; however, this research was not grounded in established theoretical principles of interpersonal behavior. Canter and his colleagues did not explicitly consider that patterns of offense behavior relate to an underlying circular structure of interpersonal functioning, but rather developed a general *situational* model of child sexual abuse. By drawing on the interpersonal aspects of the Canter et al. (1998) study, specific predictions regarding the structure of offender–child interactions can be explored.

The second objective relates to the finding that, contrary to Schaefer's (1959) control bias in conventional adult–child interactions, there appears to be a bias in child sex offenses towards strategies in which the offender apparently hands some degree of control over to the child (i.e., a bias towards 'autonomy granting' behaviors). The child sex abuse literature suggests that offenses against children often involve an offender's ability to minimize or misrepresent his actions in order to gain the child's consent (Howitt, 1995; Wyre, 1987). For example, the child may decide that the offender's behavior is normal because he or she was told, '...it is

something all fathers do with their kids.' Prentky, Knight, and Lee (1997) and Lanning (1992) have highlighted the fact that perpetrators regularly use psychological coercion to get children involved in sexual activity. Using a variety of techniques, offenders are able to force the child into a relatively dominant position by feigning behaviors that are designed to appear more submissive than overt threats or physical force.

The well-established processes of post-offense neutralization employed by offenders also accounts for the offenders' pretense of autonomy-granting behaviors to 'seduction by the child' (Jenkins-Hall, 1989). Thus, by assuming a pattern of autonomy-granting strategies, offenders attempt to rationalize their abuse of children by presenting the abuse as a consensual activity, or even as the child seducing the offender. De Young (1988) demonstrated that this process of normalization is endemic in the publications of pedophile organizations. She explains that offenders often rationalize their crimes by stating that because their particular offense did not involve overt force, the sexual activity represents active autonomous participation on the part of the child.

A circumplex structure in child sexual abuse

In examining the possibility that offender-child interactions and conventional adult-child interactions are similar in structure, we predicted that the output of a correlational analysis of child sexual abuse behaviors would conform to a geometric configuration known as a circumplex. Researchers differ in their views of what constitutes a circumplex structure and how it should be conceptualized (see Plutchik & Conte, 1997, for a review). In the present study, a circumplex is defined as a circular arrangement of behaviors involving a polar facet that relates to four quadrants.

With respect to these quadrants, it is important to point out that their boundaries do not form rigid divisions in the circumplex structure. Instead, quadrants simply act as arbitrary reference points in a continuous circular space, labeled '. . . to make it easier to discuss points of interest' (Plutchik & Conte, 1997, p. 451). It should also be noted, in order to avoid later confusion, that circumplex models in psychology have generally defined quadrants using the standard geometric definition (i.e., quadrant I starting at 0°). We, however, use quadrants that are slightly rotated (i.e., quadrant I starting at 45°).

In the present study, it is expected that these quadrants will be consistent with the two bipolar dimensions that Schaefer used to define circular structures in conventional adult-child relationships (i.e., autonomy versus control on the vertical axis and hostility versus love on the horizontal axis). If this were found to be the case, it would suggest that offender-child interactions in child sexual abuse rely on the full range of relationship processes that underlie conventional adult-child interactions. However, in child sexual offenses, the offender exploits these relationship processes in order to abuse a child. In addition, in examining the possibility that this structure

would indicate a bias towards the autonomy quadrant, it was anticipated that those behaviors making up this quadrant in child sexual abuse would occur more frequently than the behaviors making up the other three quadrants. If this were found to be the case, it would suggest that the predominant way in which child sex offenses are carried out is by handing over a certain degree of control to the child.

Predictions about the specific location of behaviors and their regional interpretations appear below. See Appendix A for full descriptions of each offense behavior.

Autonomy versus control

As stated previously, the literature on child sex offenses refers explicitly to strategies in which the offender grants the child some degree of *autonomy*. Based on this research, we anticipated that certain offense behaviors would be indicative of an offender designing certain forms of coercion to appear, to the child and in terms of his or her own post-offense justification, as autonomy granting.

The behaviors that we anticipated would fall into the autonomy quadrant included using a confidence approach, approaching a known victim, making the victim participate in the attack, minimizing of acts, and reassuring the victim. We did not predict that any particular acts of violence or overt physical coercion would be present in this quadrant. Instead, autonomy granting on the part of the offender relates to a form of violation that relies on exploiting the trust of children and their conventional relationship patterns with adults.

The *control* variant of sexual offenses against children has been referred to by a number of researchers. Douglas, Burgess, Burgess, and Ressler (1992), in their *Crime Classification Manual*, describe one form of sexual assault as an expression of a 'power' motivation in which an offender's intent is to force the victim to submit sexually. Burgess, Groth, Holmstrom, and Sgroi (1978) include a category of 'sex force offenses' in which one of the offender's methods is intimidation. This offender exploits the child's relative helplessness and naiveté through the use of verbal threat, restraint, manipulation, and physical strength. However, these researchers suggest that, '... it is not the intent of the offender to hurt the victim, and he will usually use only whatever force is necessary to overpower the child' (p. 14).

In the present study, we anticipated that making threats, single violence, forcing the victim to masturbate the offender, and forcing the victim to perform oral sex on the offender would all occur within the control quadrant. Thus, the primary feature of this behavioral theme is forcing the victim into direct supplication to the sequence of sexual actions desired by the offender.

Hostility versus love

The general theme of *hostility* occurs in a variety of forms throughout the literature on child sexual abuse. Prentky et al. (1997), for example, propose a category for 'non-sadistic aggressive' child molesters who are physically

violent towards their victims. Douglas et al. (1992) describe a sexual offense category in which the offender's behavior is an expression of anger and rage.

Similarly, we anticipated that behaviors related to violence and degradation would form a hostile group of behaviors, such as multiple acts of violence, verbal abuse, anal penetration, and blitz attack. These behaviors all relate to a process of sadistic violation with actions that are overtly hostile and aggressive.

The behaviors within the *love* quadrant reflect the offender's attempt at a distorted form of intimacy with the child. Here the victim is treated as a reactive individual rather than a sexual object. Prentky et al. (1997) include an 'interpersonal type' in their classification system for child molesters, in which the offender seeks to develop a relationship with the child. Similarly, Lanning (1992) describes a category of child sex offenders who engage children in sexual activity by using non-threatening seduction techniques. In addition, Burgess et al. (1978) propose a category for 'sex pressure offenses' in which the offender attempts to develop a relationship with the child by using a variety of grooming strategies including giving the victim gifts, reassuring the victim, and being affectionate towards the victim. Canter et al. (1998) confirmed that these behaviors do co-occur in cases of child sexual abuse.

We anticipated that similar behaviors would be present in the love quadrant: the offender masturbating the victim, the offender performing oral sex on the victim, kissing the victim, fondling the victim, displays of affection towards the victim, and giving the victim gifts. The desired reactivity of the child also extends to the variations in sexual behaviors. For example, in the control quadrant, it is predicted that an offender will force the victim to fellate him, whereas the distorted form of pseudo-intimacy in the love quadrant may manifest itself in an offender performing oral sex on the victim.

Method

Present sample of child sex offenses and the collection of archival material

The data set used in the present study is part of a much larger data set collected from police records at the Lancashire Constabulary in the UK (Kirby, 1993). The current data set included offense descriptions for all recorded cases of child sexual abuse in the Lancashire Constabulary between 1987 and 1989 ($N = 97$). At the time of the offense the victims ranged in age from 5 years to 12 years and two-thirds (67%) were female. The offenders ranged in age from 10 years to 61 years at the time of the offense with the highest proportion (49%) between 17 and 27 years. All of the offenders in the present study were male.

Nineteen offense behaviors were examined in the present study (Appendix A). The majority of these behaviors were a subset of those used by Canter et al. (1998). The fact that we examined variables that were selected by different researchers for a different purpose suggests that the results presented here are

not simply an artifact of a decision on our part to code for particular categories of behaviors.

This subset of variables consisted of all the offense actions that carried clear meaning for the interpersonal transactions that occurred in the crime. Those variables that recorded aspects of the situation, such as whether the child was alone at the time of the offense or whether the offense was committed outdoors, which were of interest to Canter and his colleagues in their previous study, were omitted. These 19 behaviors were coded dichotomously across the 97 offenses (behavior not present = 0, behavior present = 1).

Kirby (1993) calculated inter-rater accuracy rates for the 97 offenses used in the current study across the 56 offense behaviors he originally coded for. Two raters independently coded each behavior as being either present or not present across the 97 offenses (requiring a total of 5432 decisions). Kirby found that there were 64 differences between raters in these decisions, which gave an overall accuracy rate of 98%. Consensus was reached on the remaining 2% through agreement or by changing the definition of the behavior. Because the 19 offense behaviors being examined in this article were included in this reliability analysis, the 98% accuracy rate can be taken as a general indication of coding accuracy in this study.

It is important to note that child sex offenses are known to be underreported (Finkelhor, 1984). The data set used in the present study is, therefore, only representative of reported cases of child sexual abuse. The conclusions drawn from this study should be viewed with this in mind. It should also be noted that the data used in this study were not originally collected for empirical analysis, but rather for investigative and legal purposes. This is clearly at variance with the more conventional methods of exploring interpersonal functioning. However, despite the many limitations of employing archival material (e.g., a lack of control over collection processes, variation in the quality of the collection process, selective information collected for ulterior means), there are also many benefits (e.g., no reactive interference from the researcher, the potential for collection from a wide sample, known sample limitations).

In addition, it is important to point out that on purely pragmatic grounds the process of collecting information on child sex offense behavior is of course limited to second hand archival material. Furthermore, it should be noted that the present information was collected under conditions in which the testimony could be challenged in court. Therefore, there was pressure on the relevant investigating officer to record the information reliably and in sufficient detail for the offense to undergo legal scrutiny – this is not typically the case for data used in psychological research.

Smallest space analysis

Smallest space analysis (SSA) is a non-metric multidimensional scaling procedure that represents the associations between variables as the inverse of distances in a statistically derived geometric space – the greater the association between two variables the greater their proximity in the corresponding space (Guttman, 1968). SSA is based upon the assumption that the underlying structure of complex behavioral systems is most readily appreciated if the relationship between each and every other variable is examined (Canter & Heritage, 1990). As described by Canter and Heritage (1990), the SSA-I program (Lingoes, 1973) computes association coefficients between all variables and rank orders them, creating a triangular matrix consisting of

association coefficients for each variable against every other variable. It is these rank ordered coefficients, rather than their absolute values, that are used to form the spatial representation of variables. By using these rank ordered coefficients, SSA is able to represent the variables in the smallest possible dimensionality.

In an attempt to find an optimal representation of the variables, SSA-I performs iterations that compare the rank order assigned to the *original* associations with the rank order of the distances between points in the plot (which the program calculates from a *derived* association matrix). With each iteration, adjustments are made to the geometric representation in an attempt to minimize the difference between the plot and the original association matrix. The closer the two sets of rank orders, the better the fit. These iterations continue until the difference between these two matrices is at a minimum. The degree of fit between the geometric representation and the original input similarity data is indicated by Guttman's (1968) coefficient of alienation. The coefficient of alienation ranges from 0 (indicating a perfect fit) to 1. A coefficient below 0.20 is often considered a reasonably good degree of fit, although a determination of how good or bad the coefficient is depends on a number of factors such as the number of variables being analyzed (Shye, Elizur, & Hoffman, 1994).

The resulting configuration of points in the SSA is based solely upon the relationships among variables. Therefore, these points can be examined directly without assuming underlying dimensions as in factor analysis (Canter & Heritage, 1990). Classifying variables by examining the regional structure of an SSA is part of an approach to research known as facet theory (Canter, 1985). The elements of 'facets' in this case refer to the overall classification of behaviors into 'types' (i.e., autonomy, control, hostility, and love). The spatial contiguity of the variables representing these facet elements '... 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' (Canter & Heritage, 1990, p. 194).

The postulation of facet elements goes beyond simply saying that behaviors belong in particular 'groups.' The principle of contiguity states that, '... variables which are more similar in their facet structure will also be more related empirically' (Foa, 1965, p. 264). Therefore, as Canter and Heritage (1990) state:

... variables that share the same facet elements would be more highly correlated and thus should appear closer together in the multidimensional space. ... 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 inter-correlations will appear in different regions of the plot indicating dissimilarity, and no membership of the same facet element. (p. 194)

Having said all of this, it is important to also point out that while SSA is an appropriate method for exploring circumplexity (see Plutchik & Conte, 1997, for examples of its use), it is one of the weaker techniques available for the job. This is because there is no way to test for circumplexity when using SSA beyond visually inspecting the spatial representation of variables and the original association matrix. The coefficient of alienation does provide a general index of model fit (indicating the degree of similarity between the spatial

representation of variables and the original association matrix); however, it does not assess circumplexity. SSA was used in the present study because the technique is able to effectively cope with 'noisy' data (Shye et al., 1994) and because it has been used to examine police data in a number of previous studies (e.g., Canter & Heritage, 1990; Canter et al., 1998; Salfati & Canter, 1999). Future research should examine more sophisticated methods for testing circumplexity (as discussed in Fabrigar, Visser, & Browne, 1997; Pincus, Gurtman, & Ruiz, 1998; Plutchik & Conte, 1997) to determine whether they are also suitable for exploring data of this kind.

Results

Polarizing facet

Based on the joint co-occurrence of the 19 crime scene behaviors, the 97 child sexual abuse cases were analyzed using SSA-I. Separate SSA analyses were also carried out on the homosexual offending group and the heterosexual offending group, which resulted in similar structures to the one presented here. Each analysis was carried out on an association matrix of Jaccard coefficients. Jaccard's coefficient is a measure of association that does not take account of joint non-occurrences. In other words, if two variables are both absent in a particular case, the level of association between those two variables will not increase. Considering the unverifiable nature of police data, and the possibility that variables were not recorded at the crime scene when they were in fact present, Jaccard's coefficient is the most appropriate measure of association for the present study (Canter et al., 1998).

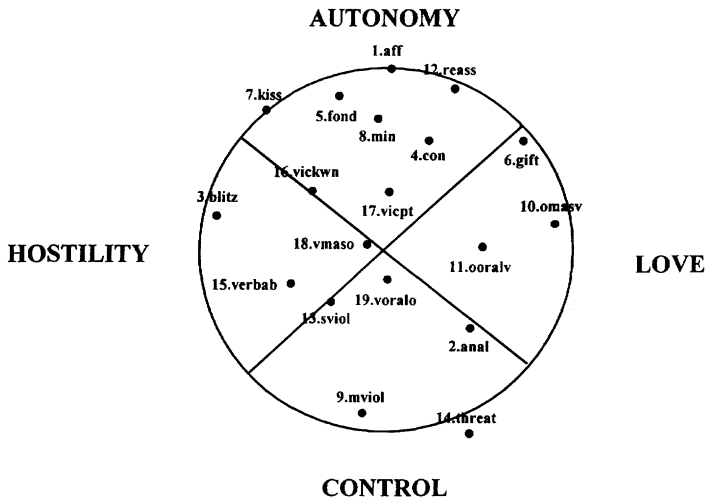
A two-dimensional SSA solution was used to represent the original association matrix. The coefficient of alienation was 0.19 in 15 iterations indicating a reasonable degree of fit. Figure 1 shows the resulting two-dimensional configuration. Each point in the SSA represents one of the 19 offense behaviors. Table 1 contains the original association matrix of Jaccard coefficients for all 19 offense behaviors.

Circumplex models can be portrayed in terms of a circular order of variables in which adjacent variables are more highly correlated than opposing variables (McCrae & Costa, 1989; Romney & Bynner, 1997). Visual examination of the structure displayed in Figure 1 and the original association matrix (Table 1) indicates that Schaefer's circumplex model of conventional adult-child interactions accords well with the empirical analysis. Even though Jaccard's coefficient provides a very conservative measure of association, the values in Table 1 demonstrate that, in general, adjacent variables in Figure 1 are more highly associated than opposing variables.

Although the structure is not a perfect circular arrangement, Schaefer's (1959) basic model does map onto the offense actions. The 19 offense behaviors could be partitioned into the four quadrants of autonomy, hostility, control, and love. In addition, the relationships between crime scene actions and their predicted quadrant locations were, in the majority of cases, supported. To re-emphasize, these quadrants should be thought of as regions that

FIGURE 1

Two-dimensional SSA plot of 19 child sexual offense behaviors displayed in relation to two underlying dimensions – autonomy versus control on the vertical axis and hostility versus love on the horizontal axis. Brief variable labels are given on the plot (the numbers correspond with the variable descriptions provided in Appendix A).



2-dimensional SSA solution
Coefficient of alienation = 0.19 in 15 iterations
 $N = 97$

blend into one another to form a continuous circular space rather than as rigid divisions.

The variables confidence approach, fondle, victim known, minimization, victim participation, affection, reassurance, and kiss were all located in the autonomy quadrant. Blitz attack, victim masturbates offender, and verbal abuse were all located in the hostility quadrant. Single violence, victim performs oral sex on offender, anal penetration, multiple violence, and threats were all located in the control quadrant. Gift giving, offender masturbates victim, and offender performs oral sex on victim were all located in the love quadrant.

There were six behaviors located in quadrants contrary to our earlier predictions. The variables kiss, fondle, and affection (anticipated to be in the love quadrant) shared a region with behaviors making up the autonomy quadrant. The variables multiple violence and anal penetration (anticipated to be in the hostility quadrant) shared a region with behaviors making up the control quadrant. The variable victim masturbates offender (anticipated to be in the control quadrant) shared a region with behaviors making up the hostility quadrant. Unexpected item misplacements are not uncommon features in interpersonal research (Plutchik & Conte, 1997), and, apart from these disparities, 13 of the 19 variables were located in the predicted quadrants.

These disparities likely result from the ambiguous nature of many child

TABLE 1
Original association matrix of Jaccard coefficients (J) for 19 child sexual offense behaviors* (see Appendix A for variable descriptions)

	Autonomy					Hostility					Control					Love			
	reass	con	vicpt	aff	min	fond	vickwn	kiss	blitz	vmaso	verbab	sviol	mvviol	voralo	threat	anal	ooralv	omasv	gift
reass	-																		
con	0.38	-																	
vicpt	0.29	.036	-																
aff	0.36	0.42	0.27	-															
min	0.34	0.53	0.30	0.55	-														
fond	0.33	0.39	0.23	0.40	0.42	-													
vickwn	0.16	0.25	0.24	0.25	0.34	0.34	-												
kiss	0.09	0.24	0.25	0.24	0.25	0.25	0.21	-											
blitz	0.09	0.00	0.22	0.14	0.12	0.28	0.38	0.12	-										
vmaso	0.20	0.27	0.39	0.15	0.25	0.18	0.47	0.23	0.23	-									
verbab	0.14	0.19	0.27	0.09	0.18	0.15	0.25	0.16	0.18	0.35	-								
sviol	0.14	0.22	0.20	0.06	0.11	0.21	0.29	0.16	0.37	0.40	0.33	-							
mvviol	0.08	0.09	0.16	0.02	0.04	0.07	0.06	0.10	0.12	0.19	0.18	0.29	-						
voralo	0.15	0.18	0.35	0.12	0.19	0.10	0.32	0.21	0.15	0.55	0.32	0.27	0.25	-					
threat	0.06	0.09	0.12	0.00	0.02	0.08	0.04	0.07	0.08	0.14	0.15	0.24	0.25	0.17	-				
anal	0.11	0.25	0.18	0.09	0.10	0.11	0.14	0.13	0.02	0.31	0.20	0.27	0.14	0.22	0.21	-			
ooralv	0.16	0.21	0.20	0.18	0.18	0.14	0.26	0.12	0.07	0.26	0.12	0.15	0.12	0.35	0.14	0.20	-		
omasv	0.24	0.27	0.18	0.17	0.17	0.08	0.11	0.03	0.05	0.21	0.11	0.16	0.15	0.19	0.17	0.18	0.21	-	
gift	0.23	0.38	0.25	0.22	0.26	0.18	0.11	0.12	0.05	0.19	0.09	0.15	0.06	0.10	0.06	0.15	0.24	0.33	-

* 0 ≤ J ≤ 1.

TABLE 2
Nineteen child sexual offense behaviors and their frequency of occurrence across 97 child sex offenses. Brief variable labels are given in brackets (these labels correspond with the variable labels used in Figure 1)

Quadrant	Behaviors	Observed frequency	Expected frequency	χ^2
Autonomy	Con approach (con)	52	48.5	.50
	Fondle (fond)	48	48.5	.01
	Victim known (vickwn)	43	48.5	1.24
	Minimization (min)	43	48.5	1.24
	Victim participation (vicpt)	39	48.5	3.72*
	Affection (aff)	36	48.5	6.44**
	Reassure (reass)	28	48.5	17.33***
	Kiss (kiss)	21	48.5	31.19***
	Mean = 38.8			
Hostility	Blitz (blitz)	44	48.5	.84
	Victim masturbates offender (vmaso)	32	48.5	11.22***
	Verbal abuse (verbab)	22	48.5	28.95***
	Mean = 32.7			
Control	Single violence (sviol)	38	48.5	4.54*
	Victim performs oral sex on offender (voralo)	19	48.5	35.88***
	Anal penetration (anal)	14	48.5	49.08***
	Multiple violence (mviol)	11	48.5	57.99***
	Threat (threat)	9	48.5	64.34***
	Mean = 18.2			
Love	Gift (gift)	25	48.5	22.72***
	Offender masturbates victim (omasv)	19	48.5	35.88***
	Offender performs oral sex on victim (ooralv)	16	48.5	43.55***
	Mean = 20.0			

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

sexual abuse behaviors. For example, in certain contexts, kissing can be a gentle, loving act; in other contexts, it can be vicious and hostile. Although we anticipated that the act of kissing would be a reflection of love, its relationship with other variables in the SSA plot suggests that for this particular sample of child sex offenders it is not. In the current context, kissing may best be thought of as autonomy-granting behavior on the verge of being hostile.

Frequency bias

Table 2 contains each of the 19 offense behaviors and their frequency of occurrence. The behaviors have been divided into the four quadrants of autonomy, hostility, control, and love as displayed in Figure 1.

The data in Table 2 suggest that there is a slight bias towards the autonomy

quadrant of the structure in two respects. First, there is a bias towards autonomy in terms of *the number of behaviors* located within each quadrant (i.e., 8 behaviors are located in the autonomy quadrant, 3 in the hostility quadrant, 5 in the control quadrant, and 3 in the love quadrant). In addition, there is also a bias towards autonomy in terms of the *frequency of occurrence* for each of the 19 behaviors.

Table 2 contains the results from chi-square tests that were run on each behavior to determine if its frequency of occurrence differed significantly from the frequency expected by chance. Owing to the fact that previous research has not examined how frequently offenders exhibit specific child sexual offence behaviors, there is no empirical basis for deriving expected frequencies. Instead, the present study compares the observed frequencies of each behavior to a frequency of 48.5 (the total number of offences in the sample divided by two). A frequency of 48.5 reflects how often each behavior would be expected to occur across the sample of offences if occurrence was totally due to chance. By examining the ratio of significant results between the four quadrants we can determine if there is a frequency bias towards a particular quadrant of the structure.

As can be seen in Table 2, the observed frequencies of all 19 behaviors are relatively low. In fact, only one of the 19 behaviors (confidence approach) occurred in more than half the offenses. However, the chi-square tests do suggest that there is a frequency bias in child sex offenses towards those behaviors making up the autonomy quadrant. For example, confidence approach, fondle, victim known, and minimize, variables that are all located in the autonomy quadrant, have observed frequencies that *are not* significantly less than would be expected by chance. All of the other behaviors (with the exception of blitz attack in the hostility quadrant) have observed frequencies that *are* significantly less than would be expected by chance.

Discussion

The multivariate analysis of child sexual abuse behaviors presented in this article provides preliminary evidence that a circular structure exists in offender-child interactions that is similar to circular structures found in the analysis of conventional adult-child interactions. An approximate circular order of behaviors was identified through visual inspection of the SSA that could be interpreted in terms of two bipolar dimensions – autonomy versus control and hostility versus love.

Considering the obvious problems associated with the data used in the current study, including of course their reliability, it is perhaps surprising that such highly traumatic interpersonal experiences reveal the structure evidenced. However, this structure exists despite the fact that the observations on which the analysis was based were commonly made during relatively short interactions between the offender and the child, as opposed to the longer sequences observed in Schaefer's studies. Moreover, the circular ordering of behavior was present despite the second hand reporting of

the offense from the child's perspective. The fact that an approximate circular order of behaviors was found indicates the enduring nature of the circular structure in interpersonal behavior. Having said this, it is also important to stress, given the problems with police data and the limitations of our analytical approach, that these findings be treated with an appropriate level of caution.

It seems unlikely that the proposed circumplex structure is simply a consequence of the mathematical method underlying SSA. This is most clearly demonstrated by comparing the current findings with the model of pedophilia proposed by Canter et al. (1998). Using SSA, Canter and his associates identified three modes of interaction in child sexual abuse (aggressive, intimate, and criminal-opportunist) by combining the situational aspects of the offense (e.g., offense committed outdoors) with the interpersonal aspects. However, in that analysis, the resulting SSA configuration did not correspond to a circular arrangement of behaviors nor was it easy to see, primarily because of the situational variables, how the plot could be interpreted in terms of two bipolar dimensions. Thus, the emergence of circular structures when using SSA is not inevitable. Rather, it is an empirical finding with substantive meaning. The current findings suggest that it is when the interpersonal aspects of child sexual abuse are focused on that an approximate circumplex structure emerges.

The finding that similar underlying dimensions could be identified in the analyses of conventional adult-child relationships and offender-child relationships lends support to the possibility that offense behaviors in child sexual abuse cases are manipulative and destructive variants of more conventional adult-child relationship patterns. In benign adult-child interactions, these relationship patterns (autonomy, hostility, control, and love) consist of behaviors that typically represent genuine concern for the child. The offenders in the present study, however, seem to be using variants of these same relationship patterns in order to exploit their victims and negotiate a position where they are subsequently able to sexually interfere with the child.

A bias towards the control quadrant, which has been found in studies of conventional adult-child interactions, was not found in the current analysis. Rather, in this sample of offender-child interactions there appears to be a behavioral bias towards the autonomy quadrant. A bias towards this quadrant was an anticipated feature of this type of offense and supports the view held by many researchers that a key mode of interaction in child sexual abuse involves the use of non-threatening seduction and minimization techniques to gain and abuse the trust of the victim. Just as nurturance and protection are major factors throughout childhood in conventional adult-child relationships, granting children a certain degree of control appears to be a major component of offender-child relationships in cases of child sexual abuse.

Interestingly, few of the behaviors that exist within this autonomy quadrant can be legally defined as 'child sexual abuse.' Instead, they appear to be the precursive set of behaviors to subsequent sexual interference with

the child. This is perhaps one of the reasons why defining and investigating child sex offenses is often so problematic; offenders are able to argue that their form of interference was benign.

Child sex offenders may intentionally exploit these gray areas and minimize, neutralize, or normalize stroking, petting, kissing, or even fondling a victim, precisely because, in other contexts, such behaviors are perfectly acceptable (e.g., when a father affectionately kisses his daughter). However, our argument is that it is important to view these behaviors within the context of a set of related behaviors that are explicitly abusive. Indeed, they may be employed as a method of distorting conventional adult-child patterns of interaction in order to gain the trust of the victim. Moreover, these behaviors may also help explain the distorted forms of thinking that exist among some sex offenders. As stated previously, by adopting this contrived position of granting autonomy, the offender may perceive that he is obtaining a position of consensus with the victim by, in his mind, relinquishing some degree of control to the child. However, this handing over of control is simply a device by which the offender is exploiting a normal behavioral pattern adopted by children when interacting with adults. When this is incorporated with the physical or psychological exploitation of a child, this sequence of manipulation is clearly a violation of an unwitting and naïve victim.

Conclusion

The findings presented in this article are significant inasmuch as they provide preliminary evidence that offender-child interactions in cases of child sexual abuse can be represented by an approximate circumplex structure, even when the data were originally collected for a different purpose (i.e., a criminal investigation). The fact that a circumplex structure can be found in a study that did not rely on self-report measures or a highly controlled experimental design indicates the stable nature of circular structures in interpersonal behavior.

The current findings also suggest something interesting about interpersonal interactions as they exist in crime; basically that, in some cases, a similar range of interaction processes may underlie both conventional relationships and the dysfunctional relationships offenders have with their victims. Although in our case we examined offender-victim interactions in child sexual abuse, future research might test this hypothesis using other interpersonal crimes.

It should also be stressed that a researcher with a different theory to the one we have proposed might examine the structure presented in this article and find more than two bipolar dimensions and he or she might label the quadrants differently. A re-examination of the reported results from various theoretical perspectives would be useful and might open up a realm of possibilities for exploring and understanding the variety of relationship processes that exist between offenders and their victims.

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Appendix A

Variables used to describe behaviors during child sexual abuse

In order to provide a list of elements common to child sexual abuse, 19 offense variables were extracted from a content analysis of police records. Care was taken to develop clear variable descriptions so as to eliminate discrepancies in category assignment. All variables were coded dichotomously with values based on the absence (0) or presence (1) of each category of behavior. A description of the categorization scheme is given below in alphabetical order. Brief variable labels are given in brackets (these labels correspond with the variable labels used in Figure 1).

Variable 1: Affection (aff)

The offender made gestures towards the victim, which mimicked tenderness and warmth (excluding the specific acts of gift giving (variable 6), kissing (variable 7) and reassuring language (variable 12)).

Variable 2: Anal penetration (anal)

The offender penetrated or attempted to penetrate the victim's anus with his penis.

Variable 3: Blitz approach (blitz)

The offender used a style of approach that involved the sudden and immediate use of violence (e.g., punching the child). This variable was restricted to the offender's initial method of approach.

Variable 4: Confidence approach (con)

The offender used a style of approach that involved contact with the victim before the attack took place in order to give the false impression of legitimacy (e.g., taking the child on an outing). This variable was restricted to the offender's initial method of approach.

Variable 5: Fondle (fond)

The offender caressed the victim's breasts or genitals over or under their clothing.

Variable 6: Gift (gift)

The offender gave a gift to the victim (e.g., money, toys, candy, etc.).

Variable 7: Kiss (kiss)

The offender kissed or attempted to kiss the victim.

Variable 8: Minimization (min)

The offender minimized his behavior. This involved lowering the child's threshold to sexual behavior and can include the following: allowing the child to observe sexual behavior taking place physically (e.g., between the

offender and the child's mother) or through pictures (e.g., pornographic magazines); or by physically touching the child, making any indecent action appear as a legitimate mistake; or by making verbal statements (e.g., this is something all fathers do with their kids').

Variable 9: Multiple violence (mviol)

The offender perpetrated multiple acts of violence against the victim (e.g., repeated punching or kicking) (excluding violence used in the offender's initial method of approach (variable 3)).

Variable 10: Offender masturbates victim (omasv)

The offender masturbated the victim.

Variable 11: Offender performs oral sex on victim (ooralv)

The offender performed oral sex on the victim.

Variable 12: Reassuring language (reass)

The offender used language that was reassuring or comforting.

Variable 13: Single violence (sviol)

The offender perpetrated a single act of violence against the victim (e.g., a single punch or kick) (excluding violence used in the offender's initial method of approach (variable 3)).

Variable 14: Threat (threat)

The offender used threats as a method of intimidation (e.g., '... if you tell anyone about this, I'll kill you').

Variable 15: Verbal abuse (verbab)

The offender used insults and profanities at some time during the attack (directed towards the child or used more generally).

Variable 16: Victim known (vickwn)

The offender targeted an acquaintance.

Variable 17: Victim participation (vicpt)

The offender coerced the victim to physically participate in the offense.

Variable 18: Victim masturbates offender (vmaso)

The victim was made to masturbate the offender.

Variable 19: Victim performs oral sex on offender (voralo)

The victim was made to perform oral sex on the offender.