

Differentiating Crime-Scene Behaviors of Sexual Homicide

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Sexual homicides are difficult to solve as they often appear to be random and motiveless. To help police investigations in apprehending criminals, the present study aimed to classify different types of sexual homicide offenders based on crime-scene behavior. Using the multidimensional methodology of Smallest Space Analysis, the present study showed that sexual homicide crime-scene actions could be differentiated in terms of expressive and instrumental aggression: the expressive theme consisted of violent behaviors centering on hurting the victim, whereas the instrumental theme consisted of behaviors focusing on the benefits the victim provided for the offender. For a more comprehensive examination of the results, crime-scene actions were placed into five behavioral categories: *sexual, wounding, planning/control, disposal, and weapon* behaviors. Further exploration using the Multidimensional Scalogram Analysis showed that three of these categories, *sexual, planning/control, and disposal*, were most effective for differentiating sexual homicides.

Key words : sexual homicide, crime-scene behaviors, behavioral differentiation

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Sexual homicide often appears to be random and motiveless, leading many sexual homicides to be difficult to solve (Ressler, Burgess, & Douglas, 1988). However, most of previous studies investigating sexual homicide from a descriptive perspective (e.g., Brittain, 1970; Hazelwood, Dietz, & Warren, 2001; Meloy, 2000) lack detail in terms of objective crime-scene behaviors and therefore are limited when attempting to be applied for actual crime investigations (Keppel & Walter, 1999). To help police investigations in apprehending criminals, it should be noted that criminals differ in their behaviors when committing crime and these differences in crime-scene actions reflect different characteristics of offenders. To classify different types of sexual homicide offenders based on certain types of behavior displayed at the crime scene, the present study defines sexual homicide as homicide with an overtly sexual element, such as evidence of sexual intercourse (oral, anal, and/or vaginal) or ejaculation onto the victim's body.

Recent studies have focused on how previous psychological approaches can help classify different types of offenders, specifying the way each offender interacts with the victim and unraveling the underlying mechanisms of violence (e.g., Alison & Stein, 2001; Salfati, 2000). In particular, it has been suggested that the different types of behaviors committed by offenders at homicide crime scenes can be understood using an expressive and instrumental

thematic framework (e.g., Block, Devitt, Donoghue, Dames, & Block, 2001; Fritzon & Garbutt, 2001; Salfati, 2003; Santtila, Canter, Elfgrén, & Hakkanen, 2001).

Aiming to investigate the possibility of establishing a model of homicide behaviors, Salfati (2000) showed that homicide scenes could most readily be differentiated in terms of the expressive or instrumental focus at the crime scene. The expressive theme is generally composed of behaviors that center on the victim as a specific person. The crime scene reflects an offender's behavior centering on inflicting wounds on the victim. The expressive theme is characterized by a collection of violent behaviors, e.g., the victim sustains injuries to the torso, head, and/or various body parts. The offender associated with this type of crime scene is likely to have a history of violent offenses which may be reflective of his attitude towards interpersonal relationships (Salfati, 2000). The behaviors in the instrumental theme are more focused on the activities other than the actual killing of the victim. Here the offender treats the victim more as an object through which to obtain their ulterior motive, which in some cases includes a sexual or material gain. The victim is often gagged, bound or blindfolded by the offender, and the theft of victim's property by the offender is common. This offender often progresses through his criminal career of theft and burglary to one of homicide when the victim can often be seen in a context of being

just another means to an end such as property and sex (Salfati, 2000).

The expressive-instrumental theme has been repeatedly proven to be useful in differentiating homicide crime-scene actions in samples from various countries such as Britain, Canada, South Korea, and Finland (Salfati, 2000; Salfati & Dupont, 2006; Salfati & Park, 2007; Santtila et al., 2001), and therefore shows that it is a robust theoretical framework for differentiating homicides. However, it has not been tested yet whether the expressive-instrumental theme would be effective for classifying sexual homicides.

It has been suggested that sexual homicides represent a sub-group of instrumental homicide because of the great incidence of sexual activity involved in the offense (Salfati, 2000; Salfati & Canter, 1999). Sexual homicide, which inevitably occurs in the context of sexual aggression, does have instrumental emphasis to it. Often the primary purpose of the attack in sexual homicide cases is not actual killing of the victim but instrumental gain, in this case, sex. Sexual homicides tend to be committed when offenders are apt to regarding the victim not as a person with whom they are personally interacting but rather as an object ultimately to be used for sexual gain (Salfati, 2000).

However, homicide itself is essentially an expressive crime (Salfati, 2000) as it frequently is a consequence of escalations in violent interpersonal interactions. It is suggested that the basic focus of most homicides would be

indicative of expressive aggression under the condition of extreme emotional arousal and feelings of anger (Santtila et al., 2001). Analyzing the frequencies of crime-scene actions in homicide, Salfati (2003) concludes that core actions that occur in most homicides are the ones representing impulsive, frenzied attacks resulting from the offender's extreme anger.

Sexual homicide, which is certainly a type of homicide, is no exception. Indeed, Salfati and Taylor (2006) report that in their sexual homicide cases anger was the most frequently found motivation and that a high incidence of frenetic expressive acts of violence was elicited in sexual homicide offenses. Specifically, these offenders showed behaviors which had a highly hostile emphasis involving an expressive attack on the victim (see Salfati & Taylor, 2006). For these offenders, the act of violence during an offense may be of greater importance than getting sexual gratification (Salfati & Taylor, 2006).

Salfati and Taylor (2006) argue that notion that sexual homicides represent a sub-group of instrumental homicide may not be accurate because the expressive-instrumental framework only delineates relative differences in the context of homicide. It is expected that sexual homicides do contain both aspects of aggression, expressive and instrumental, and that sexual homicides would be differentiated by variations in emphasis across these two themes of aggression at the crime scene.

To summarize, the present study aims to differentiate crime-scene actions in sexual homicide in terms of a dominant theme. It is hypothesized that there are thematic distinctions in sexual homicide, expressive and instrumental, which can be interpreted from the analysis of crime-scene actions. The second aim is among thematically divided actions to identify behaviors that are useful in differentiating sexual homicide offenders.

Methods

Sources of Data

The data for this research were taken from closed, fully adjudicated state and local homicide cases that were contributed from law enforcement agencies from around the United States. All identifiers, including names of victims, suspects, offenders, officers, departments, correctional agencies, were removed for purposes of analysis. Only aggregate data were reported on. Details of 40 sexual homicide cases with overtly sexual elements were selected. More specifically, the offenses containing vaginal, anal, and/or oral penetration, as well as the offenses where there were traces of semen found either in or on the victim's body or at the crime scene, were included.

The Sample

Offender Characteristics

All of the 40 offenders were male. The age of the offender ranged between 18-42 years, and the mean was 27.0 years. Of the 38 cases where it was known, 71.1% of offenders were Caucasian, 21.1% were African-American, 5.3% were Hispanic, and 2.6% were of another race.

Of the 32 cases where it was known, 31.3% of offenders were single, 31.3% of offenders had a girlfriend, 21.9% were married, and 15.6% were divorced or separated. Only a total of 14.3% of offenders were living alone at the time of the offense.

Of the 32 cases where it was known, 75% had one or more previous convictions. Specifically, 16 offenders had a previous conviction for assault, 15 for burglary, 13 for domestic violence, 10 for sexual offense, 8 for robbery, 5 for fraud, 3 for auto theft, and 1 for homicide.

Victim characteristics

Thirty-eight cases involved a female victim, and the remaining two cases involved a male victim. Of the 39 cases where the age of victim was known, the age ranged between 6 and 80 years, and the mean was 27.8 years. Thirty-six percent of victims were less than 20 years old, 38.5% of victims were in their 20s, 15.3% were between 30 and 60, and 10.3% were over 60 years old.

Of the 39 cases where the race of victim was known, 82.1% of victims were Caucasian, 12.8%

were African-American, and 5.1% were Hispanic. Of the 38 cases where it was known, 50% of victims were single, 28.9% had a boy/girlfriend, 13.2% were married, and 7.9% were divorced or widowed. A total of 18.9% of victims were living alone at the time of offense.

Of the 39 cases where it was known, 20.5% of the cases occurred between strangers, 7.7% among family members, 2.6% between friends, and 61.6% between acquaintances. Additionally, in 7.7% of the cases the exact relationship was not recorded.

Crime-scene Actions

In the present study, twenty-six actions at the crime scene were included as variables (see Table 1). Crime-scene behaviors were selected based on categories found in the previous literature on sexual homicide (see Table 2). The first category is wounding behaviors, which includes impulsive and brutal behaviors focusing on hurting the victim. The second category is weapon behaviors, which includes specific weapon-related behaviors used to get the victim injured. The third category is sexual behaviors including vaginal/anal penetration. The planning and control behaviors which reflect the offender's planning of the offense and forensic awareness are included as the fourth category. Finally, the importance of disposal of the body by the offender in homicide has been identified in a number of previous studies (e.g. Lundrigan & Canter, 2001), hence included as the fifth category.

All crime-scene action variables were coded in dichotomous form (presence, absence/unknown). This use of dichotomy has previously been found to produce the most reliable content variables (see Canter & Heritage, 1990).

Smallest Space Analysis

The present study first aimed to differentiate sexual homicide crime-scene actions in terms of whether the violence was expressive or instrumental. In order to differentiate crime-scene behaviors, cases were analyzed using the multidimensional methodology of Smallest Space Analysis (SSA; Lingoes, 1973). SSA is a multidimensional scaling procedure that represents the correlation between variables as distances in a statistically derived geometric space. SSA is based upon the assumption that the underlying structure, or the system of behavior, will most readily be appreciated if the relationship between every variable and every other variable is examined. The output of SSA represents the rank order of correlations among behavioral variables as distances between their representative points in a geometric configuration, such that the higher the association between any two variables, the closer together the points representing them will appear on the spatial plot. In this way, points that appear closer on the SSA plot will represent behaviors that frequently occur together at a crime scene, thus identifying co-occurring behaviors and their shared themes. A general

indication of how well the spatial configuration accurately represents the co-occurrences as represented in the matrix is provided by the coefficient of alienation. The coefficient of alienation indicates the measure of stress, or the 'fit', between the geometric representation and the ranked correlation matrix. The smaller the coefficient of alienation, the better the fit is of the plot to the original association matrix. The coefficient of alienation ranges between 0 and 1, with zero indicating a perfect fit. A general accepted coefficient level for data that contains a notable amount of noise such as archival files is 0.2 (Canter & Heritage, 1990).

Multidimensional Scalogram Analysis

To allow for a more comprehensive examination of the results, twenty-six variables were placed into five behavioral categories (see Table 2). The second aim of the present study is among thematically divided actions to identify behaviors that are useful in differentiating sexual homicide offenders. In order to identify these behaviors, Multidimensional Scalogram Analysis (MSA; Lingoes, 1973) was additionally used. MSA is a non-parametric statistical technique which can be used to compare the profile of individuals with respect to their similarities on a number of variables. Profiles made up of specific individual behavior are created for each individual and these profiles are represented geometrically as points in space so that the more similar two individuals' profiles, the closer

they are together.

The analysis results in one main plot of each of the profiles and also item plots. The main plot summarizes the relationships between profiles in the analysis in such that the more similar two profiles are, the closer they will be represented on the plot. On the other hand, item plots show each of these profile points with respect to their score on each variable. On these item plots the positions of the points remain the same as in the main plot but each plot represents a different variable and the points show that individual's scores on that variable, i.e. present/absent. These item plots can then be partitioned into regions that contain the same score on that variable, showing how scores on one variable are related to scores on each of the other variables. If partitions can be made, then the main MSA plot can be divided into regions that represent behavioral themes. Therefore these offenders who display the same theme will be represented as points close together and in similar regions in the MSA. Item plots will further show how each individual behavior that makes up the profile helps differentiate profiles and can help us further understand the thematic sub-structure of different subsets.

Results

Thematic Analysis of Crime-scene Actions:
Expressive and Instrumental

SSA was carried out on an association matrix of Jaccard coefficients. As argued in previous research (e.g. Canter, Hughes, & Kirby, 1998), this is the most appropriate measure of association to use for the present analysis given the unverifiable nature of data from police reports and the possibility that variables were not recorded when they were in fact present. The 3-dimensional solution was found to have a Guttman-Lingoes' coefficient of alienation of 0.13 in 21 iterations, indicating a very good fit for this data.

Figure 1 shows the three-dimensional resulting

configuration, with each point corresponding to one of the 26 variables describing an offense behavior. The regional hypothesis of SSA states that items that have a common underlying psychological theme will be found in the same region of the SSA space. As Figure 1 shows, the two hypothesized sub-regions, expressive and instrumental, could be distinguished by the spatial distribution of the variables. Table 1 displays the crime-scene behaviors separated into the two themes and their percentage frequencies of occurrence across 40 offenses. The variables 'multiple wounds were distributed across the body', 'multiple would were focused on one part of the body', 'victim strangled', and 'victim found partially dressed', which occurred in more

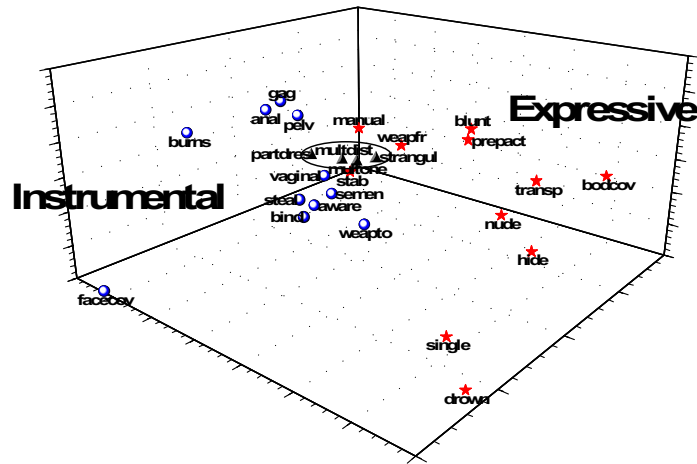


Figure 1. SSA configuration of 26 crime-scene variables separated into the themes: Expressive(★) and Instrumental(●)

Table 1. Crime-scene variables separated into two themes and their frequencies

Expressive		%	Instrumental		%
manual	Manual hitting/kicking	58	vaginal	Vaginal penetration	58
weapfr	Weapon from the scene	50	semen	Semen found	55
stab	Stabbing	45	weapto	Weapon to the scene	43
nude	Victim found nude	33	steal	Property stolen	43
blunt	Blunt instrument used	25	aware	Forensically aware	38
hide	Body hidden	23	pelv	Injury to pelvic region	35
transp	Body transported	15	anal	Anal penetration	30
bodcov	Body covered	10	gag	Gagging	18
prepack	Preparatory actions	10	bind	Binding	15
drown	Victim drowned	8	burns	Burns	5
single	Single wound	5	facecov	Victim face covered	5

than 60% of the sample, formed a core region in the SSA central to the act of homicide and therefore were not attributed to any particular behavioral theme.

Instrumental Theme

In line with results from the previous literature (e.g., Block et al., 2001; Fritzon & Garbutt, 2001; Salfati, 2000), the theme of the eleven behaviors that co-occurred in this region reflected a theme of the offender treating the victim as an object for their ulterior motive, indicating sexual or material gain. Sometimes the victim's property was stolen. Evidence of sexual activity such as semen at the crime scene and vaginal/anal penetration was common. The offender often came prepared by bringing the weapon to the crime scene. Sometimes the

victim was gagged and/or bound by the offender. After the offense, the offender may have engaged in behaviors which suggest that the offender was careful not to leave forensic evidence at the crime scene.

Expressive Theme

In line with results from the previous literature (e.g., Block et al., 2001; Fritzon & Garbutt, 2001; Salfati, 2000), eleven behaviors in this region of the SSA plot reflect a theme of actions that centered on hurting the victim. In the majority of the cases the victim suffered wounds due to the offender's stabbing or manual hitting/kicking. If a weapon was used, it was more likely that one from the crime scene was used, e.g. a blunt instrument. Sometimes the victim was found naked. After the offense,

the victim's body may have been transported to another location, covered by other objects (e.g. a blanket), hidden, and/or buried by the offender. In some cases the victim was drowned.

These crime-scene actions reveal that sexual homicide does contain expressive behaviors which are indicative of aggression in the context of extreme emotional arousal and feelings of anger. Therefore, based on the findings in the present study, the notion that sexual homicide is simply a sub-group of instrumental homicide is not suggested to be accurate because sexual homicides do contain both aspects of aggression.

Classifying homicides in terms of a dominant behavioral theme

In order to test whether the proposed framework serves as a useful way of classifying different types of sexual homicide offenses, each of the 40 offenses was tested to establish whether it could be assigned to a dominant behavioral theme. To be assigned to a dominant theme, the percentage score of the occurrence of variables for that theme had to be greater than the sum of scores for the other theme (see Salfati, 2000). If this could not be done, the offense was classified as a hybrid. Using this procedure, 77.5% of the 40 homicides could be assigned to a dominant theme, and 22.5% were classified as hybrids. Out of the 77.5% of homicides that could be assigned to a dominant theme, 35% were classified as expressive, and 42.5% of them were classified

as instrumental. Assigning almost 80% of cases to the dominant theme, the present analysis shows that the expressive/instrumental framework serves as a useful way of classifying sexual homicide offenses.

There have been several attempts to assign homicide offenses to a dominant theme. For example, Salfati and Haratsis (2001) reported that a total of 63% of Greek homicide cases could be assigned to a dominant theme, and most of these were classified as expressive (55%) when only 8% of cases were instrumental (8%). In fact, most of studies which attempted to assign homicide offenses to a dominant theme report higher percentages of expressive cases than instrumental cases (e.g., Block et al., 2001; Fritzon & Garbutt, 2001; Salfati, 2000). In the present study, more cases were classified as instrumental than expressive (42.5% versus 35%). The higher percentage of cases assigned to the instrumental theme does reflect the defining characteristics of sexual homicide: the great incidence of sexual activity involved in the offense. Indeed, sexual homicides which occur in the context of sexual aggression do have instrumental emphasis to it and often the primary purpose of the attack in sexual homicide cases is not actual killing of the victim but sexual gain.

Differences in the Offender Background Characteristics

Once established that sexual homicide cases

could be assigned to a dominant theme, it was explored whether these sexual homicide crime-scene action subgroups, expressive and instrumental, could indicate differences in offender background characteristics. A number of previous studies (e.g., Salfati & Canter, 1999; Salfati, 2000) have shown that specific characteristics in an offender's background can be linked to an offender's criminal behavior, and vice versa. In this way, links between an offender's crime-scene behaviors and background characteristics can be established and used as an investigative profiling tool (Salfati, 2000).

As a result, notable difference was found in the previous conviction of the offender. Instrumental homicide offenders were more likely to have a prior conviction of rape ($\chi^2 = 4.34, df=1, p<.05$) than expressive homicide offenders. Out of 14 instrumental homicide offenders, 6 offenders (42.9%) had a previous conviction of rape, whereas only one offender out of 13

expressive homicide offenders (7.7%) had a previous conviction of rape. No significant difference between expressive and instrumental homicide offenders was found in other offender and victim background characteristics.

The present finding shows that human behavior is indeed largely a result of previous experience and the offender's behavior does reflect previous criminal experience (Davies, 1997).

Identifying behaviors that effectively differentiate sexual homicide offenders

An MSA was run on the profiles of the forty offenses. A measure of how well the analysis was able to plot the points in relation to each other is called the coefficient of contiguity. A perfect solution would have a coefficient of +1, but the level which is generally acceptable is near .8. In the present analysis the coefficient of

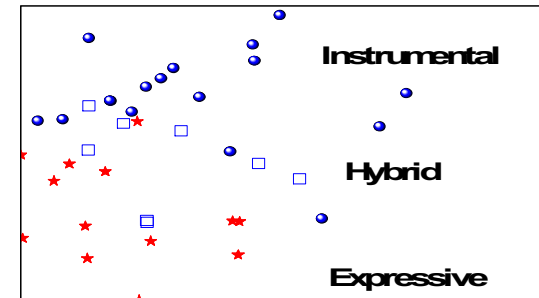


Figure 2. MSA configuration of 40 homicide offenses separated into the themes: Expressive(★), Instrumental(●), and hybrids (□)

contiguity was 0.94, showing a high solution.

Figure 2 shows the main MSA plot with the overall configuration of points which summarizes the relationships between profiles in the analysis. The sexual homicide offenders whose dominant theme at the crime scene was expressive were numbered from 1 to 14, the hybrids were numbered from 15 to 23, instrumental were numbered from 24 to 40. Figure 2 shows the separation of the expressive and instrumental homicide offenders: the expressive offenders are situated at the bottom left corner, and the instrumental offenders are situated on the top left and the right corner. This chosen variables clearly differentiated between cases, which allowed for a more meaningful and clearer

analysis of the individual behaviors which made up the profiles between expressive and instrumental sexual homicides.

Five behavioral categories

In addition to the main plot of profiles, the MSA analysis produces an item plot for each variable analyzed. Each item plot represents one of the individual behaviors used in the MSA, which makes up the profile of each individual. The item plots show the relationship of the individual variable for each of the profiles. Differently from SSA, an MSA places the profiles based on the profile as a whole, not the individual behaviors. By comparing the way in which each plot partitions in relation to the

others, the underlying themes can be interpreted. The item plots show how each total profile compares on the individual variable. In this way the analysis allows an understanding of what individual variables help to construct the overall differentiation between profile subtypes: in this case, expressive and instrumental profiles.

Within each of these five grouped categories high frequency behaviors which may not be helpful in differentiating offenders as they are pervasive in most of sexual offenses were first

identified and factored out. It has been suggested in the previous literature that a cut-off criterion of a high-frequency behavior is a frequency occurrence of 50% (Salfati, 2000). Therefore, behaviors which occurred more than 50% of the 40 cases were excluded from the present analysis.

Category 1: Sexual behaviors. As can be seen in Figures 3a and 3b, plots for two variables, *injury to the pelvic area* and *anal*

Table 2. Five behavioral categories and the percentage frequencies of variables

	Sexual	Wounding	Planning /control	Disposal	Weapon
Higher %	Vaginal(58)	Multiple wounds distributed(75)		Partially dressed(63)	Weapon from scene(50)
	Semen(55)	Multiple wounds to one area(68)			
		Strangulation(65)			
		Manual(58)			
Lower %	Pelvic(35)	Stabbing(45)	Steal (43)	Nude (33)	Weapon to scene(43)
	Anal(30)	Drowned(8)	Forensic(38)	Hidden(23)	Blunt(25)
		Single wound(5)	Gagging(18)	Transported(15)	
			Binding(15)	Covered(10)	
			Preparatory actions(10)	Face covered(5)	
				Burns (5)	

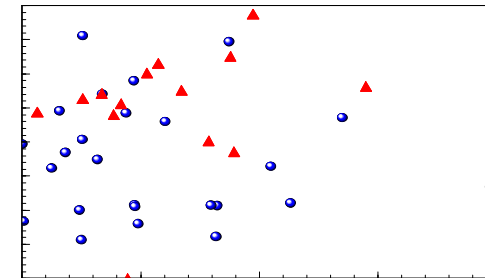


Figure 3a. Injury to the pelvic area: Present (▲) & Absent (●)

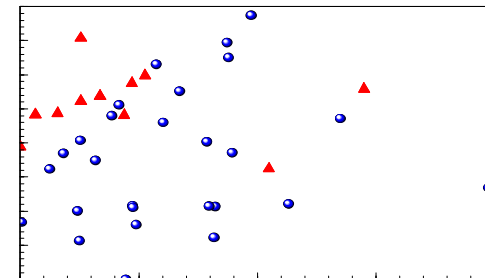


Figure 3b. Anal penetration: Present (▲) & Absent (●)

penetration, showed a similar spatial pattern. These MSA plots had horizontal partitions, with the presence of the crime-scene actions in the upper regions and the absence in the lower regions, thus effectively differentiating profiles of offenders based on their behavior.

presence of crime-scene action distributed across the plot. These MSA plots did not provide a clear partition, indicating that these behaviors may not be useful differentiating profiles of offenders.

Category 3: Planning and controlling behaviors.

Category 2: Wounding behaviors. The plots of three behaviors in this category, *stabbing*, *victim drowned*, and *victim sustaining a single wound*, did not show a spatial pattern, with the

As can be seen in Figures from 4a to 4d, *forensic awareness*, *gagging*, and *binding* plots showed a similar spatial pattern. These MSA plots had a clear partition, with the

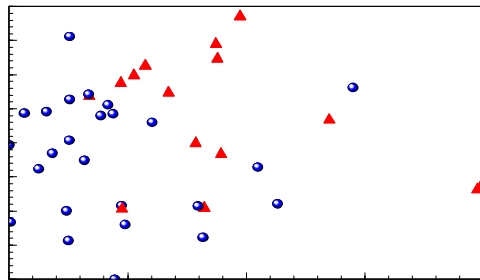


Figure 4a. Forensic awareness: Present (▲) & Absent (●)

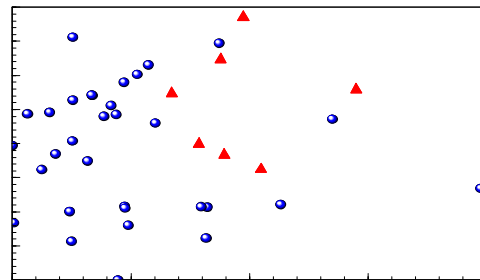


Figure 4b. Gagging: Present (▲) & Absent (●)

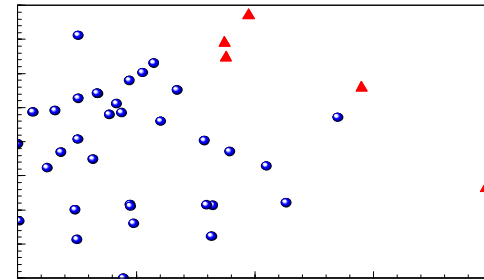


Figure 4c. Binding: Present (▲) & Absent (●)

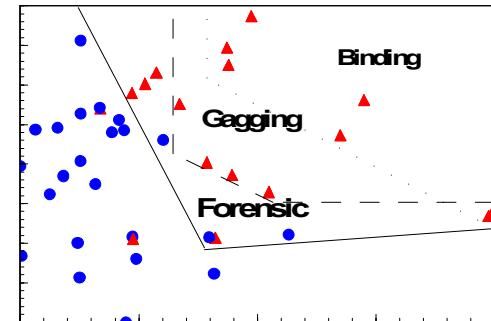


Figure 4d. Differentiation of Planning/ control behaviors: Present (▲) & Absent (●)

presence of the crime-scene actions in the upper right region, again differentiating profiles of offenders. The plots of the remaining behaviors, *stealing* and *preparatory actions*, did not show a spatial pattern, with the presence of crime-scene action distributed across the plot, indicating that these behaviors may not be useful differentiating profiles of offenders.

Category 4: Disposal behaviors. As can be seen in Figures from 5a to 5d, *victim found nude*, *body bitten*, and *body covered* showed a similar spatial pattern. These MSA plots had a clear partition, with the presence of the crime-scene actions in the lower region, again clearly differentiating profiles of offenders. However, about the remaining variables, *body transported*, *victim face covered* and *burns*, a clear

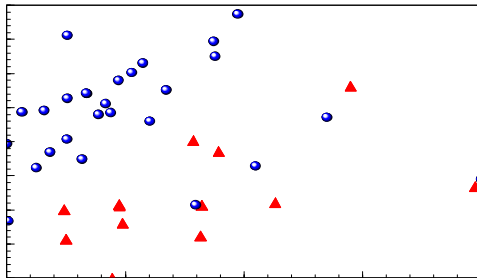


Figure 5a. Nude: Present (▲) & Absent (●)

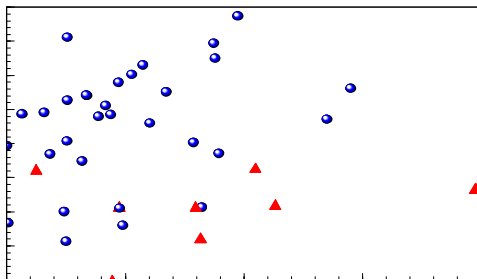


Figure 5b. Body hidden: Present (▲) & Absent (●)

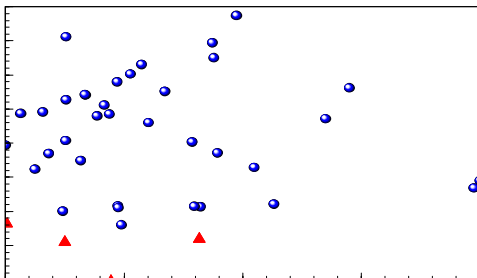


Figure 5c. Body covered: Present (▲) & Absent (●)

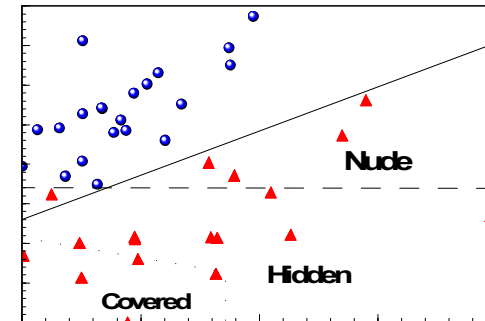


Figure 5d. Differentiation of Disposal behaviors: Present (▲) & Absent (●)

partition was not found, indicating that these behaviors may not be useful differentiating profiles of offenders.

Category 5: Weapon behaviors. All three behaviors in this category, *weapon from the scene*, *weapon to the scene*, and *blunt instrument*, did not show a spatial pattern, indicating that these behaviors may not be useful differentiating profiles of offenders.

Discussion

The present analysis showed that crime-scene actions in sexual homicide were successfully differentiated in terms of expressive and instrumental aggression: the expressive theme consisted of violent behaviors that centered on hurting the victim, whereas the instrumental

theme consisted of behaviors that were more focused on the benefits the victim provided for the offender. The expressive/instrumental framework proved to serve as a useful way of classifying sexual homicide offenses, assigning almost 80 % of cases to the dominant theme. Notable difference was found in the previous conviction of the offender, which suggests a link between an offender's crime-scene behaviors and background characteristics. In addition, in terms of the behaviorally composed thematic categories, three of the thematic categories were determined to be effective in differentiating sexual homicides committed by different offenders. These were: sexual behaviors, planning/control behaviors, and disposal behaviors.

In contrast to early descriptive models which are limited when used for actual crime investigations, the present study, using actual crime-scene behaviors, shows effectiveness for

classifying sexual homicides. In addition, the finding of the present study is based on a conventional psychological theory of expressive and instrumental aggression (Feshbach, 1964), and therefore it has substantial theoretical background to support explanations for the findings.

The expressive-instrumental theme has been repeatedly proven to be useful in differentiating homicide crime-scene actions in samples from various countries such as Britain, Greece, Canada, and South Korea (Salfati, 2000; Salfati & Dupont, 2006; Salfati & Haratsis, 2001; Salfati & Park, 2007). Using data from the United States, the present study again confirmed that the expressive-instrumental theme is effective for classifying homicides, showing that it is a robust theoretical framework.

The present study shows that sexual homicide is not merely a sub-group of instrumental homicide: sexual homicides do contain both aspects of aggression and therefore could be differentiated by variations in emphasis across the two themes of aggression, the expressive or instrumental focus at the crime scene.

Unlike most of homicide studies which report higher percentages of expressive cases than instrumental cases (e.g., Block et al., 2001; Fritzon & Garbutt, 2001; Salfati, 2000), in the present study of sexual homicide, more cases were classified as instrumental than as expressive. The higher percentage of cases assigned to the instrumental theme reflects the defining

characteristics of sexual homicide, where the offender treats the victim as an object through which to obtain their ulterior motive, in this case a sexual gain.

Previous criminal history may be a predictor of an offender's future offense behavior. Notable difference was found in the previous conviction of the offender. Instrumental homicide offenders were much more likely to have a prior conviction of rape than expressive homicide offenders. The present study shows that the difference between expressive and instrumental homicide offenses can be related to the differences in offender background characteristics, establishing a link between an offender's crime-scene behaviors and background characteristics which can be used as an investigative profiling tool (Salfati, 2000).

The development of homicide crime-scene themes are crucial to police investigations as a better understanding of homicide and knowledge of what each action indicates reduces the initial lines of inquiry. Findings about behaviors that are especially useful in differentiating sexual homicide offenders have great implications for police investigations.

The present study has a number of limitations. First, because of the small sample size in the current study, the generalizability of the findings may be limited. Future efforts should be made to replicate the current findings with larger and various samples. Second, only a small number of observed behaviors were used

to differentiate behavioral patterns. Therefore, future research is needed to obtain more stable results by including a wide range of crime-scene behaviors in sexual homicide.

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성적 살인에서의 범죄현장 행동 분석

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성적 살인은 실제 사건 발생 후 경찰 수사 시 사건을 해결하기가 쉽지 않은 경우가 대부분이다. 본 연구는 성적 살인 당시 범행 현장에서 범인이 보인 범행 수법을 바탕으로 성적 살인의 유형을 분류하고자 하였다. 우선 다차원적 분석 기법 중 하나인 최소 공간 분석(Smallest Space Analysis) 기법을 이용하여 성적 살인 사건에서 나타난 26개의 범죄 현장 행동을 통해 성적 살인의 유형을 표현적/도구적 공격의 두 가지로 나누었다. 표현적 공격은 피해자에게 상해를 가하려는 것이 가해자의 주된 범행 목적임을 드러내는 폭력적인 행동들로 구성되었으며, 반면 도구적 공격은 피해자에게서 가해자가 얻을 수 있는 다른 이익-물질적, 성적 이익-과 관련이 있는 행동들로 구성되어 나타났다. 보다 심층적인 분석을 위해서, 26개의 범죄 현장 행동을 다섯 가지의 카테고리-성적 행위, 상해, 계획/통제, 사후 처리, 그리고 흉기 사용-로 나누고 다차원 척도 분석(Multidimensional Scalogram Analysis)을 통해 살펴본 결과, 범죄 현장에서 가해자가 보인 성적 행위와 계획/통제 관련 행위, 그리고 피해자 사후 처리 행위가 성적 살인을 분류하는 데에 있어서 가장 효과적인 것으로 드러났다.

주요어 : 성적 살인, 범죄 현장 행동, 행동적 범행 분류