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Thematic consistency between criminal history and crime scene behaviors: Comparing sexual homicide offenders with and without criminal histories of sexual offenses

A Thesis in Partial Fulfillment of the Requirements for the Degree of
Master of Arts in Forensic Psychology
John Jay College of Criminal Justice
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Thematic consistency between criminal history and crime scene behaviors: Comparing sexual homicide offenders with and without criminal histories of sexual offenses

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This Thesis has been presented to and accepted by the Office of Graduate Studies, John Jay College of Criminal Justice in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Forensic Psychology.

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Abstract

Offender profiling research suggests that offenders may display behavioral consistency, meaning they may behave in some consistent manner between their crime scene actions and other aspects of their lives. Through behavioral themes, researchers can identify consistency in groups of individual behaviors that are thematically similar. Previous literature successfully applied the Expressive/Instrumental themes to homicide crime scene behaviors and criminal history. The current study aims to apply the Expressive/Instrumental thematic approach to analyzing the relationship between sexual homicide offender's criminal history and their crime scene behaviors. The present study focuses on the distinction between sexual homicide offenders with a history of sexual crime and without a history of sexual crime, testing for thematic consistency from criminal history to crime scene behaviors. The current study examines 73 single cases of sexual homicide, involving only offenders who have a recorded criminal history. The current study found a thematic split of Expressive/Instrumental themes and relationships between type of offender and behavioral themes in both criminal history and crime scene behaviors. Thematic consistency was not identified in the majority of offenders and did not differ based on history of sexual crime, as most offenders had a dominant expressive crime scene regardless of history of sexual crime. These findings indicate that while sexual homicide offenders with and without histories of sexual crime may behave thematically different in their criminal history and crime scene behaviors, the overall expressive themes of their crime scene make identifying thematic consistency difficult utilizing the expressive/instrumental thematic framework.

Keywords: Sexual homicide, criminal history, crime scene behavior, smallest space analysis, behavioral theme

Thematic consistency between criminal history and crime scene behaviors: Comparing sexual homicide offenders with and without criminal histories of sexual offenses

Investigative psychology suggests an offender's actions (A) can be connected to their characteristics (C), known as an offender profile or the $A \rightarrow C$ equation, allowing investigators to empirically narrow down a suspect pool to the most likely offenders for a crime (Salfati, 2008). While sexual homicide offenders, defined by sexual actions at their crime scene, are likely to have a recorded criminal history, they often do not have a criminal history of sexual crime (Carter et al., 2017; James et al., 2019). Although their criminal history is information likely to be available to investigators, the development of the $A \rightarrow C$ offender profile may be hindered due to the appearing lack of similarities between their crime scene behaviors (A; sexual actions at the crime scene) and their criminal history (C; lack of sexual crimes within their criminal history). Furthermore, do sexual homicide offenders who have committed sexual crimes in their past exhibit distinctly different types of crime scene behaviors than those who have not? The current study aims to address these questions within the context of the $A \rightarrow C$ profile of sexual homicide offenders through the concept of behavioral themes.

Behavioral themes are empirically identified groups of behaviors found to be thematically similar, sharing an underlying psychological construct (Salfati, 2000; Trojan & Salfati, 2011). Behavioral themes provide an empirically based approach to identifying similarities in individual actions and individually differentiating offenders based on these themes (Trojan & Salfati, 2011; Salfati, 2000; Salfati & Bateman, 2005). Individual differentiation refers to the process of classifying offenders to subgroups based on shared characteristics (Canter, 1994; Salfati, 2000; Salfati, 2008). The investigative psychology literature suggests that by utilizing themes that group behaviors by their underlying psychological concept rather than the individual behaviors

independently, researchers can better recognize consistencies and patterns in offending behaviors as individual behaviors may change based on a number of situational factors, where the psychology of the action may stay consistent (Salfati, 2008; Sorochinski & Salfati, 2010).

The current study aims to classify sexual homicide offenders' crime scenes and criminal histories using behavioral themes to identify a consistency in their crime scene behaviors (A) to their criminal history (C) (Trojan & Salfati, 2011) where consistency in individual factors alone may not be apparent (Carter et al., 2017; James et al., 2019; Salfati, 2008). Trojan and Salfati (2011) applied the thematic approach to connecting crime scene behaviors (A) to criminal history (C) in homicide offenders, providing a structure for this line of research. Using data coded with an updated version of the coding instrument Trojan and Salfati (2011) used, the current study aims to narrow the focus of their research to sexual homicide offenders to address the appearing lack of A→C consistency observed in these offenders' crime scene behaviors and criminal history.

Behavioral Themes: Expressive/Instrumental

The individual behaviors of a sexual homicide offender's crime scene actions (A) may not appear to reflect the types of crimes in their criminal history (C) (Carter et al., 2017; Häkkänen-Nyholm et al., 2009; James et al., 2019; Sturup et al., 2019). Investigative psychology developed the concept of behavioral themes to identify individual behaviors that share the same psychological concept which can then be empirically tested, differentiating offenders in a clear and systematic manner (Canter, 1994; Salfati, 2008). One thematic framework that has been empirically tested for the individual differentiation of offenders is Feshbach's (1964) expressive/instrumental framework (Salfati, 2000).

Feshbach (1964) introduced the concept of expressive and instrumental behaviors, which were differentiated by their underlying goal, within the context of overall crime (Salfati, 2000).

An expressive behavior's goal is aggression/violence and an instrumental behavior's goal is nonaggressive, but aggression is necessary to achieve said goal (Salfati, 2000; Feshbach, 1964). Salfati (2000) applied the expressive/instrumental framework to the individual differentiation of both crime scene and offender characteristics of homicide offenders. Salfati (2000) differentiated homicide crime scenes and homicide offender characteristics to a dominant theme using stringent criteria. The implementation of stringent classification criteria ensures the model is robust in its classification ability (Salfati, 2000; Salfati, 2008).

Salfati (2000) additionally laid the groundwork for applying behavioral themes to the $A \rightarrow C$ equation by analyzing thematic consistency as displaying the same theme from an offender's actions to their characteristics (Salfati, 2000). Salfati (2000) found that 55% of the cases displayed thematic consistency within the expressive/instrumental framework. These findings provided a basis for the understanding of the $A \rightarrow C$ connection in terms of thematic consistency and identified the areas in which further research would be needed to develop a reliable theory of the expressive and instrumental nature of homicide offender behaviors (Salfati, 2000). Trojan and Salfati (2011) aimed to further this line of research by applying the thematic approach to the $A \rightarrow C$ profile with a focus on criminal history of homicide offenders as the offender characteristic (C). The authors were able to individually differentiate the crime scene and criminal history yet did not see thematic consistency in most cases (Trojan & Salfati, 2011). The lack of thematic consistency was attributed to most crime scenes having a hostile/expressive theme, meaning regardless of how an offender behaved in their criminal history, they were most likely to have an expressive crime scene (Trojan & Salfati, 2011). These findings were consistent with previous homicide crime scene research (Salfati, 2000).

The expressive/instrumental literature indicates that individual behaviors can be classified based on their underlying psychological construct and have the potential for identifying thematic consistency among offender behavior (Salfati, 2000). However, the literature to date focuses primarily on general homicide (Salfati, 2000; Trojan & Salfati, 2011). This literature found limitations in the $A \rightarrow C$ thematic consistency within the expressive/instrumental framework as homicide is found to have a mostly expressive crime scene.

Crime Scene Behaviors of Sexual Homicide Offenders

Analyzing a type of homicide that is more instrumental in nature would address the previous limitations of the expressiveness of homicide crime scenes in testing for $A \rightarrow C$ consistency (Trojan & Salfati, 2011). Sexual homicide is a type of homicide that is defined by the presence of sexual behaviors at the crime scene (Chan & Heide, 2016). Within the expressive/instrumental model, sexual actions have consistently been classified as instrumental, indicating the potential for sexual homicide to have more instrumental crime scenes (Greenall & Wright, 2020; Thijssen & DeRuiter, 2011; Salfati, 2000). As previous homicide literature has found limitations in observing an $A \rightarrow C$ consistency due to the expressiveness of homicide, narrowing the focus to sexual homicide may address this limitation (Trojan & Salfati, 2011).

The examination of $A \rightarrow C$ thematic consistency between sexual homicide offender's crime scene behaviors (A) and their criminal history (C) requires the understanding their frequent crime scene behaviors. The empirical method of identifying a sexual homicide is through the *observable* behaviors at the crime scene. A meta-analysis of 17 empirical research studies of the psychosocial characteristics of sexual homicide offenders proposed there should be physical evidence of sexual action, substitute sexual actions, legal confession of sexual motives or sexual elements from the offender's belongings to define a homicide as sexual (Chan & Heide, 2016). The key takeaway

from this definition is the recent shift towards having a definition rooted in empirical and measurable behaviors. Utilizing observable behaviors as a unit of analysis is a more objective and useful way of researching crime allowing for the development of empirical methods of profiling (Salfati, 2008). According to the current international literature, these observable behaviors include vaginal penetration, anal penetration, foreign object penetration, and the victim being found naked, partially naked, or with clothes torn (Beauregard, 2019; Greenall & Wright, 2020; Salfati, 2000).

In addition to identifying sexual behaviors that would define a homicide as sexual, it is important to identify nonsexual behaviors that often occur at the sexual homicide crime scene which may be salient to sexual homicide. The current literature indicates strangulation occurs in 35-57% of sexual homicide international cases (Beauregard, 2019) and sexual homicide offenders are more likely to murder the victim through strangulation than non-sexual homicide offenders (Skott et al., 2018). Additionally, sexual homicide offenders are more likely to stab or cut their victim, destroy, or remove evidence, and use a weapon intentionally in comparison to non-sexual homicide offenders (Chopin & Beauregard, 2019). In comparison to rape, sexual homicide has also been found to be a more violent crime overall, suggesting these crimes exist upon a continuum of behaviors rather than two separate acts (Salfati & Taylor, 2006). An additional behavior that occurs infrequently yet still may be specific to sexual homicide is dismemberment; as offenders have cited gaining sexual gratification from the act (Chopin & Beauregard, 2021, Holmes, 2017). While the current study does not focus on motivation, the research indicating that dismemberment may be linked to sexual behaviors warrants its discussion in the current study on sexual homicide.

To understand how sexual homicide offenders' crime scene behaviors may be analyzed thematically within the expressive/instrumental framework, the Crime Scene Variables section of

Table 1 provides a review of previous literature that has applied this framework. As seen in Table 1, Salfati's (2000) model of homicide offender crime scene behaviors provides a base for which these behaviors may be analyzed. This model proved successful in finding thematic distinction among homicide offender actions and classifying 62% of crime scenes to a dominant theme. Additionally, subsequent research has applied the expressive/instrumental framework and found thematic distinction within the crime scenes of homicides (Pecino-Latorre et al., 2019; Thijssen & DeRuiter, 2011), serial homicides (Salfati & Bateman, 2005) and stranger sexual homicides (Greenall & Wright, 2020). Table 1 provides a visual review of these additional studies and classification agreement to Salfati (2000). Most variables included in Salfati's (2000) model found agreement on theme classification with one or more of the additional studies providing additional support for the use of this model in current research (see Table 1). The subsequent research also provided support for additional variables not included in Salfati's (2000) model that may be useful in analyzing sexual homicide crime scene behaviors (Table 1). These variables included injury to the pelvic region, gagging, and dismemberment (See Table 1; Beauregard, 2019; Chan & Heide, 2016; Chopin & Beauregard, 2019).

Table 1

Crime scene and criminal history variables with supporting literature

		Crime Scene Variables					Criminal History Variables			
		Salfati, 2000	Greenall & Wright, 2020	Pecino-Latorre et al., 2019	Thijssen & DeRuiter, 2011	Salfati & Bateman, 2005		Trojan & Salfati, 2016; Trojan & Salfati, 2010	Youngs et al., 2016	Salfati, 2000
		Homicide	Stranger Sexual Homicide	Homicide	Homicide	Serial Homicide		Single Victim and Serial Homicide	General Offenders	Homicide
Expressive	Forensic Awareness	X	X	o	o		Alcohol	X	X	
	Weapon Brought to Scene	X	X	X	X	X	Assault	X	X	
	Binding	X		X	o	X	Dependent	X		
	Blunt Instrument	X	X				Disobey	X		
	Suffocation	X	o	X	o		Disorder	X	X	o
	Stabbing	X	X		X		Domestic Violence	X	X	X
	Shooting	X			X		Harassment	X	X	
	Injury to Torso	X					Sexual Crime	X	o	o
	Injury to Face	X			X		Vandalism	X	X	o
	Injury to Head	X	X		X		Vice-Sex	X	X	
	Injury to the Limbs	X			X					
	Body Hidden/Covered	X	X	X	X	X				
	Instrumental	Property Stolen	X		X	o		Armed Robbery	X	
Weapon Used from Scene		X		o	o		Auto-Theft	X	X	
Gagging						X	Burglary	X	X	X

Manual	X		o	X	Drug	X	o	
Arson	X		X		Fraud	X	X	o
Injury to Pelvic Region				X	Legal	X	o	
Injury to Neck	X				Robbery	X	X	
Vaginal Penetration	X	X			Theft	X	X	X
Anal Penetration	X	X			Theft-Related	X	X	
Foreign Object	X				Traffic	X		
Partially Dressed	X	X			Weapons	X	X	
Rips/Cuts Clothing	X	X		X				
Dismember				X				

Note. Criminal History Variables disorder, traffic, and drug were high frequency variables in previous literature and were assigned to themes for the purposes of this research. 'X' represents agreement with variable classification, 'o' represents authors classified the variable to the opposite theme, a blank cell represents the variable was not included in the study.

Criminal History of Sexual Homicide Offenders

Following the discussion of sexual homicide crime scene actions (A), understanding the criminal history (C) is the next step in discussing the A→C consistency of the sexual homicide offender. Current research indicates sexual homicide offenders often have a recorded criminal history, meaning these offenders are known to law enforcement in some capacity (Häkkinen-Nyholm et al., 2009; Sturup et al., 2019). This is important for law enforcement as this is information available to them and would be practical to include in an offender profile. While the sexual homicide offenders engage in sexual acts at their crime scene, research shows a history of sexual crime is present in only 23%-50% of sexual homicide offenders (Carter et al., 2017; Häkkinen-Nyholm et al., 2009; James et al., 2019; Sturup et al., 2019). These findings bring to question the difference between sexual homicide offenders who have committed sexual crimes in their past and those who have not committed sexual crimes in their past. Are these two types of sexual homicide offenders distinct in their actions and can they be differentiated?

Research has found that sexual homicide offenders often have a varied criminal history (Beauregard et al., 2018). This varied criminal history commonly includes violent crimes (33.8%-68.1%; Carter et al., 2017; Häkkinen-Nyholm et al., 2009; James et al., 2019; Sturup et al., 2019), burglary (42.9%-49.2%; Carter et al., 2017; James et al., 2019), and theft (64.7%; James et al., 2019). The research indicates that general homicide offenders are also likely to have a varied

criminal history (Salfati, 2000; Trojan & Salfati, 2016). Furthermore, Beauregard et al. (2018) compared sexual homicide offenders and sex offenders, finding sex offenders to have a less varied criminal history with a focus on sexual crimes. These findings highlight the question of whether sexual homicide offenders who have a varied criminal history without sexual crime may behave distinctly different (i.e., more akin to general homicide offenders) than sexual homicide offenders who have a history involving sexual crime (i.e., more akin to sex offenders). Additionally, are the offenders who have a more varied criminal history not including sexual crimes exhibiting underlying psychological consistency in the way they act at their crime scenes? The use of behavioral themes to analyze the criminal histories of these offenders may reveal distinct differences in these offenders.

To understand how sexual homicide offenders' criminal history may be analyzed thematically within the expressive/instrumental framework, the Criminal History Variable section of Table 1 provides a review of previous literature applying this framework to criminal histories. Trojan and Salfati's (2016) model of expressive and instrumental criminal histories provides the base for which these behaviors may be analyzed (see Table 1). Trojan and Salfati (2016) found an expressive and instrumental thematic split in the criminal histories of single victim homicide offenders, classifying 84% of criminal histories to the expressive/instrumental framework with a focus on the violence of the crimes within the criminal histories. Additional literature in this field has found expressive/instrumental thematic distinction within the criminal history of homicide offenders (Salfati, 2000), serial homicide offenders (Trojan & Salfati, 2010) and general offenders (Youngs et al., 2016). There are refinements that can be made to Trojan and Salfati's (2016) model that may be useful to analyzing sexual homicide offenders' criminal histories. First, the authors excluded disorder, traffic, and drug offenses as they were high frequency in their sample; however,

Table 1 shows a proposed thematic classification for these crimes which requires further analysis to support this classification. Additionally, Youngs et al.'s (2016) approach of combining robbery and armed robbery to reflect the crime of robbery overall may be useful as these crimes have both been classified as instrumental in the literature and the combination may help to narrow the psychological concept of the crime (see Table 1). Additionally, the inclusion of crimes that arose through the legal process may not be useful as these crimes were not primary intentions of an offender. Overall, most variables in Trojan and Salfati's (2016) model found agreement on theme classification with one or both additional studies providing further support for the use of this model in current research (see Table 1).

Applying the expressive/instrumental model to both the crime scene and criminal history of sexual homicide offenders aims to address the gap in the current literature: sexual homicide offenders appear to behave inconsistently, as their crime scenes will always include sexual behaviors, yet their criminal histories are often varied and often may not include sexual crime (Carter et al., 2017; Häkkänen-Nyholm et al., 2009; James et al., 2019; Sturup et al., 2019). Applying the expressive/instrumental framework to sexual homicide offenders aims to identify a *thematic* consistency between the crime scene and criminal history to address the appearing lack in consistency.

Aims

The current study aimed to narrow the focus of Trojan and Salfati's (2011) research to sexual homicide, to identify thematic consistency in a type of homicide that may display more balanced crime scene types across offenders, as there is a focus on instrumental actions at the crime scene (sexual actions). The current study aims to analyze the thematic consistency of sexual homicide offenders utilizing existing models of expressive/instrumental behavioral themes for

both crime scene behaviors (A; Salfati, 2000) and criminal history (C; Trojan & Salfati, 2016). The current study compared the thematic consistency between two types of sexual homicide offenders: and differentiating those with a criminal history of sexual offenses and those without a history of sexual offenses.

1. The first aim is to determine if Salfati's (2000) model of expressive/instrumental homicide crime scenes can be used to classify the crime scenes of sexual homicide offenders.
2. The second aim is to determine if sexual homicide offenders with a history of sexual crime engage in different crime scene themes than offenders without a history of sexual crime.
3. The third aim is to determine if Trojan and Salfati's (2016) model of expressive/instrumental homicide offender criminal histories can be used to classify the criminal histories of sexual homicide offenders.
4. The fourth aim is to determine if sexual homicide offenders with a history of sexual crime engage in different criminal history themes than offenders without a history of sexual crime.
5. The fifth aim is to determine if offenders are consistent in the theme engaged in at the crime scene and in their previous criminal history.

Methods

Data Source

The selected data for the current study comes from the Salfati (2015) Homicide and Rape Database which is based on US homicide files from the John Jay College of Criminal Justice and FBI Behavioral Research and Instruction Unit Collaborative Research Project. The data for this research were taken from closed, fully adjudicated state and local cases that were contributed from law enforcement agencies from around the country for the purpose of research. All identifiers,

including names of victims, suspects, offenders, officers, departments, correctional agencies, are removed. Only aggregate data are reported on.

The data within Salfati's (2015) Homicide and Rape database was previously coded using Salfati's (2010) Homicide Profiling Index – Revised to Include Rape and Sexual Offenses (HPI-R[®]). The HPI-R[®] is a coding dictionary used as a tool to collect data from police records and is the latest edition of the Homicide Profiling Index (Salfati, 2010). This is an updated version of the Homicide Profiling Index version 3 Trojan and Salfati (2011) used to code their data. The training for use of the HPI-R[®] coding dictionary is done in three stages that include coding, inter-rater agreement tests and a discussion of differences until an overall agreement reaches 90%. Salfati (2006) and Salfati and Osborne (2011) provide a full discussion of HPI-R[®] training and testing of the coders. The HPI-R[®] includes 312 variables categorized by the following: case file contents, pre-crime behaviors, crime scene behaviors, post-crime behaviors, victimology, and offender background (Salfati, 2010). All variables included in the current analysis follow a dichotomous coding format (0=absent, 1=present). Salfati and Osborne (2011) fully tested the HPI-R[®] for interrater reliability providing support for its use as a data collection tool.

The current study sample was comprised of sexual homicide offenders with one reported victim and a reported criminal history. In accordance with previous literature, criminal history was defined as arrests and convictions in an offender's criminal record (Trojan & Salfati, 2010). These offenders were then grouped based on their history of sexual crime: those with a history of sexual crime and those without a history of sexual crime. In the current study, a history of sexual crime is defined as having committed at least one offense of either sexual assault or a vice sex crime in order to represent a subgroup of offenders who have taken part in illegal activity involving sexual behaviors. A total number of 73 sexual homicide cases were included in the current study. Within

these 73 cases, 22 offenders had a history of sexual offenses, and 51 offenders did not have a history of sexual offenses.

Variables

Crime Scene Variables

This study aimed to identify a consistency of crime scene behavioral themes and criminal history behavioral themes using the expressive/instrumental thematic framework. To analyze the crime scenes included in this study, 25 individual crime scene behaviors were selected based on previous expressive/instrumental literature (see Table 1). Within the HPI-R©, these variables relate to the pre-crime behavior, crime scene behavior, and post-crime behavior categories, and were coded dichotomously (1=present, 0=absent). The crime scene variables were primarily based on Salfati's (2000) model of expressive and instrumental homicide offender crime scenes with the addition of gagging, dismemberment, and injury to pelvic region based on additional literature (see Table 1). With these variables added to Salfati's (2000) original model, the current study proposed a model tailored to sexual homicide offenders.

For crime scene variables to be included in the final model, they could not occur in more than 70% of cases or less than 5% of cases. Early investigative psychology literature suggested that variables that occur in high frequencies of 50% or higher are less useful in differentiating offenders, as most offenders will express this behavior (Salfati, 2000; Trojan & Salfati, 2016). As the field developed, it has moved towards using a higher cut off (Salfati & Sorochinski, 2021). In line with this, a crime scene action occurring in 70% of cases or higher was defined as high frequency. Additionally, previous research has indicated that variables that occur in low frequencies of approximately 5% or less have the potential to negatively impact the outcome of the multidimensional analysis (Trojan & Salfati, 2010). When variables occur in low frequencies

among few offenders, they are too easily influenced by their associations to other variables pulling them out of place (Trojan & Salfati, 2010). To avoid this methodological impact, crime scene variables with a frequency of 5% or lower were defined as low frequency and not included. Table 2 displays the frequencies of the 25 variables in the sample. As can be seen from Table 2, one variable (injury to neck) occurred in over 70% of cases and two variables (shooting and arson) occurred in below 5% of cases.

Utilizing the above criteria, a total number of 22 crime scene variables were included in the model for the current study (See Table 2). As the final model is based in Salfati's (2000) model, it will allow for a comparison of results, however, the added variables aim to place a focus on the crime of sexual homicide.

Table 2
Crime scene variable frequencies

Theme	Variable Name	N ^a	Percent (%)
Expressive	Injury to Torso	43	58.9
	Injury to Face	43	58.9
	Injury to the Limbs	41	56.16
	Forensic Awareness	30	41.1
	Stabbing	30	41.1
	Injury to Head	30	41.1
	Blunt Instrument	21	28.77
	Body Hidden/Covered	20	27.4
	Weapon Brought to Scene	13	17.81
	Binding	12	16.44
	Suffocation	7	9.59
Shooting	2	2.74	
Instrumental	Injury to Neck	52	71.23
	Partially Dressed	40	54.79
	Manual	32	43.84
	Injury to Pelvic Region	29	39.73
	Property Stolen	22	30.14
	Weapon Used from Scene	18	24.66
	Vaginal Penetration	18	24.66
	Rips/Cuts Clothing	13	17.81
	Gagging	9	12.33
	Anal Penetration	9	12.33
	Foreign Object	6	8.22
	Dismember	4	5.48
	Arson	3	4.11

Note. ^a All variables were coded as present or absent for the purpose of this study. Grey variables indicate variables that were not included in analysis.

Criminal History Variables

To analyze the criminal histories for this sample of sexual homicide offenders, the current study utilized Trojan and Salfati's (2016) model of expressive/instrumental homicide offender criminal histories as the foundation for the selection of 21 criminal history variables, due to its ability to classify a wide variety of crimes present in criminal history to the expressive/instrumental model (see Table 1). Within the HPI-R©, the variables selected belong to the offender background category and were coded dichotomously (1=present, 0=absent). It is important to note that two changes were made in the selection of variables from Trojan and Salfati's (2016) model prior to frequency analysis: the variables of robbery and armed robbery were combined in the current study in accordance with additional literature (Youngs et al. 2016) and crimes that arose during the legal process were not included in the current study.

Similar to the crime scene variables, for criminal history variables to be included in the final model, they could not occur in more than 70% of cases or less than 5% of cases. In the current sample, the criminal history variable of crime against a dependent was found to be low frequency and thus excluded (see Table 3). Utilizing the above criteria, a total number of 18 criminal history variables were included in the current study (see Table 3). As the model is based in Trojan and Salfati's (2016) model and the data was coded with an updated version of the coding instrument Trojan and Salfati (2016) used, the results of the current study will serve as a comparison with a narrowed focus on sexual homicide offenders.

Table 3
Criminal history variable frequencies

Theme	Variable Name	N ^a	Percent (%)
Expressive	Assault	31	42.47
	Sexual Crime	18	24.66
	Domestic Violence	14	19.18
	Disorder	13	17.81
	Vandalism	6	8.22
	Alcohol	4	5.48
	Disobey	4	5.48

	Harassment	4	5.48
	Vice-Sex	4	5.48
	Dependent	1	1.37
Instrumental	Theft	26	35.62
	Burglary	25	34.25
	Drug	18	24.66
	Traffic	16	21.92
	Auto-Theft	11	15.07
	Weapons	11	15.07
	Fraud	10	13.7
	Robbery	10	13.7
	Theft-Related	5	6.85

Note. ^a All variables were coded as present or absent for the purpose of this study. Grey variables indicate variables excluded from further analysis.

Analysis

The current study utilized Smallest Space Analysis (SSA) to analyze the presence of behavioral themes within the crime scenes and criminal histories of sexual homicide offenders. SSA was chosen due to its hypothesis testing capabilities, analyzing the co-occurrences of variables within a sample resulting in a statistical and three-dimensional visual output of variables that often occur together in the sample. As variables that occur together within the sample will appear close together in the visual three-dimensional SSA plot, the regional hypothesis states that variables that appear in the same region in the output are thematically similar (Canter & Heritage, 1990; Salfati, 2000). Within the current study, SSA serves to test the hypothesized expressive/instrumental themes of the crime scene and criminal history variables presented in Tables 2 and 3 respectively. In accordance with the regional hypothesis, if the crime scene and criminal history variables occur closely to variables of the same proposed theme, the presence of a thematic distinction is supported. Subsequently, a coefficient of alienation measures how well the SSA output fits the data, where a coefficient of alienation of .2 or lower is considered representative and a good fit (Borg & Lingoes, 1987).

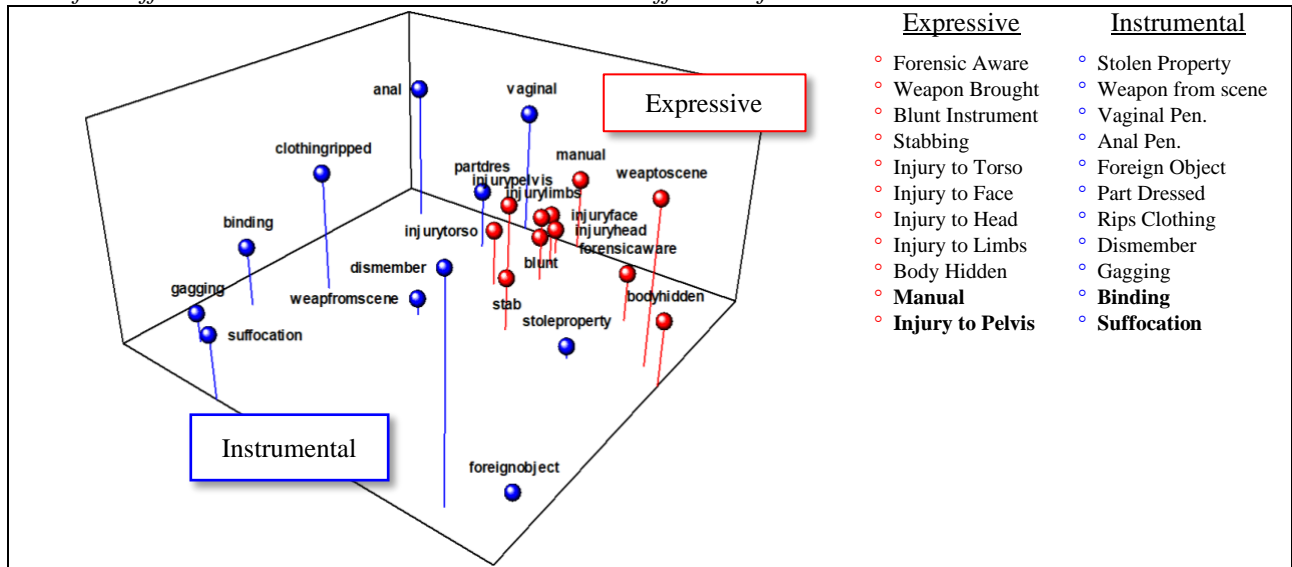
Results

Aim 1: Classification of sexual homicide crime scene behaviors: Expressive/Instrumental

The current study aimed to identify thematic consistency between sexual homicide offender’s crime scenes and their criminal histories, based on their history of sexual crime. The first aim was to test for the presence of an expressive/instrumental thematic distinction among the crime scene behaviors of the current sample of 73 sexual homicide offenders utilizing Salfati’s (2000) model. A Smallest Space Analysis (SSA) was performed to test for the presence of the hypothesized expressive/thematic distinction based on the co-occurrence of the 22 crime scene variables selected (see Figure 1).

Figure 1

Smallest space analysis of sexual homicide offenders expressive and instrumental crime scene behaviors. SSA of 73 offenders and 22 crime scene behaviors. Coefficient of alienation: 0.15



Note. Coefficient of alienation= 0.15, N=73, 22 Variables included. Bolded variables were classified to a different theme than the theme hypothesized, based on the SSA post analysis.

The SSA plot in Figure 1 confirmed the presence of an expressive/instrumental thematic distinction using Salfati’s (2000) model (see Table 2), showing two distinct regions where 82% of the hypothesized variables co-occur closely to variables in the hypothesized theme. The coefficient of alienation was .15 which indicates a very good fit of the spatial representation of the variables co-occurring in this sample.

Expressive Crime Scene Variables

Expressive variables are displayed towards the right of the SSA plot seen in Figure 1. 9 of the 11 hypothesized expressive variables were classified as expressive in the current sample of sexual homicide offenders in agreement with Salfati's (2000) model (see Figure 1). The variables manual violence and injury to pelvic region were hypothesized as instrumental and appeared between the instrumental and expressive variables on the plot. However, they co-occurred most frequently with expressive variables and as such were classified as expressive for the current sample (see bolded variables in Figure 1).

Manual violence was hypothesized to be instrumental based on Salfati's (2000) model. However, manual violence co-occurs highly with other expressive actions such as the variables of injury to face, injury to limbs, and blunt instrument, and only co-occurred highly with one instrumental variable, partially dressed victim. The expressive nature of manual violence in this sample agrees with Pecino-Latorre et al.'s (2019) findings (see Table 1). This may indicate that in sexual homicide, an act of manual violence is not used as an instrument simply to aid in the completion of the homicide but is a central point of the action providing evidence that sexual homicide is a particularly violent homicide.

Injury to the pelvic region was added to Salfati's (2000) model and hypothesized to be instrumental (Thijssen & DeRuiter, 2011). However, injury to pelvic region co-occurs highest with other expressive actions in the sample such as injury to limbs, injury to torso, injury to face, and injury to head. The current data set coded vaginal penetration and injury to pelvic region as two distinct acts, separating the sexual act to the pelvis from the violent act to the pelvis, making the variable of injury to pelvis better align theoretically with the expressive theme. This may indicate when a sexual homicide offender commits an act of physical violence towards the pelvic region of

a victim, this may not be a tactic needed to complete the sexual crime but may be a form of expressive violence towards the victim.

Instrumental Crime Scene Variables.

Instrumental variables are displayed to the left of the SSA plot (see Figure 1). 9 of the 11 hypothesized instrumental variables were classified as instrumental in the current sample of sexual homicide offenders (see Figure 1) supporting previous expressive/instrumental literature outlined in Table 1. The variables suffocation and binding were hypothesized as expressive but co-occurred highly with the instrumental variables and appeared far from the expressive variables in Figure 1. These variables were classified as instrumental in the current sample of sexual homicide offenders (see bolded variables in Figure 1).

Suffocation was hypothesized to be expressive based on Salfati's (2000) model; however, this variable appeared far from the expressive variables on the SSA plot. Suffocation appeared closer and co-occurred highest to the instrumental variable gagging (see Figure 1). As suffocation is a lower frequency variable (9.59%), its positioning is heavily influenced by this high co-occurrence. Salfati's (2000) model did not include gagging, providing one explanation for why the classification differed. However, the result for the current sample supports previous sexual homicide literature classifying suffocation as an instrumental act which may indicate the instrumentality of suffocation may be related to sexual homicide (Greenall & Wright, 2020). The importance of this variable is the control gained, meaning sexual homicide offenders may suffocate a victim in order to control so as to complete the crime, aligning to the instrumental theme theoretically as well (Feshbach, 1964).

Similarly, binding was classified as expressive in Salfati's (2000) model; however, this variable also co-occurred less frequently with the expressive variables and more frequently to the

instrumental variable gagging (see Figure 1). The results support Thijssen and DeRuiter's (2011) research classifying binding as instrumental. Similar to suffocation, when a sexual homicide offender binds a victim, it may also serve to suppress a victim, allowing the offender to further act out the crime. This aligns the variable of binding theoretically to the instrumental theme as well (Feshbach, 1964).

Expressive/Instrumental Crime Scene Classification.

The current aim confirmed the presence of an expressive/instrumental distinction among the crime scene variables selected and supported the use of Salfati's (2000) model with added variables focused on sexual homicide (see Figure 1). To analyze the themes of the crime scenes of sexual homicide offenders, the next step was to classify the crime scenes utilizing the final model (see Figure 1). Crime scenes were classified as either expressive, instrumental, or hybrid using Salfati's (2000) stringent criteria. Salfati's (2000) stringent criterion indicates that to be classified as a dominant theme, there must be two times the percentage of variables present from one theme over the other. If there is the same percentage of variables present from each theme, this would be classified as hybrid. Any combination of variables that does not fit this criterion is considered unclassifiable (Salfati, 2000).

Utilizing the model in Figure 1, 85% (n= 62) of crime scenes were classified as either expressive, instrumental, or hybrid. Of these classifiable themes, 64.4% (n= 47) were classified as expressive, 13.7% (n= 10) were classified as instrumental, and 6.9% (n=5) were classified as hybrid. The majority of sexual homicide crime scenes were classified as expressive in the current study (see Table 4).

Table 4

Classification of 73 sexual homicide offenders' expressive and instrumental crime scenes

Theme	Expressive	Instrumental	Hybrid	Unclassifiable
n	47	10	5	11
% Of Total (N=73)	64.4	13.7	6.9	15.1

% Of Classifiable (N=62)	75.8	16.1	8.1	-
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Note. Classifiable refers to crime scenes that were classified as Expressive, Instrumental, or Hybrid

Aim 1 Summary

Aim 1 set to determine if the crime scenes of sexual homicide offenders can be classified within expressive/instrumental thematic framework, utilizing Salfati's (2000) model. The results displayed the presence of an expressive/instrumental split among the crime scene variables chosen supporting the use of Salfati's (2000) model with additional variables focusing on sexual homicide. The variables gagging, injury to pelvic region, and dismemberment were added to her original model based on previous sexual homicide literature to tailor this model to sexual homicide offenders.

In the current sample, 85% of the sexual homicide offender crime scenes were able to be classified, supporting the use of the model seen in Figure 1 to classify sexual homicide offender crime scenes to the expressive/instrumental thematic framework. Additionally, the majority of the classifiable crime scenes were classified as expressive, providing evidence for the expressive nature of a sexual homicide crime scene.

Aim 2: Comparing crime scene themes of sexual homicide offenders by history of sexual crime

To compare the thematic consistency of 73 sexual homicide offenders based on their history of sexual crime, the second aim of the study was to determine if the 22 sexual homicide offenders with a history of sexual crime behave thematically different at their crime scene than the 51 offenders without a history of sexual crime. The crime scenes were classified using Salfati's (2000) stringent criteria with the model outlined in Figure 1. As seen in Table 5, the crime scenes of both groups of sexual homicide offenders are predominantly expressive.

Table 5

Chi square analysis of crime scene expressive/instrumental themes of 73 sexual homicide offenders; 51 offenders with a history of sexual crime and 22 offenders without a history of sexual crime

Sexual Homicide Offender Type <i>n</i> (%)	Crime Scene Theme <i>n</i> (%)			
	Expressive	Instrumental	Hybrid	Unclassifiable
With History of Sexual Crime	14 (63.6)	1 (4.6)	4 (18.2)	3 (13.6)
Without History of Sexual Crime	33 (64.7)	9 (17.7)	1 (1.9)	8 (15.7)
χ^2	.008	2.232	6.339	.050
<i>p</i>	1.000	.165	.027* ^a	1.000

Note. **p* value <.05, ^aFischer's exact test

Next, a series of chi square tests of independence were performed to test the significance of the relationships between crime scene type and the two groups of sexual homicide offenders (see Table 5). A chi square test of independence was chosen due to its ability to statistically compare nonparametric data, nominal variables, and identify significant relationships between these types of variables. If there is a significant relationship between type of crime scene and group of offenders (with or without history of sexual assault), this would provide support for the thematic difference of these offenders based on the expressive/instrumental framework.

In the current sample, sexual homicide offenders without a history of sexual crime were significantly more likely to have a hybrid crime scene than offenders without histories of sexual crime, $X^2(1, N = 73) = 6.34, p = .027$. However, there were no significant relationships found between the two groups of sexual homicide offenders and the expressive and instrumental crime scene types (see Table 5). This is attributed to the finding that sexual homicide offenders with a history of sexual crime are similarly likely to have an expressive crime scene when compared to offenders without a history of sexual crime (see Table 5).

Aim 2 Summary

Aim 2 set to determine if sexual homicide offenders with a history of sexual crime behave thematically different than offenders without a history of sexual crime. The current findings indicate that the crime scenes of sexual homicide offenders with and without histories of sexual crime are predominantly expressive. Additionally, offenders with a history of sexual crime are more likely to have a hybrid crime scene than offenders without a history of sexual crime. There

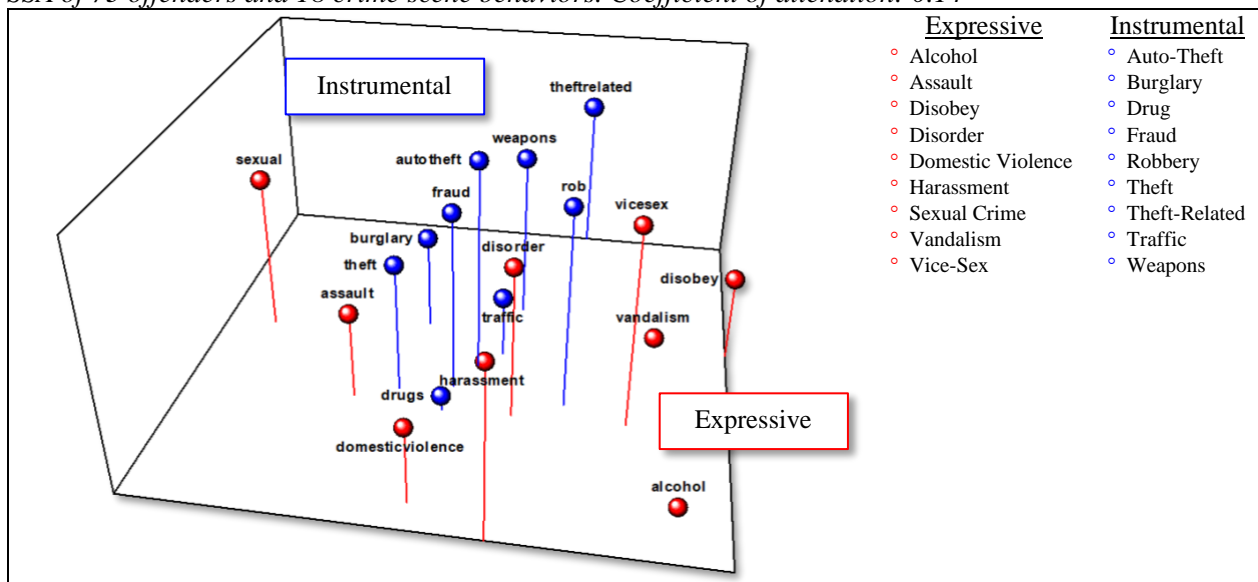
was no statistical difference in the prevalence of expressive or instrumental crime scenes in the two groups of sexual homicide offenders.

Aim 3: Expressive/Instrumental thematic distinction in criminal history

The third aim was to test for the presence of an expressive/instrumental thematic distinction among the criminal histories of the 73 sexual homicide offenders utilizing Trojan and Salfati's (2016) model. A second Smallest Space Analysis (SSA) was performed to test for the presence of the hypothesized expressive/instrumental thematic distinction based on the co-occurrence of the 18 criminal history variables selected (see Figure 2).

Figure 2

Smallest space analysis of sexual homicide offenders expressive and instrumental criminal history actions. SSA of 73 offenders and 18 crime scene behaviors. Coefficient of alienation: 0.14



Note. Coefficient of alienation= 0.14, N=73, 18 variables included.

The SSA plot in Figure 2 confirmed the presence of an expressive/instrumental thematic distinction among the criminal history variables displayed in Table 3, showing two distinct regions where the variables hypothesized to each theme appear in close proximity to each other. The coefficient of alienation was .14 showing a very good fit of the spatial representation of the variables co-occurring in this sample. As seen in Figure 2, the expressive/instrumental thematic

distinction in the current sample confirms the use of Trojan and Salfati's (2016) model for sexual homicide offenders' criminal histories with all variables included in the current analysis classified to their hypothesized theme (see Table 3).

Expressive Criminal History Variables

Expressive variables are displayed towards the bottom of the SSA plot in Figure 2. The hypothesized expressive criminal history theme outlined in Table 3 was confirmed. In the current sample, the expressive crimes were clustered similarly to Trojan and Salfati's (2016) expressive variables, where directly violent (assault, domestic violence, sexual crime, vandalism) and indirectly violent (harassment) crimes appear close together in the SSA plot (see Figure 2). Additionally, crimes that were anti-social in nature (disobey, disorder, alcohol) or exploitive (vice-sex) appeared closely in the SSA plot (see Figure 2). A difference in clustering is the co-occurrence of sexual crimes with other directly violent crimes, rather than exploitive crimes (Trojan & Salfati, 2016). In the current sample, only four offenders committed vice crimes, and these offenders did not have sexual assault reported in their criminal history, which accounted for the difference in clustering. These results indicate that in sexual homicide offenders, sexual crimes in their criminal history may indicate the presence of other directly or indirectly violent crimes and may be a more of an act of direct violence rather than exploiting another person.

Instrumental Criminal History Variables

Instrumental variables are displayed toward the top of the SSA plot seen in Figure 2. The hypothesized instrumental criminal history theme outlined in Table 3 was confirmed. Offenses related to the theft of physical objects (auto-theft, theft, theft-related, burglary, and robbery) or offenses that are committed to attain an ulterior goal (drug, fraud, weapons) were classified as instrumental, confirming Trojan and Salfati's (2016) model as well as the theoretical basis of the

instrumental theme (Feshbach, 1964). Traffic offenses were also classified as instrumental in the current sample as this offense co-occurred highly with theft, burglary, and drug use.

Expressive/Instrumental Criminal History Classification

The third aim of the current study was to test for a thematic distinction among the criminal history variables of sexual homicide offenders. The results confirmed the presence of an expressive/instrumental distinction among the criminal history variables selected. The next step was to classify the crime scene utilizing the classification variables seen in Figure 2. The criminal histories were classified to a theme of expressive, instrumental, hybrid or unclassifiable based on Salfati's (2000) stringent criterion (See Table 6).

Utilizing Salfati's (2000) criterion, 90.42% (n= 66) of criminal histories were classified as either expressive, instrumental, or hybrid. Of these classifiable themes, 31.51% (n= 23) were classified as expressive, 39.73% (n= 29) were classified as instrumental, and 19.18% (n=14) were classified as hybrid.

Table 6

Classification of 73 sexual homicide offenders' expressive and instrumental criminal histories

Theme	Expressive	Instrumental	Hybrid	Unclassifiable
n	23	29	14	7
% Of Total (N=73)	31.5	39.7	19.2	9.6
% Of Classifiable (N=66)	34.9	43.9	21.2	-

Note. Classifiable refers to crime scenes that were classified as Expressive, Instrumental, or Hybrid

Aim 3 Summary

Aim 3 set to determine if the criminal history of sexual homicide offenders can be classified within the expressive/instrumental thematic framework, utilizing Trojan and Salfati's (2016) model as the basis for the hypothesized variable themes. The results displayed the presence of an expressive/instrumental split among the criminal history variables chosen and 90% of the sexual homicide offender criminal histories were able to be classified utilizing a stringent criterion. These

results supported the use of Trojan and Salfati's (2016) model to classify the criminal history of sexual homicide offenders.

Aim 4: Comparing criminal history themes of sexual homicide offenders by history of sexual crime

The fourth aim was to determine if the 22 sexual homicide offenders with a history of sexual crime behave thematically different in their criminal histories than the 51 offenders without a history of sexual crime. The criminal histories were classified using Salfati's (2000) stringent criteria utilizing Trojan and Salfati's (2016) model displayed in Figure 2.

As seen in Table 7, offenders with a history of sexual crime were most likely to have an expressive criminal history, followed by hybrid, and instrumental. Offenders without a history of sexual crime were most likely to have an instrumental criminal history, followed by expressive, and hybrid (see Table 7). A series of chi square tests of independence were performed to test the significance of the relationship between type of criminal history theme and the two groups of offenders (see Table 7). Sexual homicide offenders without a history of sexual crime were significantly more likely to have an instrumental criminal history than sexual homicide offenders with a history of sexual crime in the current sample, $X^2(1, N = 73) = 8.95, p = .004$. This provides initial evidence for the thematic difference of sexual homicide offender criminal histories based on their history of sexual crime. There were no significant relationships in the prevalence of expressive or hybrid criminal history themes between the two groups of offenders (see Table 7).

Table 7

Chi square analysis of criminal history expressive/instrumental themes of 73 sexual homicide offenders; 51 offenders with a history of sexual crime and 22 offenders without a history of sexual crime

Sexual Homicide Offender Type <i>n</i> (%)	Criminal History Theme <i>n</i> (%)			
	Expressive	Instrumental	Hybrid	Unclassifiable
With History of Sexual Crime	8 (36.4)	3 (13.6)	7 (31.8)	4 (18.2)
Without History of Sexual Crime	15 (29.4)	26 (51)	7 (13.7)	3 (5.9)
χ^2	.344	8.952	3.246	2.682
<i>p</i>	.591	.004*	.104	.188 ^a

Note. * *p* value <.05, ^a Fischer's exact test

Aim 4 Summary

Aim 4 set to determine if sexual homicide offenders with a history of sexual crime engage in different criminal history themes than offenders without a history of sexual crime. The current findings indicate that sexual homicide offenders without a history of sexual crime were more likely to have an instrumental criminal history theme. This finding provides evidence that there may be a thematic difference in the way sexual homicide offenders with and without histories of sexual crime behave in their history of crimes. However, there was no statistical difference in the prevalence of expressive or hybrid criminal histories in the two groups of sexual homicide offenders. These results provide preliminary evidence of the presence of thematic differences among the criminal history behaviors of sexual homicide offenders based on their history of sexual crime.

Aim 5: Analyzing thematic consistency of sexual homicide offenders based on their history of sexual offenses: Expressive/Instrumental

The current study aimed to utilize the expressive/instrumental framework to identify thematic consistency between the crime scene and criminal history of sexual homicide offenders and identify a thematic difference in offenders with and without histories of sexual crime. The final aim was to analyze the thematic consistency of the 73 sexual homicide offenders and compare the prevalence of thematic consistency between the two groups: with a history of sexual crime (n=22) and without a history of sexual crime (n=51).

Table 8

Chi square analysis of crime scene to criminal history thematic consistency between 73 sexual homicide offenders; 51 offenders with a history of sexual crime and 22 offenders without a history of sexual crime

Criminal History Theme <i>n</i> (%)	Crime Scene Theme <i>n</i> (%)							
	Expressive		Instrumental		Hybrid		Unclassifiable	
	History Sex Crimes	No History Sex Crimes	History Sex Crimes	No History Sex Crimes	History Sex Crimes	No History Sex Crimes	History Sex Crimes	No History Sex Crimes
Expressive	5 (22.7)	9 (17.6)	1 (4.6)	2 (3.9)	2 (9.1)	1 (1.9)	0 (0)	3 (5.9)
Instrumental	2 (9.1)	17 (33.3)	0 (0)	7 (13.7)	0 (0)	0 (0)	1 (4.6)	2 (3.9)
Hybrid	5 (22.7)	6 (11.8)	0 (0)	0 (0)	1 (4.6)	0 (0)	1 (4.6)	1 (1.9)

Unclassifiable	2 (9.1)	1 (1.9)	0 (0)	0 (0)	1 (4.6)	0 (0)	1 (4.6)	2 (3.9)
χ^2	.007	.206	.165	3.140	.105	.162	.536	6.264
<i>p</i>	1.000	.751	1.000 ^a	.140 ^a	1.000 ^a	1.000 ^a	.470 ^a	.061 ^a

Note. ^a Fischer's exact test. "History Sex Crimes" represents offenders who have a history of sexual crime. "No History Sex Crimes" represents offenders who do not have a history of sexual crime. Bolded figures represent the % (n) of thematic consistency defined as expressing the same theme from A (crime scene actions) to C (criminal history behaviors).

80% of sexual homicide offenders had a classifiable case where both their crime scene and criminal history were classified to a theme of expressive, instrumental, or hybrid (see Table 8). Only 37.9% of the classifiable cases displayed thematic consistency. 37.5% of the offenders with a history of sexual crime showed thematic consistency with the highest rate of consistency in the expressive theme followed by the hybrid theme (see Table 8). 38.1% of the offenders without a history of sexual crime showed thematic consistency with the highest rate of consistency also in the expressive theme followed by the instrumental theme (see Table 8).

There were no significant relationships found in the type of thematic consistencies between sexual homicide offenders with and without histories of sexual crime (see Table 8). The lack of significant findings can be attributed to the expressive nature of the majority of crime scenes in the classifiable cases, regardless of criminal history theme. 75% of offenders with a history of sexual crime and 76.2% of offenders without a history of sexual crime had an expressive crime scene.

Aim 5 Summary

The final aim of the current study set to determine if sexual homicide offenders with a history of sexual crime behave thematically different than offenders without a history of sexual crime using the expressive/instrumental framework. The results indicate the expressive/instrumental framework can be used to classify sexual homicide cases. However, the current results show a low rate of thematic consistency among sexual homicide offenders, as the majority of the sample had an expressive crime scene. Additionally, there was no difference

observed in rates of thematic consistency or type of thematic consistency between sexual homicide offenders with and without histories of sexual crime.

Discussion

The aim of the current study was to identify thematic consistency of Expressiveness and Instrumentality between sexual homicide offenders' crime scene actions (A) and their prior offending characteristics (C) (based on criminal history with or without sex crimes), where their A and C were classified to the same theme. This is the basis for the $A \rightarrow C$ equation, which summarizes the theory behind the practice of offender profiling (Salfati, 2008). The current study did not observe any significant relationships in overall thematic consistency of these groups of sexual homicide offenders. However, there were significant thematic differences in the offending characteristics and criminal histories, indicating these offenders may be thematically distinct.

Classification of sexual homicide crime scene behaviors: Expressive/Instrumental

As a first step to analyze the thematic consistency between crime scenes and criminal histories of sexual homicide offenders, the current study utilized Salfati's (2000) model of expressive/instrumental homicide crime scenes in the classification of the crime scenes. An expressive/instrumental distinction was observed in the current sample, confirming the use of this model for the current sample. The presence of an expressive/instrumental split in the crime scenes of sexual homicide offenders aligns with previous homicide (Pecino-Latorre et al., 2019; Thijssen & DeRuiter, 2011; Salfati, 2000), serial homicide (Salfati & Bateman, 2005), and sexual homicide (Greenall & Wright, 2020) literature. In the current sample, 85% of crime scenes were classified to Expressive, Instrumental, or Hybrid themes, further displaying the utility of this framework in the classification of crime scenes.

These findings suggest that the expressive/instrumental framework is consistently successful in differentiating crime scenes, however, previous literature has often classified crime scene actions to themes inconsistently (Greenall & Wright, 2020; Pecino-Latorre et al., 2019; Thijssen & DeRuiter, 2011; Salfati, 2000). This was observed as manual violence, suffocation, and binding were classified to opposite themes than hypothesized from Salfati's (2000) model. As these variables were inconsistent in their previous classifications across literature (Greenall & Wright, 2020; Pecino-Latorre et al., 2019; Thijssen & DeRuiter, 2011; Salfati, 2000), it may indicate that the classification of these variables is sample dependent and may not be useful in defining a theme for future models.

Comparing crime scene themes of sexual homicide offenders by history of sexual crime

As a first step to determine if sexual homicide offenders with and without histories of sexual crime behave thematically different, crime scene themes were compared. In the current sample, offenders with a history of sexual crime were significantly more likely to have a hybrid crime scene than those without a history of sexual crime. As hybrid crime scenes require an equal number of actions from each theme to be present, this may indicate that offenders who have committed sexual crimes in their past are likely to be more varied in their approach to sexual homicide. However, the current results make it unclear which behaviors are often included in this hybrid theme, making it difficult to draw conclusions about these types of offenders. Previous literature suggested that rape and sexual homicide belong on a continuum of expressive violence (Salfati & Taylor, 2006). If the offenders with a hybrid crime scene theme have more of the sexual actions in the instrumental theme and directly violent actions in the expressive theme to make up the hybrid theme, this could indicate that these offenders focus on sexual behaviors in crime and progressed in violence resulting in sexual homicide along this continuum (Salfati & Taylor, 2006).

Analyzing this hybrid theme to test for which behaviors are most closely related to the theme in future research would help to best understand the relationship between the hybrid theme and sexual homicide offenders with a history of sexual crime.

The lack of significant relationships between the expressive and instrumental crime scene themes was due to the majority of crime scenes being classified as expressive, regardless of sexual crime history. These findings align with previous homicide literature finding that homicide crime scenes are likely to be expressive in nature (Salfati, 2000; Trojan & Salfati, 2011). This was an unexpected outcome as a sexual homicide crime scene is defined by its sexual actions, which are classified as instrumental actions throughout literature (Greenall & Wright, 2020; Thijssen & DeRuiter, 2011; Salfati, 2000). However, these findings do align with Salfati and Taylor's (2006) previously discussed findings that sexual homicide is a particularly violent crime.

Expressive/Instrumental thematic distinction in criminal history

To analyze the criminal histories of the current sample, Trojan and Salfati's (2016) model of expressive/instrumental criminal histories was utilized in the classification of the current sample of criminal histories. An expressive/instrumental distinction was observed confirming the use of this model in the classification of sexual homicide offender criminal histories. These findings align with previous literature observing an expressive/instrumental thematic distinction among the criminal histories of homicide offenders (Salfati, 2000), serial homicide offenders (Trojan & Salfati, 2016), and general offenders (Youngs et al. 2016). While every criminal history variable was classified to its hypothesized theme, there was a notable difference in the clustering of sexual crimes when compared to Trojan and Salfati's (2016) results, as sexual assault clustered with other violent crimes rather than exploitive crimes. This clustering provides preliminary evidence that

sexual crimes may be more psychologically similar to violent crimes for sexual homicide offenders, where they are not as similar to homicide offenders.

In the current sample, 90% of criminal histories were classified to expressive, instrumental, or hybrid themes. The distribution of expressive and instrumental criminal histories aligned with previous homicide criminal histories (Trojan & Salfati, 2016). This indicates sexual homicide offenders may be similar in their overall types of criminal histories to homicide offenders. Considering the differences in clustering, future research should directly compare the expressive/instrumental criminal history themes of sexual and general homicide offenders to test for expressive/instrumental differences in their criminal history.

Comparing criminal history themes of sexual homicide offenders by history of sexual crime

The next step was to compare criminal history themes between sexual homicide offenders with and without histories of sexual crime. Previous homicide literature has observed an even distribution of expressive/instrumental criminal histories, and the current study observed similar distributions in the sexual homicide sample as a whole (Trojan & Salfati, 2016). It was not until these groups were separated that a significant difference was observed, indicating that these offenders may be thematically distinct. Sexual homicide offenders with no history of sexual crime were significantly more likely to have an instrumental criminal history than offenders with a history of sexual crime. These results provide preliminary evidence that these offenders are thematically distinct in their criminal histories. Previous literature has not analyzed the expressive/instrumental criminal histories of sexual homicide offenders by separating them based on their history of sexual crime. However, previous literature has found that sexual homicide offenders likely to commit violent crimes, theft, and burglary (Beauregard et al., 2018). The current findings may indicate that it is the offenders who do not commit sexual crimes that are responsible

for the high rates of theft and burglary. However, it is outside the scope of the current study to analyze the statistical breakdown of each individual variable as they relate to the two groups of offenders, therefore additional research would be necessary to support this indication.

Analyzing Expressive/Instrumental thematic consistency of sexual homicide offenders based on their history of sexual offenses

To fully address the A→C profile, the final aim analyzed the thematic consistency from crime scene behaviors (A) to criminal history (C), between sexual homicide offenders with and without sexual crime. An offender would have displayed thematic consistency if their crime scene and criminal history was classified to the same theme of either expressive, instrumental or hybrid. In the current sample of sexual homicide offenders, there was a low rate of thematic consistency, and sexual homicide offenders with and without histories of sexual crime did not differ significantly in their rates of thematic consistency. Additionally, sexual homicide offenders with and without histories of sexual crime did not differ significantly in the types of thematic consistency. The lack of significant findings can be attributed to most sexual homicide offenders having an expressive crime scene, regardless of history of sexual crime or criminal history behavioral themes, extending the findings of both Salfati (2000) and Trojan and Salfati (2011) to sexual homicide specifically. These results speak to the expressiveness of sexual homicide, supporting previous findings that sexual homicide exists on an expressive continuum of sexual crime (Salfati & Taylor, 2006). These results also support previous findings that various types of sexual crime is expressive, indicating it is closer psychologically to other violent crimes (Trojan & Salfati, 2016). This may indicate that the sexual components of a sexual homicide for some offenders is just another way to express violence in this crime, not an instrumental component to completing the crime for the offender, accounting for the often lack of other sexual criminal history

in sexual homicide offenders (Carter et al., 2017; Häkkänen-Nyholm et al., 2009; James et al., 2019; Sturup et al., 2019).

Summary

Overall, the current study did not observe any significant relationship between the thematic consistency of sexual homicide offenders with and without a history of sexual crime due to the overall expressiveness of their crime scenes. These findings suggest that a sexual homicide offenders crime scene is likely to be expressive, and an expressive crime scene may not be useful in identifying the sexual nature, expressiveness, or instrumentality of the crimes in their past. However, the study did observe significant thematic differences between these two groups in their offending characteristics and criminal history themes. The current study found that sexual homicide offenders with a history of sexual crime are more likely to have a hybrid crime scene. Additionally, sexual homicide offenders without a history of sexual crime are more likely to have an instrumental criminal history. These findings provide preliminary support for future research in the differentiation of these types of offenders utilizing the expressive/instrumental framework.

Limitations and Future Directions

Considering these findings, it is important to note the limitations of the current study. The most important limitation regarding the current study is the sample size acquired. The current study includes a total of 73 sexual homicide offenders. There were 51 offenders who did not have a history of sexual crimes and only 22 offenders with a history of sexual crime. While this ratio fits with the current literature which states sexual crime is present in 23%-50% of sexual homicide offenders' criminal history (Carter et al., 2017; Häkkänen-Nyholm et al., 2009; James et al., 2019; Sturup et al., 2019), due to the overall small sample size it does prove to be a limitation regarding

the overall generalization of these findings. Additionally, this data is drawn strictly from the United States and therefore the findings can only be discussed within the context of the United States.

The documentation of past criminal history of the sample was an additional limitation. The data used was not collected for research purposes and included criminal history from police files or as stated by witnesses or the perpetrator. Only crimes documented in police files were included in the data collection. There is a possibility that some of the offender's past crime may not have been reported consistently across records or at all which is a limitation as to the accuracy of the criminal history behavioral theme results for research purposes. Moving forward, collecting data on sexual homicide offenders with research in mind, specifically focusing on the criminal history data may reveal patterns where the current study could not.

The current study also chose to include vice crimes in the requirement for having sexual crimes in the criminal history. This aimed to include any illegal activity that involved sex, rather than focusing on specifically violent sexual crime. However, only four offenders had a history of sexual crime and none of those offenders had a history of sexual assault. This could indicate that these offenders differ from offenders who have a history of sexual violence. This did not impact the outcomes of these results, as it was a small portion of the sample, and they were consistent with having predominantly expressive crime scenes. However, future research may benefit from comparing themes of offenders who have commit non-violent vice crime vs. offenders who have a history of sexual violence to determine if the grouping of these offenders is helpful for the offender profile of sexual homicide offenders.

Conclusion

While the expressive/instrumental framework was successful in providing preliminary evidence that sexual homicide offenders with and without histories of sexual crime are

thematically distinct, it was unsuccessful in providing significant findings addressing how sexual homicide offenders behave consistently from their crime scene (A) to their criminal history (C). Sexual homicide was hypothesized to be a more instrumental form of homicide due to the presence of sexual behaviors. However, similar to homicide, the majority of sexual homicide crime scenes were expressive, resulting in a lack of observed thematic consistency (Trojan & Salfati, 2011). These results do provide further insight into the sexual homicide offender, indicating that regardless of previous sexual crime, this offender will behave in a predominantly violent/expressive manner.

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