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## Frequency of Serial Sexual Homicide Victimization in Virginia for a Ten-Year Period

**ABSTRACT:** The frequency of serial sexual murder has been widely discussed, and estimates of the number of victims in the United States range from 500 to 6000 per year. This study attempted to quantify the number of serial sexual murder victims in Virginia for a ten-year period. Multiple sources of data were utilized, including Federal Bureau of Investigation (FBI) case files, FBI's Violent Criminal Apprehension Program (ViCAP) reports, Virginia State Police ViCAP reports, Virginia Homicide Investigators Association, and the Virginia Division of Forensic Science DNA database, to effectively cull out all the known serial sexual murder victims for the given time period. Review of these records revealed a total of 28 victims of serial sexual murder, compared with a total of 5183 murder victims for the same ten-year period. The frequency of serial sexual victimization was 0.5% of all homicides for the given period. These results highlight the unusual frequency of serial sexual murder.

**KEYWORDS:** forensic science, sexual homicide, sexual murder, serial murder, lust killing

The subject of serial murder has been the focus of a tremendous amount of attention, research, and even exploitation within the past two decades. Society in general, and American society in particular, have been both fascinated and repulsed by serial murder. Law enforcement agencies have devoted significant amounts of their budgets and manpower to combat actual and perceived serial murder threats. Public perception of the threat generated by these investigations in the community creates an overwhelming feeling of vulnerability. Serial murder also has created a sizable presence in the entertainment industry as evidenced by the dozens of movies, television shows, books, etc., that are produced every year for public consumption.

Serious study and research in serial murder has increased significantly in law enforcement (1–4), and academia (5–14). Most criminologists have developed theories regarding serial murder, the offenders who commit serial murder, and the frequency of serial murder based largely on limited case studies, literature review, and information provided by the mass media. Most researchers have limited access to actual case materials or police reports. Empirically based serial murder research in this area is very scant (8,14–16).

The purpose of this present study was to determine the frequency of serial sexual murder victimization in the State of Virginia for a ten-year period (1987–1996). It was hypothesized that the actual percentage of murder victims killed by a serial sexual killer would be less than 1%. This study did not attempt to explain why individuals commit this type of crime. However, determining the actual magnitude of the problem would not only assist law enforcement agencies in understanding the phenomenon of serial murder but would also address the perceived vulnerability of communities in the United States.

No uniform definition of serial murder is in use among academia or law enforcement (1,6–8,17). Definitions differ in several areas to include how many victims are required for the offender to be listed

as a “serial killer,” the amount of time between killings, and the offender’s motivation. There is even more discrepancy regarding the number of serial offenders currently operating in the United States and the number of serial murder victims.

Several categories of multiple murder have been developed over the past several decades. These categories differ greatly depending on the author’s operational definition. In fact, some authors provide little or no definition at all. Most criminologists include the following elements in their definitions: offender’s motivation, number of victims, time sequencing, legal definition, and legal disposition. Summarily, multiple murder is defined as one or more offenders killing more than one victim. There are three types of multiple murders: mass, spree, and serial.

Mass murder involves killing multiple victims in one place at one time (7, 9,13,18,19). Often this type of offender either kills himself at the crime scene, or shortly thereafter at another location, or is killed in a confrontation with law enforcement.

Spree murder is the second subtype of multiple murder. Spree murder involves the killing of multiple victims in separate places and times but without a “cooling-off” period in between. Spree murder can be committed by one or more offenders. In these cases the offender is on a killing “spree” and is considered to be in an emotional state, consistent with his mission of violence (11,18).

The third subcategory of multiple murder is serial murder. Serial murder has been defined as one or more offenders killing three or more victims, with the murders separated by a cooling-off period (1,3,5,18,20).

The FBI definition of serial murder originally was the murder of at least two victims with a cooling-off period between them. This period, again, could range from days to months (1). The FBI definition of serial murder was modified in 1998 and codified in Title 28, Chapter 33 of the United States Code. The FBI’s definition for investigative purposes now states that serial murder is “a series of three or more killings, not less than one of which was committed within the United States, having common characteristics such as to suggest the reasonable possibility that the crimes were committed by the same actor or actors” (28 U.S.C. SS 540 B) (2) (1998). The majority of those cited in the literature required a minimum of three

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separate murder events. For the purpose of this study, the operational definition of serial murder is three or more murders committed as separate events in a period of time greater than 24 h by the same offender.

Ressler et al. (1) described serial murder as premeditated, planned, and fantasy-driven. The cooling-off period between homicides could be days, weeks or months, and was described as the main element that separates the serial killer from other multiple killers. Geberth (20) stated that this cooling-off period can range from days to weeks or months between victims. These crimes may also occur over a period of time ranging from hours to years (21).

### Definition of Serial Sexual Murder

The majority of motivational-based studies in the literature have focused on the offenders who kill for their own internal psychological gratification (1,3,6,13–15,22,23). Psychological gratification could include greed, anger, depression, or other psychological or mental factors, as well as sexual motivation. This sexual psychological motivation has been classified in the literature as sexual murder. The literature also refers to sexual murders as lust murders, sexual lust killings, or sexual sadistic killings (1,3,13,14,23). In these cases there is an inherent, characteristic, sexual motivation for the murder. Simon (13) believed that serial sexual killers torture their victims for one motivation: sexual release. According to Malmquist (23), the primary motivation for sexually based serial killers was fulfillment of a sexual fantasy. Therefore, serial sexual murder could be considered a subcategory of serial murder.

Motivation directly impacts victim target selection and what actions the offender will perform with the victim. Target selection, interaction between offender and victim, even the cause of death and method of body disposal vary greatly based on motivation. The motivation of the offender is directly reflected in the offender's behavior before, during, and after the act.

In the case experience of the special agents in the FBI's National Center for the Analysis of Violent Crime (NCAVC), the serial sexual killer eroticizes violence that can lead directly or indirectly to murder. In sexual murder, the goal is to kill the victim as part of a ritualized attack. For this type of offender the primary motivation is acting out the sexual fantasy that has preoccupied him for some period of time.

The literature provides a guide in assessing what physically can be identified at a crime scene to determine if a sexual murder has occurred (1,3,23):

1. The posing of the victim's body in a sexual or provocative manner (e.g., legs spread, breasts exposed).
2. Foreign object insertion into the victim's body cavities vaginally, anally or orally.
3. Mutilation of body parts, particularly the breasts or genitalia.
4. The state of dress or undress of the victim's body.
5. Evidence of intercourse or ejaculation at the scene.
6. Evidence of possible sadistic or masochistic activities with the victim (e.g., binding ligatures).

Not all of these criteria need be present at every crime scene for a murder to be evaluated as a sexual murder. It is the totality of the circumstances, evaluated and analyzed by an experienced law enforcement officer, that makes it so.

### Frequency of Serial Sexual Murder

Serial sexual murder offenders are a unique subset of serial killer. Their motivation, victim selection, and interaction with their victims set them apart from other serial killers, as has been noted in the majority of the literature.

The actual frequency of serial sexual murder in the U.S. is unknown. This is because, in part, there are no official statistics regarding serial sexual murder (24). There is wide variation among criminologists in the number of reported offenders and victims (5,11,17,18,22,24,25,27).

Some researchers claim no more than 200–300 victims of serial sexual murder per year in the United States (7) while at the other end of the spectrum it is claimed that there are as many as 6000 such victims (5,22). This is a significant discrepancy considering there were only 14,088 total murder victims in the United States in 1998 (26).

The true difficulty lies in actually identifying the victims of serial offenders. Many serial murder offenders target strangers (1,21,24). Also, many victims of serial murder offenders are high-risk victims engaged in high-risk behaviors or circumstances, such as prostitution, homelessness, and drug use. Victims may not be reported missing, victims' bodies may not be found or, if located, victims may never be identified (6,24). Victims can also be counted by law enforcement as missing persons rather than being correctly identified as murder victims due to the lack of a body.

### Sample Data Collected

The target population for this study included all homicide victims in the State of Virginia from January 1, 1987, through December 31, 1996, inclusively. The sampling frame was all the murder victims during this time period as recorded by the Virginia State Police in their *Crime In Virginia Reports (CIV)*. This study utilized the following additional sources in identifying serial sexual murder victims:

1. *ViCAP*—The FBI's ViCAP (Violent Criminal Apprehension Program) database was searched to locate all known victims of serial sexual murder for the time period of January 1, 1987 through December 31, 1996.

2. *Virginia State Police (VSP) ViCAP*—The Virginia State Police ViCAP Unit, Richmond, Virginia, was contacted to ensure that no victims of serial sexual murder existed other than those identified by the FBI's ViCAP.

3. *Virginia Homicide Investigators Association (VHIA)*—The VHIA's assistance was sought in locating any victims of serial sexual homicide not identified through the FBI's ViCAP and VSP's ViCAP.

4. *Virginia Division of Forensic Science*—A search of the DNA database of the Virginia Division of Forensic Science, Consolidated State Laboratories of Virginia, Richmond, Virginia, was made regarding all murder cases submitted for testing.

5. *NCAVC*—The staff of the FBI's Behavioral Analysis Unit, National Center for the Analysis of Violent Crime (NCAVC), was queried in an attempt to determine if any additional victims could be located. Additionally, the NCAVC case records were searched.

6. *LEXIS/NEXIS*—Finally, an exhaustive search was made using LEXIS/NEXIS to locate any media coverage that may have indicated there were unidentified serial sexual killers operating in an area or cases that were linked in the media. Using these data sources, the total number of murder victims for Virginia was reduced to the number of victims of serial sexual murder for this same period. This was accomplished by the authors reviewing sexual murder

cases and conducting linkage analysis based upon forensic, legal, and behavioral similarities.

**Case Linkage**

A tiered system was used in this study for the linkage of cases involving the identification of victims of serial sexual murders. This tiered system consists of three types of linkage: forensic, legal, and behavioral. This system was developed in the early 1980's by the staff of the NCAVC (3), and is currently utilized by the NCAVC for case linkage. The linkage types are further explained as follows.

*Forensic Linkage*

Cases that were linked by scientific means through evidence collected at the crime scene: This would include, but was not limited to, DNA, fingerprints, palm prints, etc. This is hard evidence of a singular and unique nature indicating that the same offender interacted with each of the linked victims. This was the best case linkage.

*Legal Linkage*

Cases in which the offender has been legally convicted of the serial sexual murders were the next best case linkage. This linkage included, in many of the cases but not all, forensic evidence, and offender confessions as well as circumstantial evidence (time lines, financial and telephone records, etc.) gathered through investigation. A limitation of this type of linkage was prosecutor discretion in electing to charge known offenders for only one or several cases in a series of serial sexual homicides due to cost, expediency, or other factors. Several examples of this would be Wayne Williams (Atlanta Child Murders) and Theodore Bundy, in which these offenders were convicted of several of the serial sexual murders they committed, but suspected of committing many more.

*Behavioral Linkage*

In the process known as criminal investigative analysis, trained and experienced criminal investigative analysts examine the behavioral interaction between the offender and victim at the crime scenes, as well as extensive victimology, medical examiner reports, toxicology, forensic reports, and investigative reports. Utilizing these data, criminal investigative analysts attempt to identify the modus operandi and ritualistic behavior and, if possible, identify the offender's signature aspect (3). The cases linked behaviorally in this study were linked by the criminal investigative analysts at the FBI's Behavioral Analysis Unit.

**Results of Data Analysis**

The number of murders in the State of Virginia, from 1987 through 1996, ranged from a low of 437 in 1987 to a high of 584 in 1991. The total number of murders for this ten-year period was 5183. The number of murders committed in the State of Virginia for each year of the ten-year period, per 100,000 inhabitants, and the number of murders committed in the United States for each year of the ten-year period, per 100,000 inhabitants, were determined from data obtained from the *Crime in the United States: Uniform Crime Report for the United States 1997*, FBI, Department of Justice (26) (Table 1).

The rate of murders committed, per 100,000, in Virginia for each year of the ten-year period explored was representative of the number of murders, per 100,000, committed in the U.S.

TABLE 1—Murder/non-negligent manslaughter homicides per 100,000.

Year	Virginia	United States
1987	7.4	8.3
1988	7.8	8.4
1989	7.9	8.7
1991	9.3	9.8
1992	8.8	9.3
1993	8.3	9.5
1994	8.7	9.0
1995	7.6	8.2
1996	7.5	7.4

TABLE 2—Number of murders per year in Virginia.

Year	Murders in Virginia
1987	437
1988	468
1989	480
1990	545
1991	584
1992	563
1993	539
1994	570
1995	501
1996	496
Total	5183

TABLE 3—Victims of known offenders by age, sex and race.

Known Offender	Age	Sex	Race
Offender 1 (B/M)	25	M	W
	22	M	W
	37	M	W
	32	M	W
	21	M	B
	32	M	B
	27	M	B
	24	M	W
	24	M	B
	31	M	W
Offender 2 (A/M)	30	M	B
	38	M	B
	20	F	W
	26	F	W
Offender 3 (W/M)*	16	F	W
	45	F	W
Offender 4 (B/M)	32	F	W
	35	F	W
	44	F	W
	32	F	W
	15	F	A
	Offender 5 (W/M)	11	F
15		F	W
16		F	W

\* Offender 3 was an interstate sexual serial killer, and killed victims in three different states; only one victim was killed in Virginia.

A = Asian, B = Black, W = White, M = Male, F = Female.

The number of murders committed in the State of Virginia for each year of the ten-year period was determined from CIV data (Table 2).

Two groups of victims of serial sexual killers emerged: the victims of known offenders (Table 3), and the victims of an unknown offender (Table 4).

TABLE 4—Victims of unknown offender by age, sex and race.

Unknown Offender	Age	Sex	Race
Offender 6	76	F	W
	55	F	W
	84	F	W
	69	F	W

TABLE 5—Offenders and number of serial sexual homicide victims.

Offender	Number of Victims in Virginia
Offender 1	12
Offender 2	3
Offender 3	1
Offender 4	5
Offender 5	4
Offender 6	3
Total	28

### Victims of Known Offenders

Five known serial sexual killers were identified as responsible for 24 victims. Two offenders were African American males, one an Asian male, and two were white males. Twelve of the victims were male, while twelve were female. Seventeen victims were white, six were African American, and one Asian. Victims ranged in age from 11 years to 45 years.

### Victims of Unknown Offender

The victims of one unknown serial sexual killer were identified (Table 4). This offender was responsible for four victims. All of the victims of the unknown offender were older females, and all were white. The ages ranged from 55 years to 84 years.

### Total Numbers of Victims and Offenders

During the ten-year period explored in the State of Virginia, only half of one percent (0.5%) of the victims of murder are known to be the victims of serial sexual killers (28 serial sexual murders out of 5183 murders) (Table 5).

### Conclusion

The frequency of serial sexual murder victimization was found to be very low (0.5%). The total number of murders in the state of Virginia for this ten-year period was 5183. The number of serial sexual murder victims, for the same ten-year time period, was 28. In total, five known and convicted offenders were identified, accounting for 24 victims. One unknown offender has been forensically linked to four victims.

The most prolific offender was an African American male who preferred victimizing young African American or white adult males. This offender has been linked to 12 victims, 6 white and 6 African American, between the ages of 21 and 38.

The unknown offender in this study killed four victims in a tight geographic area. The four elderly female victims were killed in the Richmond, Virginia, area.

A problem surfaced regarding victim linkage. There are mobile serial sexual murder offenders who travel interstate killing victims. One such offender was identified in this study, the white male who killed victims in a tri-state area that included Virginia. This of-

fender was a resident of North Carolina, employed as an interstate truck driver, and abducted and killed at least three women in three different states.

The results of this study compare favorably with studies done by Jenkins (10), Reis and Roth (27), and Fox and Levin (24). These studies all claimed a low percentage of serial sexual murder victimization ranging from 1 to 2%.

The results of this study accurately depict the number of victims of serial sexual killers in Virginia for a ten-year period. Using these data to project victimization for the entire United States brings forth several issues. Comparing the United States overall with Virginia reveals some similarities, but major discrepancies. According to the United States Census (28), the United States population in 2000 was approximately 281 million, with a racial breakdown of approximately 72% white, 12% African American, 3% Asian American, 12% Hispanic, and 1% Native American. According to the United States Census, Virginia had a population of 6.8 million in 2000, with a racial make-up of approximately 77% white, 18% African American, 2% Asian American, 2.5% Hispanic, and less than 1% Native American. The United States homicide rate in 2000 was 5.5 per 100,000 population. Virginia's homicide crime rate in 2000 was 5.7. Utilizing this study to extrapolate serial sexual victimization to the entire nation would reveal the total of victims of serial killers to be one half of 1% of all murder victims or approximately 750 serial sexual murder victims per year in the United States.

There are limitations on this type of projection. There are demographic issues in utilizing Virginia as a template of the United States population. The Hispanic population is underrepresented in Virginia. Virginia also has many rural areas, and unlike other areas of the United States does not have a large contiguous urban area. This could limit the number of victims in Virginia in comparison with other high-population areas. Serial offenders can be interstate travelers and could have victims in a number of different states. Other areas in the United States have unique geographic, economic, and cultural links. Attempting to account for unknown factors greatly reduces predictability. Future research duplicating this study in a representative sample of the entire United States could accurately project the national percentage of serial sexual victimization.

Serial sexual victimization is a very rare phenomenon, and studies such as reported here place the issue of serial killing in proper perspective. Armed with this information, law enforcement is now in a position to better allocate resources to address this problem.

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# Erratum

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**Erratum/Correction of** TOC of May 2004. Frequency of Serial Sexual Homicide Victimization in Virginia for a Ten-Year Period—Mcnamara JJ and Morton RJ. *J Forensic Sci* 2004 May;49(3):529–533.

It has come to the attention of the Journal that the paper by McNamara JJ and Morton RJ is listed inadvertently under the Engineering Section. It should have been listed under the General Section.

The Journal regrets this error. Note: Any and all future citations of the above-referenced paper should read: McNamara JJ and Morton RJ. Frequency of Serial Sexual Homicide Victimization in Virginia for a Ten-Year Period. [Published erratum appears in *J Forensic Sci* 2004 Sept;49(5)] *J Forensic Sci* 2004;49(3):529–533.