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# Serial and Single-Victim Rapists: Differences in Crime-Scene Violence, Interpersonal Involvement, and Criminal Sophistication<sup>†</sup>

Jisun Park, M.A., M.Sc.,\* Louis B. Schlesinger, Ph.D.,<sup>‡</sup> Anthony J. Pinizzotto, Ph.D..<sup>§</sup> and Edward F. Davis, M.S.<sup>§</sup>

Three categories of crime-scene behaviors (violence, interpersonal involvement, and criminal sophistication) among a group of 22 serial and 22 single-victim rapists were studied. Findings indicate that serial rapists were more likely to display a higher level of criminally sophisticated behaviors to avoid detection, whereas single-victim rapists were more likely to behave violently and engage in some form of interpersonal involvement with their victims. Implications of these findings for investigation and for understanding offenders' behavior are discussed. Copyright © 2008 John Wiley & Sons, Ltd.

Although the definition of rape varies widely among jurisdictions, the U.S. Department of Justice (2004) suggests "the carnal knowledge of a female forcibly and against her will" (p. 27) as a general guideline. Individuals who have committed rape have been studied extensively beginning with von Krafft-Ebing's (1886) case presentations. Factors such as prevalence (Koss, Gidycz, & Wisniewski, 1987), classification (Prentky & Knight, 1991), personality traits (Prentky et al., 1989), etiology (Ellis, 1989), treatment approaches (Marshall, Eccles, &

<sup>4</sup>John Jay College of Criminal Justice, City University of New York. <sup>8</sup>FBI Behavioral Science Unit, Quantico, VA.

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<sup>\*</sup>Correspondence to: Jisun Park, M.A., M.Sc., Department of Psychology, John Jay College of Criminal Justice, City University of New York, 445 West 59th Street, New York, NY 10019, U.S.A.

E-mail: jipark@jjay.cuny.edu

<sup>&</sup>lt;sup>†</sup>The data for this study were taken from closed, fully adjudicated state and local cases that were given to the FBI Behavioral Science Unit by law-enforcement agencies around the United States for the purpose of research. All identifiers, including names of victims, suspects, offenders, officers, departments, and correctional agencies, have been removed, and only aggregate data have been reported. The authors would like to express their gratitude to the FBI's Behavioral Science Unit for coordinating this effort. The authors' opinions, statements, and conclusions should not be considered an endorsement by the FBI of any policy, program, or service.

Barbaree, 1993), and investigation (Hazelwood & Burgess, 2001) have all been carefully examined. In addition to these dimensions, rapists can also be differentiated by the number of victims they are known to have assaulted. The single-victim rapist has engaged in sexual assault on one occasion with one victim (or, more accurately, has been apprehended for having assaulted only one victim and is not suspected of other assaults), while the serial rapist has engaged in sexual assault in at least two separate incidents with two or more different victims (Graney & Arrigo, 2002).

Notwithstanding the obvious importance in distinguishing between serial and single-victim rapists, surprisingly few attempts have been made to study similarities and differences in their personality and behavioral characteristics. The samples used in many of the previous studies consisted of serial rapists only (e.g. Davies, 1992; Kocsis, Cooksey, & Irwin, 2002; Warren, Hazelwood, & Reboussin, 1991), singlevictim rapists only (Alison & Stein, 2001), or a mixture of single-victim and serial offenders (Canter, Bennell, Alison, & Reddy, 2003; Canter & Heritage, 1990; Knight, Warren, Reboussin, & Soley, 1998). One study did examine differences in style of attack and differences in the offender-victim relationship between serial and single-victim rapists (LeBeau, 1987). This study found that single-victim rapists were mostly known to their victims and preferred to use a confidence-style approach rather than to use a blitz attack; serial rapists, in contrast, were overwhelmingly strangers to their victims and used blitz-style methods. Several researchers (e.g. Alison & Stein, 2001; Hazelwood & Burgess, 2001) have focused on the extent and type of violence used during the assault, the level of interpersonal involvement displayed during the rape, and the level of criminal sophistication used to avoid apprehension, but these samples did not differentiate single-victim and serial offenders.

# **CRIME-SCENE BEHAVIORS**

# Violence

Brownmiller (1975) argues that "rape is not a crime of irrational, impulsive, uncontrollable lust, but is a deliberate, hostile, violent act of degradation and possession" (p. 439). Violent behavior is characterized by aggression against a victim and has been studied extensively (Alison & Stein, 2001; Canter, 1994; Kocsis et al., 2002). Groth (1979) cites anger as a central motivating factor in some rapes and proposes a major motivational category of "anger rape", which is characterized by excessive use of force to achieve sexual gratification. Davies (1992) also recognizes the importance of gratuitous violence in the rapist's motivation. Alison and Stein (2001), who investigated variations in offending behavior, identified an interpersonal style called "hostility", which involves the use of excessive violence against the rape victim.

# **Interpersonal Involvement**

Interpersonal involvement refers to the offender's attempt to enter into what he believes to be a personal relationship with the victim during the assault (Canter &

Heritage, 1990). For example, a rapist may attempt to become involved with the victim by making sexual comments, reassuring the victim, complimenting the victim, or through self-disclosure. Marshall (1989) believes that the pursuit of sexual gratification or of power is not the only reason some people engage in a sexual assault. He argues that the primary motivation for many rapists is the need for interpersonal intimacy. He states, "those men respond to the emotional loneliness produced by their failure to attain or maintain intimacy by pursuing intimacy in quite inappropriate ways" (p. 498). Canter (1994) suggests that the relationship between the rapist and victim is not one of real intimacy but rather of *pseudo*-intimacy: the offender is under the illusion that the rape is part of dating.

# **Criminal Sophistication**

Graney and Arrigo (2002) suggest that the main difference between single-victim and serial rapists is the serial rapist's adeptness in eluding apprehension. Hazelwood and Burgess (2001) also note, "the more rapes a person commits, the more proficient he may become in eluding detection" (p. 128). Unlike the novice offender, the experienced offender will more likely exhibit forensic awareness by removing weapons, fingerprints, and other evidence that might assist law enforcement in their investigation. Indeed, when Davies (1997) examined the actions of 210 rapists, including their conviction histories, she found that semen destruction was four times more likely than nondestruction to indicate an offender with multiple sexual offenses.

# METHOD

In order to examine whether there are, indeed, differences between serial and single-victim rapists on the three themes noted (violence, interpersonal involvement, and criminal sophistication), a nonrandom national sample (with its inherent limitations) of 22 serial and 22 single-victim rapists was studied. The cases were supplied by the FBI's Behavioral Science Unit; all cases were closed and fully adjudicated and were contributed by law-enforcement agencies from around the country for research. Identifying information regarding offenders, victims, and police agencies was removed.

# Variables

By using content analysis, 28 variables reflecting three general categories of conduct were examined; these variables detail behaviors of the offender. Behavioral descriptions of the variables are provided in the appendix. All variables were coded in dichotomous form: a 0 for absence and a 1 for the presence of that variable within the offense. Canter and Heritage (1990) have found this use of dichotomies to produce the most reliable content variables.

#### Subjects

#### Serial Rapists

Twenty-two male serial rapists with a mean age of 29.1 years (range 14–57 years) were studied. Forty-one percent of the offenders (n=9) were Caucasian, 31.8% (n=7) were African American, 18.2% (n=4) were Hispanic, and 9.1% (n=2) were Asian. Of the 16 cases where employment status was known, 26.3% of the offenders (n=5) were unemployed, 42.1% (n=8) were laborer/blue collar, 10.5% (n=2) were students, and 5.3% (n=1) were white-collar professionals. Of the 17 cases where marital status was known, 35.2% of the offenders (n=6) were single, 17.7% (n=3) had a girlfriend, and 47.1% (n=8) were married. A total of 16.7% of the offenders (n=3) were living alone at the time of the offense. The available arrest records of most offenders, which almost always underestimate the actual number of crimes committed, were also reviewed. Fifteen offenders had previous arrests: specifically, four offenders had a previous arrest for burglary, four an arrest for auto theft, three for a drug charge, three for assault, two for robbery, and one for fraud, weapon use, or a traffic violation.

The number of known rapes committed by the serial offenders ranged from 2 to 13, with a mean of 6.9 (and mode of 4 rapes per offender). In order to compare behaviors of the serial offenders with those of the single-victim offenders, two of the rapes committed by the serial offenders were randomly selected, resulting in a total of 44 serial rape offenses that were examined. This methodology has been used in previous research studying serial crimes, with several (somewhat) different approaches adapted to selecting cases to examine: choosing the first two or three known offenses in the series (e.g. Alison & Stein, 2001; Salfati & Bateman, 2005); choosing the two most recent offenses (e.g. Woodhams & Toye, 2007); choosing the first, middle, and last sexual assaults committed by serial rapists (e.g. Warren et al., 1991); and choosing two cases per series randomly (e.g. Santtilla, Junkkila, & Sandnabba, 2005). Among the various ways of selecting offenses committed by serial offenders, we chose cases randomly in order to minimize any potential bias that might result from selecting cases based on the order or sequence of the offense in the series.

#### Single-Victim Rapists

All single-victim rapists were male; the mean age was 33.4 years (range 18–46 years). Of the 20 cases where the race of the offender was known, 65% (n=13) were Caucasian, 30% (n=6) African American, and 5% (n=1) Hispanic. Of the 16 cases where employment status was known, 43.8% of the offenders (n=7) were unemployed and 56.3% (n=9) were laborer/blue collar at the time of the offense. Of the 14 cases where marital status was known, 14.3% of the offenders (n=2) were single, 7.1% (n=1) had a girlfriend, 35.7% (n=5) were married, and 42.9% (n=6) were divorced or separated. Only one offender was living alone at the time of the offense. Of the 18 cases where arrest history was known, 88.9% (n=16) had previous arrests: specifically, five offenders had a previous arrest for assault, four offenders had an arrest for burglary, four for traffic violations, three for drug use, two

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for weapon use, two for robbery, and one for homicide, domestic violence, or arson. All single-victim subjects were only apprehended for one rape and law enforcement did not suspect them of having committed any other rapes.

#### Serial-Rape Victims

All 44 serial-rape cases involved female victims. The mean age of the victims was 35.5 years (range 13–83 years). Of the 43 cases where the race of the victim was known, 72.1% percent of the victims (n=31) were Caucasian, 11.6% (n=5) African American, 7% (n=3) Hispanic, and 9.3% (n=4) Asian. Of the 26 cases where marital status was known, 53.8% (n=14) were single, 7.7% (n=2) had boyfriends, 23.1% (n=6) were married, and 15.4% (n=4) were divorced or widowed. A total of 17 victims were living alone at the time of the offense. In 79.5% of the cases the offenders and victims were strangers; in 2.3% of the cases they were co-workers; and in 18.2% of the cases they were acquaintances.

## Single-Rape Victims

Twenty-one cases involved female victims, and one case involved a male victim. The mean age of the victims was 32.1 years (range 12–79 years). Of the victims, 95.5% (n=21) were Caucasian and 4.5% (n=1) were African American. Of the 15 cases where marital status was known, 26.7% (n=4) were single, 26.7% (n=4) had a boyfriend or a girlfriend, 13.3% (n=2) were married, and 33.3% (n=5) were divorced or widowed. A total of six victims were living alone at the time of the offense. Finally, 61.9% of the cases involved strangers, 4.8% involved family members, 9.5% involved co-workers, 19% involved acquaintances, and 4.8% involved offenders and victims in other relationships.

#### RESULTS

#### Violence

The index of violence was operationally defined as the mean occurrence of 11 behaviors (blitz-style attack, weapon use, verbal abuse, making threats, using multiple types of violence, tearing victim's clothing, manual hitting and kicking, stabbing, vaginal penetration, anal penetration, and oral penetration) for each offense. Cronbach's alpha was utilized to determine the internal reliability coefficient, based on the average correlations between variables. The alpha coefficient was .68, indicating a high degree of association between the variables in this theme. A Chi square test was used to examine the differences in the behaviors between single-victim and serial rapists. Single-victim rapists were likely to display more violent behaviors than serial rapists. The single-victim rapist was more likely than the serial rapist to threaten the victim and use manual hitting and kicking of the victim, as well as to engage in vaginal penetration, oral penetration, or both (see Table 1).

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	Single ( $N = 22$ )	Serial ( $N = 44$ )	$X^2$	df	Þ
Blitz attack	36.4%	18.6%	2.47	1	ns
Weapon use	72.7%	58.1%	1.33	1	ns
Threat	90.5%	59.5%	6.37	1	<.05
Multiple violence	63.6%	40.9%	3.03	1	ns
Tearing clothes	40%	25.6%	1.35	1	ns
Verbally abusive	26.3%	16.3%	.85	1	ns
Stabbing	9.1%	4.5%	.53	1	ns
Manual hitting and kicking	68.2%	36.4%	5.96	1	<.05
Vaginal penetration	95.5%	68.2%	6.21	1	<.05
Anal penetration	35%	25%	.68	1	ns
Oral penetration	72.7%	29.5%	11.1	1	.01
Total*	56%	35%	4.04	64	<.01

Table 1. Comparison of single and serial offender's behavior: violence

\*alpha = .68.

## **Interpersonal Involvement**

The index of interpersonal involvement was measured operationally by the mean occurrence of seven behaviors (using a confidence approach, making sexual comments, extending time with the victim, inducing the victim to participate, complimenting the victim, kissing, and making apologies) for each offense. The alpha coefficient was .66, indicating a high degree of association between the variables in this theme. Behavioral differences in interpersonal involvement between single and serial-rape offenders were significant. Single-victim rapists were likely to display more interpersonal involvement with their victims than the serial rapists (see Table 2). Single-victim rapists were also more likely to induce the victim to participate in sexual activities and make sexual comments to the victims than were serial rapists. Table 3 gives some examples of sexual comments made during the crime by both single-victim and serial offenders.

# **Criminal Sophistication**

The index of criminal sophistication was operationally defined by the mean occurrence of 10 behaviors (having forensic awareness, planning, making a surprise attack,

	Single ( $N=22$ )	Serial $(N=44)$	$X^2$	df	Þ
Con approach	18.2%	11.6%	.52	1	ns
Complimenting	20%	9.1%	1.5	1	ns
Making sexual comments	50%	22.7%	4.76	1	<.05
Inducing participation	63.6%	22.7%	10.6	1	.01
Kissing	18.2%	15.9%	.06	1	ns
Making apologies	15%	11.4%	.17	1	ns
Extending time	38.1%	34.1%	.10	1	ns
Total*	31%	18%	2.23	64	<.05

Table 2. Comparison of single and serial offender's behavior: interpersonal involvement

\*alpha = .66.

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Single	Serial		
"Do you like it?" "Is it good?"	"Is it better, baby?"		
"Suck on it."	"Play with it."		
"Enjoy it?" "Have big breasts."	"You have nice breasts."		
"It's only my finger, relax."	"Wear something sexy."		
"You're going to get fucked now."	"We are going to have a little fun."		
"Only way I can get it is to take it."	"You can fulfill my fantasies."		
"Wanted a piece of ass."	"Let's undress each other and make love."		
"You can take it; you are a female."	"You are so beautiful."		
"Might as well enjoy this because no one	"I'll do anything to please you. What do you		
is getting in or out."	want me to do?"		

Table 3. Examples of offenders' sexual comments during the sexual assault

binding the victim, gagging the victim, stealing property, removing semen, being inquisitive, deterring the victim's resistance, and completing rape) for each offense. The alpha coefficient was .67, indicating a high degree of association between the variables in this theme.

Serial-rape offenders were more likely to display a higher level of criminally sophisticated behaviors than single-rape offenders. Significant differences were found in half the behaviors of criminal sophistication between single and serial offenders (see Table 4). Specifically, serial rapists were more likely than single-victim rapists to display forensic awareness, deter the victim's resistance, gag the victim, use a surprise attack, ask the victim questions, and complete the act of rape.

# DISCUSSION

Surprisingly few attempts have been made to differentiate various behaviors of serial and single-victim rapists. Samples used in most of the previous studies of rapists consisted of either serial rapists only, single-victim rapists only, or a mixture of single-victim and serial offenders. The findings in the present study suggest that previous results obtained with either serial rapists only or single-victim rapists only should not be generalized to all types of rapist. Moreover, the findings in the present

	Single ( $N=22$ )	Serial $(N=44)$	$X^2$	df	Þ
Planning	60%	79.5%	2.14	1	ns
Surprise attack	45.5%	72.1%	4.43	1	<.05
Forensic awareness	13.6%	39.5%	4.58	1	<.05
Binding	31.8%	38.6%	.30	1	ns
Gagging	18.2%	74.4%	18.6	1	<.01
Being inquisitive	10.5%	40.9%	5.65	1	<.05
Stealing property	42.9%	53.5%	.64	1	ns
Removing semen	29.4%	52.9%	2.53	1	ns
Deterring resistance	18.2%	50%	6.22	1	<.05
Completing rape	47.6%	75%	4.76	1	<.05
Total <sup>*</sup>	31%	57%	4.45	64	<.01

Table 4. Comparison of single and serial offender's behavior: criminal sophistication

\*alpha = .67.

study, which indicate that single-victim and serial rapists are different in several important crime-scene behaviors, suggest that samples consisting of a mixture of single-victim and serial rapists may not represent either group.

It should be noted that there were individual behaviors in each of the three behavioral themes where differences between single-victim and serial rapists were not significant. This is not a surprising finding, since both groups of offenders were rapists and would be expected to share many common characteristics. Relatively small sample size, as well as the possibility that some of the single-victim rapists may have committed other rapes that remained undetected, are two other conceivable explanations for our results. In addition, Canter and Youngs (2003) note the unreliability of specific individual behaviors at the crime scene and argue that a behavioral theme may be more reliable than any individual behavior, which may not occur due to situational factors. Our findings support the notion that offenders' behavior should be understood not separately, but in relation to other behaviors and the theme to which it belongs.

Through language used during the crime, the rapist reveals aspects of himself, including some motivational factors behind the assault (Hazelwood & Burgess, 2001). Our results suggest that single-victim offenders make more sexual comments during the attack and force participation more than serial offenders. Therefore, what the offender said and how he said it can be useful for law enforcement as just one indicator in determining an offender's potential likelihood of raping again. The various types of verbal activity displayed during the offense (compliments, sexual comments, questions, apologies, threats, and verbal abuse) help clarify the offender's sexual fantasies and the role of the victim in these fantasies (Hazelwood & Burgess, 2001). Many of the sexual comments made by the single-victim offenders seem more forceful, threatening, and direct, consistent with their increased level of violence in several dimensions.

The notion that single-victim and serial rapists are different in their adeptness in eluding detection (Graney & Arrigo, 2002) is confirmed in the present study. By showing behaviors such as displaying forensic awareness, controlling the victim's resistance, and using a surprise attack more frequently, serial rapists did show a higher level of criminal sophistication than did the single-victim offenders. As Hazelwood and Burgess (2001) note that the experienced offender will become more proficient in eluding apprehension by using his past experiences to plan future sexual attacks. Therefore, the results of the present study support the findings by Hazelwood and Burgess and suggest that the level of criminal sophistication can differentiate serial from single-victim rapists and might be helpful as an additional investigation aid.

The distinct differences between single-victim and serial rapists in their verbalizations and behaviors raise the question of whether some single-victim rapists will remain single-victim rapists and not become serial offenders. For instance, another way of interpreting our finding is that, if additional rapes occur, the single-victim rapist might begin to change his verbalizations and behaviors to accommodate the circumstances in which he finds himself. In other words, his static approach might evolve and become increasingly dynamic, which has been known to occur with other serial offenders (Douglas & Munn, 1992; Keppel, 2000).

The current research findings add to our growing understanding of differences between single-victim and serial rapists, specifically their behaviors displayed during a sexual assault. The higher level of violent and interpersonally intimate behavior displayed by the single-victim rapists may explain LeBeau's (1987) findings indicating a relationship between offender and victim, and can also be another useful tool for investigation. However, some cautionary notes in interpreting the results of this study apply. For instance, we used a relatively small nonrandom sample (based on availability and access), which could have possibly obscured differences between the two groups of offenders. Accordingly, discretion is needed in applying these findings to rapists—either single victim or serial—as a whole. Also, there is always the possibility that some of the single-victim rapists may have previously committed other rapes that remained undetected and for which they were not suspected. Finally, it is always conceivable that additional similarities between serial and single-victim rapists may have been overlooked when obtaining and interpreting our data, since our main purpose was to search for differences between the two groups.

## REFERENCES

- Alison, L. J., & Stein, K. L. (2001). Vicious circles: Accounts of stranger sexual assault reflect abusive variants of conventional interactions. *Journal of Forensic Psychiatry*, 12, 515–538.
- Brownmiller, S. (1975). Against our will: Men, women, and rape. New York: Simon and Schuster.
- Canter, D. V. (1994). Criminal shadows. London: HarperCollins.
- Canter, D. V., Bennell, C., Alison, L. J., & Reddy, S. (2003). Differentiating sex offences: A behaviorally based thematic classification of stranger rapes. *Behavioral Sciences and the Law*, 21, 157–174.
- Canter, D. V., & Heritage, R. (1990). A multivariate model of sexual offence behavior: Developments in "offender profiling". *Journal of Forensic Psychiatry*, 1, 185–212.
- Canter, D. V., & Youngs, D. (2003). Beyond offender profiling: The need for an investigative psychology. In D. Carson, & R. Bull (Eds.), *Handbook of Psychology in Legal Contexts* (pp. 171–205). Chichester: Wiley.
- Davies, A. (1992). Rapists' behavior: A three aspect model as a basis for analysis and the identification of serial crime. *Forensic Science International*, 55, 173–194.
- Davies, A. (1997). Specific profile analysis: A data-based approach to offender profiling. In J. L. Jackson, & D. A. Bekerian (Eds.), Offender profiling: Theory, research and practice (pp. 191–207). New York: Wiley.
- Douglas, J. E., & Munn, C. (1992). Violent crime scene analysis: Modus operandi, signature, and staging. FBI Law Enforcement Bulletin, 61, 1–10.
- Ellis, L. (1989). Theories of rape: Inquiries into the causes of sexual aggression. Washington, DC: Hemisphere.
- Graney, D. J., & Arrigo, B. A. (2002). The power serial rapist: A criminology-victimology typology of female victim selection. Springfield, IL: Thomas.
- Groth, A. N. (1979). Men who rape: The psychology of the offender. New York: Plenum.
- Hazelwood, R. R., & Burgess, A. W. (2001). The behavioral oriented interview of rape victims: The key to profiling. In R. R. Hazelwood, & A. W. Burgess (Eds.), *Practical aspects of rape investigation: A multidisciplinary approach* (pp. 115–131). Boca Raton, FL: CRC Press.
- Keppel, R. D. (2000). Investigation of the serial offender: Linking cases through modus operandi and signature. In L. B. Schlesinger (Ed.), Serial offenders and current thought, recent findings (pp. 121–133). Boca Raton, FL: CRC Press.

Knight, R. A., Warren, J. I., Reboussin, R., & Soley, B. J. (1998). Predicting rapist type from crime-scene variables. *Criminal Justice and Behavior*, 25, 46–80.

- Kocsis, R. N., Cooksey, R. W., & Irwin, H. J. (2002). Psychological profiling of offender characteristics from crime behaviors in serial rape offences. *International Journal of Offender Therapy and Comparative Criminology*, 46, 144–169.
- Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*, 55, 162–170.
- LeBeau, J. L. (1987). The journey to rape: Geographic distance and the rapist's method of approaching the victim. *Journal of Police Science and Administration*, 15, 129–136.
- Marshall, W. L. (1989). Intimacy, loneliness and sexual offenders. *Behavioral Research in Therapy*, 27, 491–503.
- Marshall, W. L., Eccles, A., & Barbaree, H. E. (1993). A three-tiered approach to the rehabilitation of incarcerated sex offenders. *Behavioral Sciences and the Law, 11,* 441–455.

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- Prentky, R. A., & Knight, R. A. (1991). Identifying critical dimensions for discriminating among rapists. *Journal of Consulting and Clinical Psychology*, 59, 643–661.
- Prentky, R. A., Knight, R. A., Sims-Knight, J. E., Straus, H., Rokous, F., & Cerce, D. (1989). Developmental antecedents of sexual aggression. *Development and Psychopathology*, 1, 153–169.
- Salfati, C. G., & Bateman, A. L. (2005). Serial homicide: An investigation of behavioral consistency. *Journal of Investigative Psychology and Offender Profiling*, 2, 121–144.
- Santtilla, P., Junkkila, J., & Sandnabba, N. K. (2005). Behavioural linking of stranger rapes. Journal of Investigative Psychology and Offender Profiling, 2, 87–103.
- U.S. Department of Justice. (2004). Crime in the United States: Uniform crime reports. Washington, DC: Federal Bureau of Investigation, U.S. Department of Justice.
- von Krafft-Ebing, R. (1886). Psychopathia sexualis (C. G. Chaddock, Trans.). Philadelphia, PA: Davis.
- Warren, J. I., Hazelwood, R. R., & Reboussin, R. (1991). Serial rape: The offender and his rape career. In A. W. Burgess (Ed.), *Rape and sexual assault III: A research handbook* (pp. 275–311). New York: Garland.
- Woodhams, J., & Toye, K. (2007). An empirical test of the assumptions of case linkage and offender profiling with serial commercial robberies. *Psychology, Public Policy, and Law, 13*, 59–85.

# APPENDIX. DEFINITIONS OF THE VARIABLES

By using content analysis, 28 variables reflecting three general categories of conduct (violence, interpersonal involvement, criminal sophistication) were examined. These variables detail behaviors of the offender during an offense. All variables were coded in dichotomous form: a 0 for absence and a 1 for the presence of this variable within the offense.

#### Violence

- 1. *Blitz-style attack*. Offender immediately employing injurious force in subduing the victim.
- 2. *Weapon use*. Offender displaying a weapon during the offense, either as a tool of threat or to inflict harm upon the victim.
- 3. Verbal abuse. Offender demeaning verbally or insulting the victim.
- 4. *Making threats*. Offender threatening the victim to hurt, to kill, and/or not to report.
- 5. Using multiple types of violence. Use of multiple acts of violence against the victim.
- 6. *Tearing victim's clothing*. Offender forcibly removing the victim's clothing in a violent manner so that the victim's clothes are torn or cut.
- 7. Manual hitting and kicking. Offender hitting and kicking the victim.
- 8. Stabbing. Offender stabbing the victim.
- 9. *Vaginal penetration*. Vaginal penetration either by the offender's penis or by the offender's use of some object.
- 10. Anal penetration. Offender penetrating the victim's anus.
- 11. Oral penetration. Offender performing oral sex on the victim.

#### **Interpersonal Involvement**

12. Using a confidence approach. Offender gaining victim's confidence by offering assistance or requesting directions.

- 13. Making sexual comments. Offender making sexual comments towards the victim.
- 14. *Extending time with the victim*. Offender extending the time spent with the victim after the sexual attack.
- 15. *Inducing the victim to participate*. Offender inducing the victim to participate in the sexual aspects of the offense.
- 16. *Complimenting the victim*. Offender complimenting the victim, e.g. on the physical appearance of the victim.
- 17. Kissing. Offender kissing the victim.
- 18. Making apologies. Offender apologizing to the victim for the attack.

# **Criminal Sophistication**

- 19. *Having forensic awareness*. Offender takeing certain steps during the attack to ensure that no evidence can be obtained.
- 20. Planning. Offender having planned the attack.
- 21. *Making a surprise attack*. Offender lying in wait for the victim or approaching the victim while the victim is sleeping.
- 22. Binding the victim. Use of articles to bind the victim.
- 23. *Gagging the victim*. Any attempt to cover the victim's mouth during the attack to prevent the victim from making noise.
- 24. Stealing property. Offender stealing items from the victim.
- 25. *Removing semen*. Offender taking certain steps to remove semen at the crime scene.
- 26. Being inquisitive. Offender asking the victim questions, e.g. "Are you okay?".
- 27. Deterring the victim's resistance. Offender deterring the victim's resistance.
- 28. Completing rape. Offender completing the act of rape.