Studying Rape Through A Theoretical Lens: The Development Of A Serial Rape Model Using FBI Data

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STUDYING RAPE THROUGH A THEORETICAL LENS:
THE DEVELOPMENT OF A SERIAL RAPE MODEL
USING FBI DATA

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To my husband Dirk for all the love and support along the way.
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USING FBI DATA

by

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Abstract

The current study assessed whether there is an empirical foundation for different theories of rape including the feminist, evolutionary, social disorganization, psychopathy, and rapist type theories. Using a data set from the Federal Bureau of Investigation (FBI) on serial rapists collected in the early 1990’s, the study included two phases. The first phase assessed whether FBI data supported the previously mentioned theories of rape by analyzing associations between individual variables that are thought to support each theory. Support was demonstrated for the evolutionary and psychopathy theories. Using MPlus statistical software to accommodate the multi-level nature of the data, the second phase of the study developed and assessed the fit of a model of rape incorporating situational factors associated with the severity and duration of a rape, the use of force during the rape, and the physical injuries sustained by the victim. The findings of phase 1 were applied to the model of rape in phase 2 to explain rape behavior demonstrated in the model. The current study empirically assessed the validity of numerous theories of rape and developed a comprehensive model of serial rape to explain the situational factors associated with the violent act better and properly educate against it.
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Chapter 1: Rape in the United States: Prevalence and Theoretical Explanations

Every two minutes someone in the United States is sexually assaulted. One out of every six American women has been the victim of an attempted or completed rape. Rape victims are 26 times more likely to abuse drugs, six times more likely to suffer from Post-Traumatic Stress Disorder (PTSD), and four times more likely to contemplate suicide when compared to females who have not been the victim of a rape (National Crime Victimization Survey, 2007). Rape is a violent act, often with negative emotional, physical, and interpersonal repercussions for the victim. It is incumbent on law enforcement and academia alike to not only work toward apprehending the individuals who commit rape but to enhance preventative efforts focusing on perpetrator motivation and behaviors.

Rates of rape prevalence vary depending on the population included in the study as well as the methodology used for collecting the data. Most studies that investigate the incidence of rape have access to victims who have reported the rape to police or other authorities, not accounting for rapes that go unreported. Kilpatrick, Edmunds, and Seymour (1992) surveyed American women (ages 18 and up) and found that 13% reported being raped at least once. Overall, prevalence rates of female rape vary from 7.7% in the National Violence Against Women Survey (Tjaden & Thoennes, 2000) to between 19 and 27.5% of college aged women across five countries (i.e., 18 to 22 year olds; Canada, Korea, New Zealand, United Kingdom, and the United States; Heise, Pitanguy, & Germaine 1994). It has also been estimated that 66% to 84% of rapes go
unreported, indicating that the frequency of rape is actually much higher than reported in studies (Kilpatrick et al., 1992).

There are numerous definitions of rape used in the literature that differ depending on the author’s view of what constitutes rape. For the purposes of this study, rape will be defined as: “forced copulation or oral or anal penetration, resisted to the best of the victims ability unless such resistance would probably result in the death or serious injury to the victim or in death or injury to individuals the victim commonly protects” (Thornhill & Palmer, 2000a, p. 1).

The feminist theory, which contends that rape is an act of dominance by males, has been the predominant approach to a theoretical understanding of rape. The feminist theory describes rape as a social construct in that it is socially derived. Having been the dominant rape theory for approximately 35 years, it can be assumed that treatment programs and therapy designed to address rape from this perspective came to be shortly thereafter. That leaves approximately 30 years of treatment programs focused on rape as motivated by male power, control, and dominance. Sexual assault treatment programs in that time period have been somewhat successful; i.e. overall, those in treatment groups were 37% less likely to recidivate compared to the control group; providing some support for the feminist theory as an adequate explanation of rape behavior (Losel & Schmucker, 2005; Schmucker & Losel, 2008). Additionally it has been demonstrated that programs involving only organic treatments (hormonal medication or castration) have the highest rates of success (Losel & Schmucker, 2005; Schmucker & Losel, 2008). Besides hormonal treatment, including surgical castration, only cognitive-behavioral treatment programs have been moderately effective; effect size for efficacy of cognitive-behavioral
programs is significant at $d=1.45$, while effect size for the efficacy of hormonal medication is $d=3.08$ and castration is $d=15.34$ (Losel & Schmucker, 2005). The overwhelming success of hormonal interventions suggest a disconnect between biologically based treatments and the adoption of a rape theory that sees rape solely as a social construct (feminist). It seems possible that other theories of rape, specifically those that consider contributors other than the social environmental, may help explain the efficacy of biological treatments.

1.1 Serial Rape

Simply defined, serial rape is a perpetrator raping two or more victims (Hazelwood & Burgess, 1987). Roughly a dozen articles have been published on serial rape, with a handful focusing on case studies. Serial rape was originally clinically and experimentally studied by FBI researchers in the mid 1980’s. Similar to other FBI research, profiling drove the research on serial rape. Focus was placed on the motivation and behavior of the rapist which eventually transgressed to analyses of crime scene variables and their effect on violence escalation (Warren, Reboussin, Hazelwood, Gibbs, Trumbetta, & Cummings, 1999). Outside of FBI research, one study found that serial rapists were more sophisticated in avoiding detection compared to single time rapists, likely indicating more premeditated behavior (Park, Schlesinger, Pinizzotto, & Davis, 2005). Another study that interviewed a group of 61 serial rapists found serial rape to be more of a sexual crime than a power or violence related crime (Stevens, 1998).

Although the research clearly distinguishes between one-time rape and serial rape, it does a poor job of providing empirical evidence supporting the idea that serial rapists have unique characteristics not found in other rapists. It is thought that serial rapists are a
distinct group of individuals separate from other rapists, but outside the fact that serial rapists tend to choose stranger victims, little else has been demonstrated that differentiates them from one-time rapists. It seems plausible, and research has hypothesized that serial rapists may not be a unique subset of rapists in that one-time rapists may simply get caught before being able to repeat the offense (Park, Schlesinger, Pinizzotto, & Davis, 2005). On the other hand, the ability to evade detection by law enforcement may indicate a specific quality or characteristic that distinguishes serial rapists from one-time rapists. No articles discussing serial rape from a theoretical framework were identified and it is unknown how factors associated with serial rape interact with the theories explained below.

1.2 Theories of Rape

Since the early 1970’s, social science referred to as feminist researchers, have held the common tenet that rape is not motivated by sex but rather motivated by power and control, idealized through a patriarchal society (Brownmiller, 1975; Greer, 1970; Griffin, 1971; Millet, 1971). Murphey, a nationally published columnist with the Chicago Tribune, stated in a 1992 article: “If there is still any lingering misconception that rape is a crime of sexual passion, it’s important to drive a stake through the heart of that idea as quickly as possible” (p. 18). Brownmiller (1975), a well known feminist writer, is credited with popularizing the idea that rape has little to do with sex. Her theory took the field by storm and since has become the foundation of current social science theories of rape and has been accepted by the general public as truth (Fairstein, 1993; Feild, 1978; Palmer, 1988). As a result, it has become the underlying assumption of most rape and sexual assault treatment programs.
Other theories of rape have developed since the 1970’s, each with a different explanation of the driving force behind the act. For example, environmentally focused theories, such as social disorganization theory (Shaw & McKay, 1942; Burgess, Ernest, & Bouge, 1964; Sampson & Groves, 1989), consider the influence of community status on rape behavior. Other theories, such as the theory of psychopathy (Clecky, 1941; Hare, 1991) or rapist type theories (Groth, 1979; Hazelwood & Burgess, 1987), seek to explain rapist behavior from a personality perspective by looking for common traits and behaviors among rapists. Each of these theories, including the feminist theory, is considered a _proximate_ or immediate explanation of behavior. For example, if an individual is an alcoholic, a proximate explanation for the drinking behavior may be that he/she is suffering from depression, has low self-esteem, was abused as a child, etc. Proximate explanations of behavior seek to identify the direct cause of the behavior. Conversely, _ultimate_ explanations of behavior look to explain why the proximate cause exists in the first place. Using the example of alcoholism from above, an ultimate explanation would take one step further to focus on what trait provides survival or fitness value while allowing for alcoholism, which in turn causes the depression or low self-esteem. Ultimate explanations are concerned with the root cause of behavior. Pertinent to this project, an example of an ultimate explanation of behavior would be the evolutionary theory of rape which posits that rape behavior is an adaptation that evolved because it resulted in reproductive benefits for the male.

It is important to note that proximate and ultimate explanations of behavior are not contradictory but instead approach explanations of behavior from different perspectives thus explaining why _proximate_ explanations, such as the feminist theory,
often conflict with *ultimate* explanations like the evolutionary theory. The perspective taken by the current research is that different levels of explanation of rape behavior may complement one another, with evolutionary agents (ultimate) acting as a driving force behind many of the more proximate theories. For the research project to appropriately address this, it is necessary to identify proximate theories, or components, that are consistent with evolutionary principles. It was expected that proximate theories that are based on, or are consistent with evolutionary foundations will be more likely to be supported by empirical data than those that are not.

Proximate rape theories can be grouped into social context theories and person-based theories. Social context theories focus on the influence of environmental factors in rape behavior while person-based theories attribute rape behavior to personal characteristics of the rapist. For the current study, feminist theory and social disorganization theory were selected to represent social context theories while psychopathy and rapist typology theories represent person-based theories of rape. It is likely that social context and person-based theories are not independent, but instead fall on a continuum with a person/environment interaction taking place in the middle. In addition, some of the proximate explanations have similar foundations, such as offender criminal history, so there is an overlap between person-based and social context theories. Thus, it is possible that more than one theory may be supported by the current data set (see conceptual depiction, Figure 1).

1.2.1 Evolutionary Theory (Ultimate)

The evolutionary theory of rape holds that the one commonality in all rapes is the sexual arousal of the rapist. Proponents pose the logical question: How could a rape take
place at all without sexual motivation on the part of the rapist (Thornhill & Palmer, 2000a)? Advocates of evolutionary theory explain that the propensity to rape has evolved over time and that it has been the source of reproductive benefits for males. Rape, according to this theory, is seen as an adaptation which is defined as phenotypic features (morphological structure, physiological mechanisms, and behaviors) that are present in individual organisms because they allowed its ancestors to be favored by natural selection. Natural selection refers to the process where traits that increase an individual’s ability to survive and reproduce become more common in a population over time (Williams, 1966).

The evolutionary theory of rape contends the following: in the past, selection favored men who raped women because they had a higher likelihood of passing on their genes to multiple offspring. Women, on the other hand, were favored when they were careful in choosing a mate because careful consideration of mate selection usually resulted in healthy offspring. This stems from the amount of parental effort that is required from each of the sexes. For males, only a minimal expenditure of time and energy, or parental effort, is needed for successful reproduction, while females must endure nine months of pregnancy, painful childbirth, months of breastfeeding, and years of childcare in order to produce healthy offspring. As Thornhill and Palmer (2000b) state: “In short, a man can have many children, with little inconvenience to himself; a woman can have only a few, and with great effort” (p. 32).

Although it is controversial, the evolutionary theory of rape has a growing body of literature devoted to it, with some of the work demonstrating the empirical value of the theory. Research has demonstrated that males in most species have a stronger desire for
copulation than their female counterparts. This is evidenced through the polygamous nature of almost every known species in the animal world. Symons (1979) explained that human males not only have an abridged ability to refrain from sex and an increased desire for a variety of sexual partners, but use less selective criteria for choosing partners and have a greater willingness to engage in impersonal sexual acts. Other research looking at testosterone levels of human males has shown that men who are in romantic relationships have lower testosterone rates than single males, but this is dependent on men’s interest in extrapair sexual relations (McIntyre, Gangestad, Gray, Chapman, Burnham, O’Rourke, Thornhill, 2006). In other words, some men continue to be interested in pursuing other mates while mated and exhibit levels of testosterone similar to that of single men. Evidence clearly demonstrates the biological basis for the desire for extrapair bonding, by males across all species, including humans.

As mentioned earlier, hormonal treatment of rapists is the most effective way to prevent recidivism indicating a clear biological component to rape. Victim age has also been used to support the evolutionary perspective on rape. A meta-analysis that tabulated all the available U.S. data sets (of reported rapes) to analyze victim age found that young women are greatly overrepresented in the rape victim population compared to older and much younger females (Thornhill & Thornhill, 1983). Studies since then have demonstrated similar findings according to population rates. For example, Perkins, Klaus, Bastian, & Cohen (1996) found that taking into consideration the population rate of each age range, the 12-15 year olds and the 16-24 year olds were the most likely to be victims of rape. Evolutionary psychologists believe that the age range where most rapes occur and the optimal range of female fertility are not just coincidentally the same, especially
when considering the most vulnerable victims and easiest targets are not in this age range. Additionally, the evolutionary theory is also thought to manifest itself in non-violent rapes such that force, pain, and harm are not inflicted on the victim (Thornhill & Palmer, 2000a). Sexual references are expected to be a large component of rape from an evolutionary perspective and vaginal intercourse with ejaculation is the end goal due to the evolutionary driven motivation for successful reproduction.

Other areas that have gained some empirical support for the evolutionary view on rape is that of the overrepresentation of low-income males as rapists and the concept of sperm competition. Lalumiere, Chalmers, Quinsey, & Seto (1996) referred to this as the **mate-deprivation hypothesis**. Men who cannot acquire adequate resources often lack reproductive options other than rape. This may be the case for low-income men. It has been shown that women living in low-income areas have a higher likelihood of being raped. One study showed that inner city women have a 1 in 77 chance of being raped compared to their richer counterparts who had a 1 in 10,000 chance (Eisenhower, 1969). Another study reported 42% of women living in low-income housing had been raped (Kalichman, Williams, Cherry, Belcher, & Nachimson, 1998). Numerous other factors play into a low socio-economic environment such as high crime rate, but the mate-deprivation hypothesis which focuses on males with limited resources has been hypothesized as a possible contributor to rape behavior.

Sperm competition is also an area of support for the biological bases of rape. It has been shown that the longer a male has been physically separated from his mate, the more sperm he produces, likely in a response to counter any competing sperm that may have been deposited during his absence (Baker & Bellis, 1993, 1995). This speaks to a
physiological adaption that has developed in males in response to the likelihood of another man possibly inseminating his mate. Kilgallon and Simmons (2005) found that men who view sexually explicit images displaying cues of sperm competition produce more sperm than men who view similar images in which there does not appear to be sperm competition. These examples demonstrate that men produce competitive ejaculates that decrease the probability that another man will conceive with their partner.

Additionally, it should be mentioned that there is some controversy between proponents of the evolutionary theory of rape over whether rape in itself is evolutionary derived or if the propensity to rape is what has evolved over time. Thornhill and Plamer (2000a,b) describe this in terms of seeing rape as an adaptation or considering it as a byproduct of other sexual adaptations, particularly those that “produce the sexual desires of males for multiple partners without commitment (Thornhill & Palmer, 2000a, p. 60). It is still unclear which theoretical position is correct, but both hold the same premise; rape has a heritable component that has preserved the behavior due to reproductive benefits.

1.2.2 Feminist Theory (Proximate)

Due to the theoretical nature of the feminist explanation of rape, empirical evidence to support the theory is limited. Often proponents of this theory argue that rapists, when questioned about their motivation to rape, have attributed their behavior to a desire for power and control over women (Groth, 1979). Thornhill and Palmer (2000a) explain that this response from rapists was never separated from treatment effects. In other words, when rapists in treatment programs attributed their behavior to a desire for power and control, they may have attempted to answer as they were expected based on the goals of the treatment program. It has also been cited that physical harm to the victim
of the rape classifies rape as an act of violence, not of sex (Harding, 1985). However, the average rape only involves an amount of force necessary to complete the rape, not excessive violence (Bowyer & Dalton, 1997). It is also argued that “any female may become the victim of rape” illustrating that rape is not motivated by sexual desire or lust (Brownmiller 1975, p 348). Although it is a true statement that anyone can be raped, there is no mention that females at their peak of sexual attractiveness and fertility, their teens and early twenties, are highly overrepresented as victims of rape (Kramer, 1987; Pawson & Banks, 1993; Whitaker, 1987).

More recently in response to criticisms, Brownmiller and other feminist theory proponents have redefined their view. They explain that rape is not only an act of power but one of degradation and humiliation as expressed by victims of rapes. These victims did not see the rape as an act of sex, but the researchers claim to have never discounted the role of sex as “sexual organs are used” (Ellis, 2000, pg 2). Proponents of this theory consistently refer to victim accounts of rape which often involve high levels of emotional trauma. It is not surprising that victims suffer severe emotional trauma after a rape given the violation of the victim’s body. Being put in a situation of such extreme unwanted intrusion likely causes the victim to focus on the negative behavior of the rapist, which contributes to the emotional trauma, as it is consistent with her understanding of rape behavior. Feminists have argued that the evolutionary perspective of rape allows for an excuse of the act because it is engrained in human biology and openly criticize the andocentric focus of the evolutionary theory (Vega, 2001). Proponents also stress the idea that biology must be viewed from within a social, psychological, and economical context. To support this point, they reference Jane Goodall and Leonard Williams who claim to
have never observed rape in primates and monkeys in their natural habitat (Brownmiller, 1975). This assertion has been disputed by Wrangham & Peterson (1996) who have consistently documented rape in primates and even revoked by Jane Goodall herself in her 1986 book *The Chimpanzees of Gombe*.

**1.2.3 Social Disorganization Theory (Proximate)**

Social disorganization theory, a criminological theory, hypothesizes that high crime rates are correlated with certain ecological environmental factors present in communities, such as low socio-economic status (SES), high mobility, high ethnic heterogeneity and high density. Research in this area is quantitative in nature and has traditionally been focused on disadvantaged youth that lived in neighborhoods where delinquency was widely accepted by the subcultures (or peer groups) within the community. Sampson (1993) explains that youth who grow up in an urban environment with inadequate supervision and support at the family and community level are more likely to get involved with criminal behavior, usually as part of a street gang. This criminal behavior will likely escalate if social controls are not in place within the community and social cohesion is not present. The breakdown or all out absence of social control mechanisms, such as in-tact family units, schools, churches, community centers, etc., limits communal bonds or investment in a community creating social disorganization. “A community’s level of social disorganization is measured in terms of local friendship networks, control of street-corner teenage peer groups, and presence of organizational participation” (Sampson & Groves, 1989, p. 774).

Baron and Straus (1989) developed the Social Disorganization Index (SDX) as a way to measure social disorganization at the state level. Social disorganization theory, as
originally developed, incorporates a systematic breakdown of numerous social networks that contribute to delinquent behavior. Research devoted to social disorganization theory often uses different indicators of social disorganization, making the comparisons across studies difficult and the need for one agreed upon measure necessary.

The SDX is a six-item scale measuring instability in an area (state). Through factor analysis, the following six items had loadings of .65 or better; percent of the population moving from a different state or abroad (mobility), ratio of tourists to residents, percent of the population who are divorced, percent of female headed households with children under the age of 18, percent of the population with no religious affiliation, and non-familied male householders per 1,000 population. The authors explain that social disorganization is not an absolute, so that all six factors do not need to have high rates for an area to be considered as having a breakdown of social networks. Instead, social disorganization tends to fall on a continuum in which areas that have the highest rates across a multitude of indicators have significant social disorganization. Baron and Straus (1989) found that when using the SDX for rapes that occurred between 1980 and 1982 “the rape rate increases in proportion to the level of social disorganization” (p. 145). For the current study, in order to assess the level of social disorganization within the rapists residential area at the time of the assault, the address of the rapist provided on the police report was used to obtain poverty level, crime rate, population density, as well as factors from the SDX including, mobility, divorce rate, religious affiliation, female headed households, and male non-familied households information pertaining to the neighborhood, county, and state.

1.2.4 Psychopathy (Proximate)
Psychopathy is a personality disorder that is typically characterized by a lack of empathy or remorse for others and the use of tactics like manipulation, coercion, intimidation, and violence to control others. Psychopaths are also characterized by a state of low arousal and need for stimulation (Adams & Sutker, 2001). Psychopathy, as originally conceptualized by Cleckley (1941), presented psychopaths as self-destructive individuals who are incapable of experiencing authentic emotions and show little deference for the rights of others. Cleckley’s (1941) criteria for psychopathy include but are not limited to superficial charm, insincerity, lack of remorse and empathy, and pathological egocentricity.

Mealey (1995) classified psychopaths into two groups; primary and secondary. A primary psychopath is an individual who is genetically predisposed to an emotional deficiency characterized by a complete lack of empathy and moral development. Secondary psychopaths are more environmentally influenced and less genetically predisposed to antisocial behavior. Secondary psychopaths are born with normal emotional faculties but exposure to environmental risk factors such as low SES, urban lifestyle, poor social skills, and low intelligence, cause the use of deceptive social strategies which in turn reward psychopathic behavior. More recent research has upheld this two variant theory of psychopathy demonstrating two clusters of psychopaths consistent with primary and secondary definitions (Skeem, Johansson, Andershed, Kerr, & Eno Louden, 2007).

The most commonly used measure of psychopathy is the Hare Psychopathy Checklist – Revised (PCL-R; Hare 1991) which is considered a derivative of Cleckley’s (1941) original work. Psychopathic characteristics fall under two primary factors:
personality deficits which include lack of remorse and empathy, and a socially deviant lifestyle which incorporates impulsivity and delinquency. Two of the most defining features of Hare’s psychopathy conceptualization, and two features that are consistent across most of the literature, are empathy (callousness) and remorse deficits. These deficits involve a decreased ability to experience guilt and both are included in Factor 1 of the two factor PCL-R. A lack of remorse and empathy has been included in the conceptualization of psychopathy since Cleckley (1941) and can be clearly identified in the current data set to assess psychopathic tendencies in serial rapists.

Critiques of the PCL-R have found that Factor 1 of the measure provides a better description of traits associated with psychopathy compared to Factor 2 (Cooke & Mitchie, 1997). Factor 2 of the PCL-R focuses on an antisocial lifestyle and recent research that has proposed competing models of psychopathy has questioned antisocial/criminal behavior as a core component of psychopathy. The PCL-R’s predictive utility in terms of sexual recidivism is inconsistent at best (Firestone, Bradford, McCoy, Greenberg, Curry, and Larose, 1998; Rice, Harris, & Quinsey, 1990). Predication of sexual recidivism has been specifically addressed by other measures such as the Violence Risk Appraisal Guide (VRAG; Harris, Rice, & Quinsey, 1993) and Sex Offender Risk Appraisal Guide (SORAG; Quinsey, Harris, Rice, & Cormier, 1998), which provide an actuarial approach to the study of reoffending. The VRAG focuses specifically on the predication of violent recidivism among criminal offenders and mentally disordered offenders while the SORAG concentrates on sexual recidivism. Both have demonstrated predictive validity in “…violent (including sexual) recidivism and recidivism shown to be sexually motivated” (Harris, Rice, Quinsey, Lalumiere, Boer, &
Lang 2003, p. 413). Harris et al. (2003) have also demonstrated that an interaction between psychopathy and sexual deviance puts an individual at high-risk of sexual re-offending, as measured by both the VRAG and SORAG.

Additionally, the PCL-R’s ability to predict violence and criminal recidivism is controversial as well. Skeem and Cooke (2010) propose that criminal behavior is a secondary component of psychopathy and that the field has muddled the theoretical construct of psychopathy with the measure of the disorder (for a review of the debate see Skeem & Cooke, 2010; Hare & Neumann, 2010, rebuttle; Skeem & Cooke, 2010, reply). It has been said that there is a “disconnect” between the role of criminality in the PCL-R and Cleckley’s (1941) original conceptualization of psychopathy (Skeem & Cooke, 2010). Given the controversy surrounding the relationship between criminal behavior and psychopathy, rapist criminal history will be omitted from the current study as a measure of psychopathy. Among the core features of psychopathy is the need for stimulation, lack of remorse, justification of behavior, and aggression, each of which can be assessed in the current data set. Additionally, impulsivity which is considered a secondary trait of psychopathy can be assessed in the current study.

Psychopaths are over-represented in prison populations across the United States comprising roughly a quarter of prisoners (Lilienfield & Arkowitz, 2007). Given that promiscuous sexual behavior and criminal versatility are attributes of psychopathy, it is reasonable to assume that rapists may represent a subset of those with the personality disorder. Additionally, provided psychopaths propensity toward a criminal lifestyle and repeated criminal offenses, serial rape may be likely. Prentky and Knight (1991) found that half of all serial rapists may be psychopaths. Research on the prevalence of
psychopathy has shown that rapists have a higher prevalence of psychopathy compared to other sexual offenders like child molesters and rapists have been found to have the highest base rate of psychopathy among sex offenders (26.1%; Forth & Kroner, 1995). Serin (1991) also found that psychopathic inmates were more likely to use weapons and threats in the attack and scored higher than non-psychopathic inmates on measures of aggression and impulsivity. Psychopathic rapists have also been typed as either opportunistic or anger rapists (Brown & Forth, 1997).

Additionally, psychopaths have demonstrated verbal processing deficits in that they have been shown to not understand emotionally laden information (Hare & McPherson, 1984). Research has drawn a possible link between psychopaths inability to appropriately process verbal information and Cleckley’s (1976) suggested disconnect between what psychopaths say and how they act, such that they usually possess verbose, charming qualities but act in a callous, selfish way (Hare & McPherson, 1984). More research is needed to better explain how processing deficiencies in psychopaths influence their behavior and actions.

### 1.2.5 Rapist Types (Proximate)

Numerous theories involving different typologies of rapists are present in the literature today. They differ in scope, amount, and methodology and often come from qualitative data. Specifically, there are no collectively agreed upon “types” of rapists, but most theories tend to classify rapists by the underlying motivation of their offense (Robertelli & Terry, 2007). A review of the literature identified five types of rapists, often referred to under different titles, which appear to be consistent across most studies (see Table 1). Those are: the anger rapist, the power-exploitative rapist, the power-
reassurance rapist, the sadistic rapist, and the opportunistic rapist (See Table 1; Groth, 1979; Hazelwood & Burgess, 1987).

Researchers have sought to empirically validate and expand on those five basic categories to include sexually motivated rapists. Given that the feminist theory of rape was the foundation for much rape research in the past, it is no surprise that rapist typologies did not take into account the possibility of a sexually motivated, non-sadistic rapist, as evident from the titles of the types above. The Massachusetts Treatment Center Rapist Typology, Version 3 (MTC-R3) is referred to as the best typology model for discriminating amongst rapists and has incorporated a sexual aspect in rapist types (Patrick, 2007). Unfortunately, the empirically driven work has not proved encouraging as it is not as diagnostic as the early work; 25% of rapists do not fall into any category indicating incomplete classifications; and has considerable predictive validity issues (Knight, 1999; Prentky & Knight, 1991).

More recently, psychopathy researchers have sought to correct the validity problems with the MTC-R3 and include a distinction between psychopathic rapists and non-psychopathic rapists. Patrick (2007) adjusted the MTC-R3 rapist typology to include psychopathic rapists who were either opportunistic, pervasively angry, or sadistic, and non-psychopathic rapists which included vindictive and non-sadistic sexual types. A review of the literature finds this to be the only typology in existence that integrates the psychopathic personality type into rapist typologies. It should be noted that the MTC-R3 typology is missing a type similar to that of the power reassurance rapist from the original five categorizations of rapists explained above. Due to the constraints of the current data set, only the five rapist typology types, see Table 1, can be assessed.
1.3 Interaction between Levels of Causation and Rape Theories

Given the different levels of explanations of rape behavior (ultimate and proximate) between the evolutionary perspective and the other perspectives (feminist, social disorganization, psychopathy, and rapist typology), it is expected that some proximate theories will have components compatible with an evolutionary framework. Psychopathy has been proposed to have an evolutionary basis, primarily when speaking of primary psychopaths. Mealey (1995) explains that psychopaths often are at a competitive disadvantage when finding viable mating options, thus predisposing them to a high likelihood of committing rape. Additionally, three of the five rape typologies have an evolutionary component. Power-reassurance or compensatory rapists only use as much force as is necessary to complete the rape and often resort to rape because of a lack of other reproductive options (Robertiello & Terry, 2007). Sadistic rapists primary motivations is sexual desire which they achieve through inducing pain/fear in the victim (McCabe & Wauchope, 2005). Opportunistic rapists take advantage of their environment and are motivated by immediate sexual gratification (Knight & Prentky, 1990). Social disorganization theory (Sampson & Groves, 1989) has an evolutionary component such that resource deprivation drives the explanation for criminal behavior and, from an evolutionary perspective, is thought to contribute to a man’s inability to find a consensual mating partner. Lastly, the feminist approach appears to be the proximate explanation that is the most theoretically opposed to the evolutionary theory because it asserts a strictly non-sexual motivator to rape.

1.4 Rape Models
A primary goal of this study was to investigate the role of various theories of rape and understand how they may contribute to or help explain a model of rape based on situation factors, i.e., What is the effect of the presence of weapons or the location of the rape on rape outcomes like victim injury? The systematic study of rape has taken place for the past forty years, yet little empirical work has been published on modeling the predictors of rape or factors associated with it. Ullman and Knight (1991) explored the relationship between situational factors, offender aggression, and women’s resistance to rape on the amount of sexual abuse and physical injury sustained by the victim (see Figure 2). They found that situational danger, which included threatening remarks, environmental intervention, presence of a weapon, relationship of the victim to the rapist, and the location, time, and style of attack, were positively but not significantly related to sexual abuse (β = .12), and negatively related to victim resistance (β = -.14, p < .05), which acted as a mediating variable. They also found that victim resistance was negatively related to sexual abuse (β = -.17, p < .05). In addition, they found that offender aggression is positively related to victim resistance (β = .18, p < .01) and physical injury (β = .31, p < .001). Most importantly, they found that the best predictor of less sexual abuse during an attack is a women yelling and screaming (victim resistance) and that the best predictor of physical injury is an offender’s physical aggression during the attack.

The majority of empirical studies in this field have focused on understanding the perpetrators of rape, not necessarily situational factors as Ullman and Knight (1991) explored above. For example, Abbey, Parkhill, BeShears, Clinton-Sherrod, and Zawacki (2005) modeled predictors of sexual assault from the perpetrators perspective. Among other predictors, they found that peer pressure to engage in sex, casual sexual
relationships, alcohol problems, and hostility toward women had a direct or indirect effect on the number of sexual assaults committed. Many of these predictors supported past research, particularly on the relationship between alcohol and sexual assault (Ageton, 1983; Muehlenhard & Linton, 1987; Seto & Barbaree, 1997; Tyler, Hoyt, & Whitback, 1998; Zawacki, Abbey, Buck, McAuslan, & Clinton-Sheppard, 2003) and hostility toward women (Malamuth, Linz, Heavey, Barnes, & Acker, 1995; Malamuth, Sockloskie, Koss, & Tanaka, 1991; Murnen, Wright, Kaluzny, 2002; Wheeler, George, & Doll, 2002), which have been studied for years. The one discrepancy between Abbey and colleagues (2005) and the numerous studies that found hostility toward women to be a predictor of sexual assault (primarily Malamuth et al., 1991, 1995) is that Abbey and colleagues (2005) found the hostility toward women variable to be indirectly related to sexual assault perpetration. Hostility toward women was positively related to attitudes about casual sex and peer pressure, which in turn were positively associated with sexual assaults. This finding provides interesting implications in terms of the theories of rape discussed earlier. This finding may provide support for the evolutionary theory of rape as it explains that hostility toward women is secondary to a man’s desire for and attitude about multiple sexual partners as a predictor of sexual assault. Psychopathy may also play a role in this finding as psychopathic individuals are known to regularly engage in casual sex with little concern and display hostile behavior in general. Lastly, social disorganization theory may contribute to this finding because of its emphasis on peer groups and lack of social control as a mechanism for increased criminality.
1.5 The Current Study

The current study was designed in two phases. The first phase sought to study the current data set from a theoretical standpoint by testing variables that would support or challenge the theories discussed earlier. In addition, specific paths that support each theory were analyzed. To date, it has been difficult to quantitatively demonstrate support for any one theory in the context of a rape situation. The evolutionary theory involves behavior that is deeply entrenched in human biology and evolution which often are not manifested in easily studied traits. The feminist theory focuses on a male dominated culture which tends to emphasize abstract principles that are not easily defined. Psychopathy has been empirically validated as an explanation for criminal behavior but has rarely focused specifically on rape. The idea of types or categories of rapists is fairly well adopted, but with little consensus on designated rapist types. Social disorganization theory has been used to understand and predict criminal behavior, but similar to psychopathy, is rarely focused on specific types of crimes like rape.

The study was designed to assess the degree to which the current dataset includes empirical support (including assessment of variables not quantified in prior research) that can clearly speak to theoretical foundations of rape, or lack thereof. Further, it replicated well established findings such as serial rapists are likely to rape strangers (Hazelwood & Warren, 1990), victims are more likely to be raped during the period of peak sexuality (teens through the twenties; Mynatt & Allgeier, 1990), the only force used is that needed to commit the rape (Thornhill & Palmer, 2000a), and that rape usually involves vaginal intercourse with a penis compared to other acts (Thornhill & Thornhill, 1991).
In phase two, a model of rape was developed focusing on predictors of rape from a situational standpoint, updating that of Ullman and Knight (1991). The model was assessed for its applicability to each theory of rape. Given the robust amount of information available in the data set, a comprehensive model of rape predictors and outcomes were extracted to explain cause and effect associations (depicted in Figure 2.1) better.

1.6 Hypotheses: Phase 1- Establish a Theoretical Basis for Rape in the Current Dataset (see Tables 2, 3, 4, and 5)

Given the exploratory nature of this phase of the research, it was difficult to hypothesize what theory would be supported by the data. The purpose of the study was to identify variables that could provide quantitative support for a given theory. The following tables describe predictions based on the theoretical framework of psychopathy, rapist type, social disorganization, evolutionary, and feminist theories of rape that could be analyzed in the current data set. The evolution and feminist theories of rape are presented in one table as they tend to have opposing predictions of rape behavior.

Additionally in phase 1, the following specific paths were analyzed that would support each theory:

Psychopathy

- Rapists with a violent criminal history demonstrate more aggression leading to increased injury to the victim. This path would support the research that shows that people who meet the criteria for psychopathy tend to be violent and display aggression (Reidy, Zeichner, Miller, & Martinez, 2007).
• The presence of threats or weapons will increase the amount of verbal resistance by the victim which will be more likely to increase the use of force, victim injury, and severity of sexual assault. This hypothesis falls in line with research demonstrating increased use of threats and weapons by psychopaths (Serin, 1991) as well as research demonstrating deficits in verbal processing in psychopaths (Hare & McPherson, 1984).

Rape Type

• The power reassuring rapist elicits increased resistance from the victim which decreases the severity of the assault and injury inflicted on the victim.

• The power exploitative rapist elicits less victim resistance which increases the severity of the assault and the force used against the victim.

These paths follow the mostly qualitative research that finds that the power reassurance rapist is apologetic and self-deprecating likely giving the victim more confidence to resist the attack which will cause this type of rapist to be less severe during the rape and less likely to injure the victim (Berger, 2000). Research also supports the path that the power exploitative rapist who seeks to humiliate and control the victim will cause the victim to resist less out of fear which will increase severity of the attack and the force used to complete the rape (Knight & Prentky, 1990).

Social Disorganization

• Rapists living in areas of high population density and high crime are more likely to use a weapon during the rape which decreases victim resistance. This path is concordant with research that indicates that rapists are more likely to live in high
density areas with high crime (Sampson, 1983) where there is easy access to weapons and research on victim resistance showing less resistance when a weapon is present (Ullman & Knight, 1991).

Evolutionary

- Married/coupled women are more likely to resist the attack and are more likely to have excessive force (more than that necessary to complete the rape) used against them. From the evolutionary standpoint, excessive force is unique to rapes involving married/coupled women as they are expected to be more likely to adamantly resist the attack which results in a greater amount of force. This would be in accordance with research demonstrating that coupled women suffer less psychological pain when they exhibit physical evidence of resisting (Thornhill & Thorhill, 1990).

- Married/coupled women will invoke more sexual comments from the rapist which will lead to a higher likelihood of sexual intercourse. This supports research demonstrating in males as well as the reproductive motivation behind rape (Baker and Bellis, 1993)

Feminist

- Increased aggression by the offender leads to decreased resistance by the victim and increased rape severity and victim injury. This would follow the feminist line of research that stresses the anger and domination of the rapist which would lead to less resistance by the victim which leads to increased severity and victim injury as the rapist seeks control over the victim (Ellis, 1989).
• Vulnerable victims (4-13 and 60-85) will experience more hostility from the rapist which will lead to more force used against the victim and more victim injury. This path supports the premise of the feminist theory that vulnerable victims are the easiest targets for rapists to demonstrate their hostility toward women. It is expected that victims in this age range would be easier to control and dominate compared to women in the fertility age range.

1.7 Hypotheses: Phase 2- Establish a Model of Rape (see Figure 3)

1. The presence of weapons and threats will be positively associated with severity of sexual assault and negatively related to victim resistance, while increased victim resistance will be negatively associated with the severity of sexual assault (following past research).

2. Evidence of a planned attack and the location (moving from less public to more public) will be negatively associated with the duration of the assault such that if the attack was planned and in a more public place the duration of the assault should be shorter.

3. Increased victim resistance, verbal and physical aggression by the offender, and the location (moving from less public to more public) will be positively associated with the use of force.

4. Evidence of a planned attack will be negatively associated with physical injury and verbal and physical aggression will be associated with increased physical injury.
Chapter 2: Method

2.1 Data

The data set used for the study comes from the Behavioral Sciences Unit (BSU) at the Federal Bureau of Investigation (FBI). Data were collected between 1991 and 1995 and span a time period across most of the 1980’s (the rapes actually occurred between 1980 and 1990). Permission was given for the use of these data by the current Unit Chief of the BSU and one of the original researchers, Janet Warren at the University of Virginia. All information was kept confidential, and all victim and perpetrator identities anonymous.

The original data were collected through a course taken by law enforcement officers from across the country at the FBI Academy at Quantico, VA. Students in the class, which was offered four times a year, obtained the cases from their own departments or from neighboring jurisdictions creating a nation-wide sample. The data collected were these of serial rapists defined as one individual involved in more than one rape. There are 588 total cases of rape that contain all the materials and 119 actual rapists that perpetrated the 588 rapes. Forty-five victims (cases), 11 rapists, which were a part of the original research project in the 1990s were excluded from the current study because the materials could not be located. This left a total usable sample of 108 rapists perpetrating 543 rapes. Techniques for imputation of missing data in the final model were considered and are further discussed in the results section 3.3.2. The majority of data that contributed to variables that were included in the modeling phase were shown to be mostly complete. A review of the available data indicates that for each of the 543 rapes, an individual was apprehended and was identified as the rapist.
2.2 Materials

The data collected through the BSU consisted of a detailed victim statement for each rape and a police report detailing the series of crimes that took place. Researchers with the BSU developed a protocol that accompanied each victim statement and police report that consisted of two parts (see Appendix A). Part A contained 52 multiple-choice questions, some with subparts, totaling 66 coded variables that were used in the current study. This part consisted of situational variables such as where the rape occurred, the presence of weapons, and what sexual act was performed. Basic victim demographics were also gathered here. Part B of the protocol described the interactions between the victim and rapist, e.g. the infliction of pain, the response to resistance, and any reassuring or threatening remarks made by the rapist. Part B also consisted of 52 multiple choice questions with 60 coded variables. Lastly, there is a one page form (Part C) with offender demographics such as date of birth, ethnicity, education, etc. Information on this form proved to be limited as the majority were incomplete.

Coders filled out the protocol according to information ascertained from the police report and victim statement for each rape. Rapes were independently coded by two graduate research assistants. The rapes were assigned to coders randomly and all reports were sanitized beforehand to assure the coders had no knowledge of the perpetrator, location, or other rapes in the series. Coding reliability was assessed for 100 of the rapes over the course of the coding. For Part A of the protocol, kappas could be computed for 106 variables (original study variables) with a mean kappa of 0.78, and a median percent agreement of 95% for the 10 kappas that fell below 0.40. For Part B, the mean kappa was 0.76 with a median percent agreement for the 10 lowest correlations.
2.3 Procedure

The researcher’s current employer, the Federal Bureau of Investigation (FBI), offered the use of a data set that was collected after much communication between the researcher and representatives from the Behavioral Science Unit (BSU) of the FBI. FBI BSU contact was originally established through Dr. Christian A. Meissner and after numerous meetings among the BSU personnel and the present investigator, it was decided that a serial rape data set offered the best option for a timely product useful for both parties.

As stated previously, the serial rape data were collected between 1991 and 1995 and the reported rapes spanned the 1980’s. Besides a couple of works published in the late 1990’s (Warren, Reboussin, Hazelwood, Cummings, Gibbs, & Trumbetta, 1998; Warren, Reboussin, Hazelwood, Gibbs, Trumbetta, & Cummings, 1999), little has been done with the data. The BSU expressed a need for the data to be appropriately organized and catalogued so that future work using it would be possible.

Each victim statement had to be paired with the appropriate police report which in turn, had to be put with the correct protocol and offender sheet. Once minor organization was achieved, missing data were assessed. A power analysis that estimates the sample size needed for a test of close fit and a test of not close fit for the RMSEA was conducted. It was determined with 30 degrees of freedom, a sample size of 314 was sufficient to achieve an acceptable power of .80 and determine close fit while a sample size of 366 is necessary to determine not close fit (MacCallum, Browne, Sugawara, 1996).

The researcher subsequently entered data for the 543 cases that are present in the data set. Each case clearly denoted a rapist identifying variable to account for multiple
rapes by one individual (clustered data). This is important in the analysis because in order to account for the violation of the assumption of independence of observations, a multi-level approach was necessary. For the results section, analysis for phase 1 consisted of describing the demographic characteristics of the victims, offenders, and rape scenarios, followed by the examination of several theoretical approaches (evolutionary, feminist, psychopathy, social disorganization, and rapist type) through these demographic characteristics to assess whether there was broad support for the theories. Then, using MPlus 8.0 software for path analysis with clustered data, several specific ‘individual paths’ based on the theoretical approaches assessed the extent of support for each theory in greater detail. For phase 2 of the research, statistical software was used enabling analysis of clustered data. First, SPSS 17.0 using Generalized Estimating Equations (GEEs) assessed bivariate associations. Then, MPlus 8.0 was used to evaluate a comprehensive model taking into account all hypothesized associations between dependent and independent variables simultaneously in one model. This approach further allows for assessment as to whether the model fit can be improved significantly by adding paths to the originally hypothesized paths in the model. For example, if the two variables are strongly associated in the data, but are not part of the originally hypothesized model, adding this path may strongly improve the overall model fit.
Chapter 3: Results

The total number of rapes was 543, committed by 108 rapists \((M=5.02, \text{ range 2-16})\). Most rapes occurred between midnight and six am with the majority lasting 11-45 minutes (56.2%; part B, 32). Approximately 90% of rapists were strangers (part A, 1) and 74.6% of rapes occurred in a private location such as the victim’s residence (part A, 2). Victims were mostly White (76.2%; part A, 34) and unmarried (66.2%; part A, 35) with a mean age of 29.4 years (median = 26; see Figure 4; part A 33). Almost half (47.6%; part C, 3) of rapists were White with the majority of the remainder being African American (45.1%; part C, 3). The average age of rapists was 27.4 years and 25.8% suffered a sexual dysfunction during the rape (part A, 30). Most of the rapists had a criminal history (79%) averaging 3.82 crimes per rapist. A variable was computed to measure the concordance between rapist and victim ethnicity; 65% of rapes were between rapists and victims of the same ethnicity (see table 6 and 7 for demographic information).

The dependent variables in the hypothesized model of serial rape; 1) duration of rape, 2) use of force during the rape, 3) victim injury, and 4) severity of sexual assault; were all measured independently. Duration of rape (part B, 32), use of force (part B, 20), and victim injury (part B, 23) were individual items in the protocol while severity of sexual assault was defined by counting the total number of acts committed against the victim ranging from nuzzling and kissing to intercourse (part B, 18), following methods used by Ullman and Knight (1991). Thus, the item that measured sexual acts committed by the offender often had multiple responses and those were totaled to assess the overall severity of the assault. Severity of the sexual assault could be operationally defined in numerous ways, such as weighting sexual acts differently according to their perceived
effect on the victim. The current study chose to follow past research given that the act that would be considered most severe, vaginal intercourse with a penis, was present in the majority of cases (80.7%). Any added sexual acts, such as kissing or masturbation, were considered to contribute to the level of overall severity and therefore were weighted evenly in the current study.

The majority of variables included in the theoretical assessment phase (phase 1) as well as the modeling phase (phase 2) were directly taken from items in the protocol. The following were exceptions: offender criminal history, employment, and address were obtained from additional data provided as a part of the original research project in the 1990’s. Items in Part A that described the rape situation and were used in the current study, such as location of the rape and the presence of weapons, varied in the amount of options available and most were categorical in nature. All items in part B of the protocol which described the interaction between the rapist and victim and comprised the majority of the analyzed variables, i.e. empathy exhibited by the rapist and infliction of pain to the victim, were measured on a five point scale with 1 being no action and 5 being extreme action in most cases.

A correlation matrix was created to assess the relationships between the hypothesized independent and dependent variables (see Table 8). Correlations were computed using standard methods appropriate for data with a nested structure (Raudenbush, 2002). Among dependent variables, positive significant correlations were found between duration and severity ($b = .266, p< .001$), and use of force and victim injury ($b = .920, p< .001$). Relationships between the independent and dependent variables are further analyzed in phase two of the project.
3.1 **Phase 1: Analyses on Theories of Rape**

Each theory of rape was individually assessed by items from the protocol which served as a measure of the theories. Below, each theory is described in regards to support for the theory of lack of support for the theory in the serial rape data set.

### 3.1.1 Psychopathy

Six out of the nine psychopathy related variables were supported by the serial rape data set (see Table 9). Rapists showed little empathy or concern for the victim (6.8% were apologetic and 6.6% showed sensitivity toward the victim). Approximately 73% of rapists demonstrated anger toward the victim and 84% made no excuses for their behavior indicating justification for the act. Seventy percent of the rapists used a weapon during the rape and 68.9% used threats. Variables not in support of psychopathy included: hostility toward the victim (79% demonstrated no hostility), impulsivity (86.7% were said to have done significant or extensive planning), and sub-optimal level of arousal (96% and 90% showed no evidence of use of drugs or alcohol). Rapists were most likely to have two to three victims (47.2%), although by definition serial rapists have multiple victims and it is suspected that the number of victims per rapist in the data set is dependent on apprehension of the rapist, i.e. a rapist with two victims may have had a number of others if not for arrest by law enforcement.

### 3.1.2 Rapist Type

Approximately 94% of the rape cases were classified by the original raters as either power reassurance (46.6%) or power assertive (47.3%) rapist types (see Table 10). Analyses also showed that one-third of the cases (33.9%) involved stealing items from the victim in addition to the rape indicating some support for the “opportunistic” rapist
type. However, 86.7% of rapists showed some evidence of a pre-planned rape making it appear unlikely that a rape opportunity occurred during another crime.

Rapist types in the protocol were pre-determined such that the raters were only provided four possible options of rapist types based on past FBI research. A fifth type, opportunistic, was able to be added for the current study because of additional variables collected that indicated an opportunity incentive for the rapist. Given the lack of consensus by the field on the exact number and type of classifications of rapists, the researcher is hesitant to make the assumption that based off the current findings, serial rapists are either the power reassurance or the power assertive type. Additionally, serial rapists have never been studied from the perspective of “types” making it possible that the four pre-determined types available in the protocol do not appropriately describe serial rapists. In an effort to empirically assess appropriate rapist types for serial rapists, a factor analysis was conducted on selected items from the protocol that represent features of rapist types from across the literature.

Twenty-nine items were taken directly from part B of the protocol and were included in the confirmatory factor analysis; with 19 items loading high on factor one or two (see Table 11). All items included in the factor analysis were chosen based on theoretical assumptions of the rapist type theory. Any variable from part B that was measured on a five point scale that provided information related to one of the rapist types, i.e. variables which measured rapist verbally negotiation and compliments toward the victim would follow the theoretical definition of the power-reassurance rapist, were included in the factor analysis.
Approximately 14% of the variance was explained by factor one and 12.3% of the variance was explained by factor two. Factor two is slightly more clearly defined and will be discussed first. Factor two grouped items indicating a power reassurance type factor. Loading high on this factor were the following: rapist self deprecates (.418; part B number 4), rapist shows sensitivity toward the victim (.712; part B, 5), rapist compliments the victim (.418; part B, 7), rapist reassures the victim (.624; part B, 10), rapist is apologetic (.477; part B, 11), rapist tries to engage in verbal negotiation with the victim (.423; part B, 19), an effort is made by the rapist not to harm (.487; part B, 29), and the rapist displaying macho behavior negatively loaded (-.587; part B, 33). These clearly indicate attributes such as passivity and sensitivity which are in line with a power reassurance rapist type.

Factor one appears to include items that would fall under the power exploitive rapist type but also includes items of sexual motivation and excitation. Items loading highly on factor one that are associated with a power exploitive rapist include the following: rapist makes hostile comments toward the victim (.530; part B, 8), rapist humiliates the victim (.663; part B, 35), rapist requires a verbal script (.448; part B number 15), rapist requires a demeaning script (.375; part B, 16), rapist requires a script that compliments him (.441; part B, 17), rapist requires a behavioral script (.449; part B, 18), victim injury (.413; part B, 23), and duration of assault (.502; part B, 32). Items loading high on factor one that indicated a sexually motivated component includes: rapist is interested in victim enjoyment (.448; part B, 36), rapist makes sexually verbal comments (.570; part B, 14), and rapist inflicted sadistic pain (.435; part B, 26). This possibly indicates that power exploitative behavior by the rapist and a sexual motivation
are not mutually exclusive and may make up a separate type of rapist that seeks sexual control. Items that did not load high on factor one or two included rapist makes hostile comments about women in general, rapist self-promotes, rapist makes demanding statements, rapist makes threats, rapist asks the victim questions, rapist requires a demeaning script, rapist uses force, rapist made an effort to protect his identity, rapist pre-planned the rape, and rapist response to victim resistance.

Research on rapist types has traditionally focused on one-time rapists with little interest in how pre-determined rapist types may apply to serial rapists. The above factor analysis indicates that serial rapists may meet different classification or “type” criteria, namely a two-factor classification, while single-time rapists may fall into a 4-5 factor classification.

3.1.3 Social Disorganization Theory

Data taken from the U.S. census and Uniform Crime Report was used to compare the national average poverty level, density, migration, and crime rate in the U.S. in 1989 and 1990 to the poverty level, density, migration, and crime rate of rapist’s place of residence. Due to constraints on collecting information from 1990, certain analyses had to be at the state level instead of either the county or neighborhood (census tract) level. For example, migration, divorce, female headed households, religious affiliation, and non-familied male households only had data available at the state level while density and crime rate could be assessed at the county level and poverty at the neighborhood level. All analyses conducted at the state level are to be interpreted cautiously as levels vary significantly within a state depending on location.
Overall, most measures of social disorganization theory had limited diagnostic value because statistics identified an equal distribution of rapists that either fall above or below the average rate of the social disorganization measures (see Table 12). For example, approximately 51% of rapists lived in a neighborhood where the average poverty rate was higher than the national poverty average of 12.8% in 1989. Additionally, at the state level, 51.5% of rapists resided in a state that had above average migration rates for the nation and 55% lived in a state that had higher than average divorce rates. Approximately 54% of rapists lived in a state with a higher rate of female headed households and 51.5% resided in a state with higher than average non-familied male households. Additionally, 57.7% of rapists lived in a state that was more likely than not to have a high percentage of a population with no religious affiliation. The two measures of social disorganization that demonstrated clear support for the theory were population density and crime rate. The majority of rapists, 82.8% lived in more dense counties than average, and 90.9% lived in counties with higher than average crime rates in 1990.

3.1.4 Feminist and Evolutionary Theory

Due to the opposing views of feminist and evolutionary theories, analyses that support one theory tend to negate the other (see Table 13). Evolutionary theory garnered more support as evidenced by the frequencies below. Fifty-four percent of victims were between the ages of peak fertility, 14 and 29, while 10% were considered in the vulnerable groups of young, 4-13, and old, 60-85. Similarly, the majority of victims suffered no injury or minor injury such as scrapes or bruises (90.3%). Fifty percent of rapists were employed, most in low level blue collar positions, and 68% were reported as wearing soiled and/or unkempt clothing during the attack. The evolutionary theory was
also supported in that one-fourth (25.2%) of the rapists had reported evidence of sexual dysfunction during the rape. Seventy-eight percent of rapists used only enough force necessary to complete the rape, i.e. excessive force was rarely used (1.7%), and 90.4% of rapists demonstrated no sadistic infliction of pain to the victim. Again, in support of the evolutionary theory of rape, an effort to harm was considered a “non-issue” in 78.5% of cases such that the offender did not go out of his way to harm the victim. Hostility toward the victim and toward women in general was not prevalent in that 78.8% demonstrated no hostility toward the victim and 95.8% demonstrated no hostility toward women in general. Seventy-one percent made an effort not to humiliate the victim during the rape and approximately 81% of the rapes involved vaginal intercourse with a penis. In support of the feminist theory, 80% of rapists had a criminal history, 48% displayed no sensitivity toward the victim and 83.6% of rapists had no interest in victim enjoyment. Similarly, sexually explicit verbal content was only a part of 38.8% of rapes and 84% of rapists made no excuses for the act indicating they felt somewhat justified in their behavior. Over half the data set had missing values for victim marital status resulting in a sample size too limited to include this variable in the analyses. For those that had data available, 66.5% of victims were not married/ coupled.

3.2 Phase 1: Analyses of Theoretical Paths

MPlus 8.0 statistical software, allowing for multi-level structural equation modeling with clustered data was used to analyze specific hypothesized paths that would speak to the different theories of rape (see Table 14). The psychopathy and feminist paths confirmed the a priori hypothesized pathways (see Figures 5 and 6). The psychopathy path included significant relationships between threats and verbal resistance
(b=.133, p=.032) and verbal resistance and severity (b=.147, p=.001), force (b=.104, p=.001), and injury (b=.100, p<.001). The feminist path, which primarily speaks to offender aggression, was found to be significant in that aggression was positively related to physical resistance (b=.213, p<.001) and physical resistance was positively related to victim injury (b=.137, p<.001). Additionally it appears that that physical resistance acts as a partial mediator to the relationship between offender aggression and victim injury in that the main effect remains significant (b=.296, p<.001) when accounting for the indirect effect through physical resistance.

3.3 Phase 2: Model Development

First, bivariate associations were analyzed and are represented below using SPSS 17.0 Generalized Estimating Equations (GEEs) Regression Analysis. Next, MPlus 8.0 was used to develop a comprehensive model, based on the hypothesized model, which takes into account the relationships between all the variables. Lastly, modification indices suggested paths that were released to increased model fit and indirect effects were analyzed using MPlus.

3.3.1 Regression Analysis on Model Paths

Generalizing Estimating Equations (GEEs) were used to estimate hypothesized bivariate paths for the predicted model taking into account the nested data structure (see Table 15). Victim age, concordance between ethnicities which was a computed variable assessing the similarities between rapist and victim ethnicities, and rapist criminal history were controlled for in all analyses as other variables that would typically be controlled for, such as rapist age, limited the sample size significantly. All variables included in the regression analyses were taken directly from the protocol with the exception of severity.
of assault which was an aggregate variable of the amount of sexual acts committed (see the first section under Chapter 3 for more information).

Threats made by the rapist was significantly related to severity of sexual assault such that an increase in threats was correlated to an increase in severity of assault \((b = .129, p = .024)\). Threats by the rapists was significantly related to verbal victim resistance such that the more threats made the more a victim verbally resists the assault (opposite direction of hypothesis; \(b = .123, p = .043\)). Verbal resistance by the victim was significantly related to severity of sexual assault in that the more a victim verbally resists, the more severe the assault will be (opposite direction of hypothesis; \(b = .156, p < .001\)).

Victim resistance, both physical and verbal, was significantly associated with use of force in a rape such that as verbal and physical resistance increase, the use of force used against the victim also increases (verbal- \(b = .092, p = .002\); physical- \(b = .235, p < .001\)). The planning of an attack was associated with the duration of the assault such that the more planned the attack the longer the rape lasts (opposite direction of hypothesis; \(b = .148, p = .003\)). A planned attack was related to victim injury in that the more evidence of a planned attack the victim is more likely to be injured (opposite direction of hypothesis; \(b = .268, p = .003\)). Location of the attack was related to duration such that as the rape moves from less public to more public, duration of the assault decreases (\(b = -.272, p < .001\)). Aggression by the rapist was significantly related to use of force against the victim in that increased aggression leads to increased use of force (\(b = .346, p < .001\)). Aggression by the rapist was significantly associated with physical injury to the victim in that increased aggression leads to increased victim injury (\(b = .314, p < .001\)).
3.3.2 MPlus Modeling

Using full maximum likelihood estimation with MPlus 8.0, model fit was assessed. Hu and Bentler (1999), proposed the following fit indices to evaluate model fit: The root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), comparative fit index (CFI), Tucker-Lewis fit index (TLI, also called Non-Normed Fit Index (NNFI)), and chi-square ($\chi^2$). These fit indices indicate model fit by utilizing absolute and comparative fit indices. The reproduction of sample data in an a-priori model is evaluated in an absolute-fit index (Hu & Bentler, 1999). This type of fit index is equivalent to $R^2$ due to the similarity between goodness of fit and a total sum of squares. For an incremental fit index, the CFI and TLI in the current study, the target model is compared with a more restricted, nested baseline model to measure the proportionate improvement in fit (Hu & Bentler, 1999). CFI and TLI values exceeding 0.95 are generally considered excellent fit (Hu & Bentler, 1999). The RMSEA and SRMR statistics are a measure of badness of fit. An RMSEA and SRMR value below 0.05 indicates excellent model fit and values below 0.08 are indicative of adequate model fit (Browne & Cudeck, 1993; Hu & Bentler, 1999; MacCallum, Browne, & Sugawara, 1996; McDonald, 1999). A non-significant chi-square indicates good model fit, although chi-square values for samples larger than 200 (which is the case in the current study) generally reach significance and is therefore of limited value as an indicator of model fit.

All tested models were overidentified. The a priori model was modified based on analyses that indicated a modified model provided an improved description of the data.

Assessment of potential non-normality of the data was conducted. The Satorra-Bentler chi-square statistic (Satorra & Bentler, 1994) was calculated using the MPlus
‘MLM’ (Maximum Likelihood Mean adjusted) approach. The Satorra-Bentler (1994) statistic is robust to non-normality and if this chi-square test statistic is very different from the original model, this is an indication of non-normality in the model. The MPlus MLM approach produces a scaling correction factor, which is a ratio of the chi-square of the original model over the Satorra-Bentler chi-square. If the value of the scaling correction factor is one, no multivariate non-normality is present. If the scaling correction factor is much greater than one, there is non-normality in the data (Satorra, 2000). For the current study, the scaling correction factor was 0.922, making the chi-square statistic for the final model only slightly different ($\chi^2(35)= 62.13$ versus $\chi^2(35)= 57.28$) than the Satorra-Bentler (1994) scaled version. In addition, the significance of the model did not change ($p \leq .01$ in both cases). These are indications that non-normality does not strongly impact the current model.

Total sample size for the final model was 403 cases out of 543 total cases. Sample size was diminished due to controlling for victim age and ethnicity concordance (the majority of missing data came from the ethnicity concordance variable) and it was deemed inappropriate to utilize data imputation methods in order to estimate the ethnicity of the rapist or victim based on characteristics of the rape itself. Future research with this data set has to take into account that controlling for certain demographic variables may result in a reduction of statistical power.

The baseline hypothesized model did not indicate a good fit on most model indices: RMSEA=.079; SRMR=.065; CFI=.812; TLI=.670; $\chi^2= 143.42$, df=41, $p<.001$ (see Table 16). A number of the hypothesized paths were found to be significant (see Table 17). Threats (indicated in part B of the protocol, number 13) was found to be
related to severity of sexual assault (\(b=.160, p=.025\)), and victim resistance (verbal; part B, 47) but in the opposite direction hypothesized (\(b=.227, p<.001\)). Planned attack (part B, 34) was associated with duration (part B, 32; \(b=.118, p=.029\)) and both hypotheses concerning aggression (part B, scale 2) were supported with aggression being correlated with use of force (part B, 27; \(b=.321, p<.001\)) and physical injury (part B, 23; \(b=.323, p<.001\)). Additionally, physical resistance (part B, 49) was related to use of force (part B, 27; \(b=.103, p=.013\)) and verbal resistance (part B, 47) to severity of sexual assault (\(b=.138, p=.005\)).

Modification indices indicated significant model improvement (\(p<.05\); see Table 16). Only suggested modification indices that were supported by theoretical underpinnings were used. The released paths include the positive relationship between verbal resistance (part B, 47) and physical resistance (part B, 49; \(b=.411, p<.001\)), the positive association between offender aggression (part B, scale 2) and physical resistance by the victim (part B, 49; \(b=.192, p<.001\)), the positive relationship between physical resistance (part B, 49) and injury (part B, 23; \(b=.112, p=.007\)), the positive association between planned attack (part B, 34) and severity of assault (\(b=.352, p<.001\)), the positive relationship between threats (part B, 13) and duration of the assault (part B, 32; \(b=.112, p<.001\)), the positive association between verbal victim resistance (part B, 47) and physical injury (part B, 23; \(b=.068, p=.016\)), and the positive relationship between aggression (part B, scale 2) and duration (part B, 32; \(b=.054, p=.044\)).

After accounting for modification indices, model fit greatly improved for the final model (see Table 16). All model fit indices for the final model are at an acceptable if not excellent level. The RMSEA improved to .040, the SRMR to .027, the CFI to .959, the
TLI to .916, and the $\chi^2$ to 57.28, $df = 35$, $p = .010$. Many of the hypothesized paths were maintained from the baseline model, some in the opposite direction than expected, and six additional paths were included as modification indices (see Table 18 and Figure 7). Threats by the offender (part B, 13) were found to be related to severity of sexual assault ($b = .210, p = .004$), verbal resistance (part B, 47; $b = .227, p < .001$), and duration of the assault (part B, 32; $b = .112, p < .001$). The presence of weapons (part A, 17) was found to be marginally significant in a negative correlation with physical resistance (part B, 49; $b = -.202, p = .075$) and the more likely the attack is to be planned (part B, 34) the more severe the assault is ($b = .352, p < .001$) and the duration is increased (part B, 32; $b = .149, p = .004$). Offender aggression (part B, scale 2) was positively related to physical resistance (part B, 49; $b = .192, p < .001$), duration of assault (part B, 32; $b = .054, p = .004$), physical injury to the victim (part B, 23; $b = .291, p < .001$), and use of force (part B, 27; $b = .302, p < .001$). Increased verbal resistance (part B, 47) was correlated with increased severity ($b = .139, p = .006$), increased use of force (part B, 27; $b = .064, p = .026$), and increased victim injury (part B, 23; $b = .068, p = .016$). Lastly, physical resistance (part B, 49) was found to be significantly related to victim injury (part B, 23; $b = .112, p = .007$) and use of force (part B, 27; $b = .156, p = .001$). Further analysis on the relationship between threats, verbal resistance, and severity of the assault found a partial mediating effect such that the main effect between threats and severity maintains significance ($b = .210, p = .004$) when accounting for the indirect effect through verbal resistance.

Additionally, the intraclass correlation coefficients, indicators of the degree of similarity of cases in clusters (Muthén, 1994), for the dependent variables was highest for
duration (ICC=.167), followed by severity (ICC=.156). This indicates that the cases within each rapist were most similar on length of the rape and severity of the rape. The ICCs for the use of force (ICC=1.03), and injury (ICC=.108) were lower indicating less similarity between cases within each rapist on these variables. The smallest ICC was found for verbal (ICC=.079) and physical resistance (ICC=.075).
Chapter 4: Discussion

To the authors’ knowledge, the current study is the first to consider serial rape from a theoretical perspective. In doing so, it was necessary to start at a basic level (phase 1), by analyzing demographic characteristics of the aspects of each rape, rapist, and victim to find support either for or against pre-existing theories of rape. Additionally in phase 1, factor analysis and hypothesis testing of individual paths that speak to each theory were used to further understand what theory was most applicable to the serial rape data. Once basic support was established for a theory; in the current context psychopathy and evolutionary theories; a theoretical model was developed, tested, and improved (phase 2). The findings from both phases were then integrated to further evaluate the relevance of the rape behavior described in the model to rape theory. Below is a discussion of each phase of the research, an explanation of the integration of phase 1 and 2, and the limitations and implications of the current study.

4.1 Serial Rape Research: Overview of Demographic Data

Consistent with the findings of past research on serial rape, the majority of rapes occurred between strangers and the initial approach was blitz in nature with the rapist surprising the victim and entering her house (Hazelwood & Warren, 1990). Rapists had roughly five victims on average, with two victims per rapist being most common. Sixty-five percent of rapists attacked an individual that was of the same ethnicity/race and 79% of rapists had a criminal history. A quarter of rapists in the current study suffered a sexual dysfunction during the rape, well above the 18% prevalence of sexual dysfunction found amongst United States men (Selvin, Burnett, & Platz, 2007). Serial rapist’s use of
threats and weapons during the attack was prominent supporting past research by Serin (1991).

4.2 Phase 1: Assessment of Rape Theories

Five theories of rape were assessed for their applicability to serial rapists. As discussed in the introduction, one was an ultimate level theory (evolutionary), while the rest were proximate level theories (psychopathy, social disorganization, rapist type, and feminist). Through analyses of frequency data, it was established that the current data set demonstrated support for the psychopathy and evolutionary theories of rape. In other words, serial rapists were likely to demonstrate characteristics consistent with a psychopathic and evolutionary framework.

4.2.1 Psychopathy Theory

Six out of the nine identified variables from the data set that served as a measure of psychopathy were in support of the theory. These included little empathy and remorse, demonstrated aggression, and justification for the act. One variable that was not shown to support a psychopathy theory was that of rapist impulsivity, with only 13.3% of rapists displaying impulsive behavior. As impulsivity is related to secondary psychopaths, this may provide some support for the presence of primary psychopaths and not secondary as rapists with psychopathic tendencies. Additionally, one of the hypothesized psychopathy paths was significant suggesting an association between threats by the offender, verbal resistance, and rape outcome variables (severity of assault, use of force, and injury to the victim).
4.2.2 Evolutionary Theory

Eleven out of 16 identified variables supported an evolutionary basis for rape such as very few were injured, force was only used to complete the rape, and the majority of rapes involved vaginal intercourse. Evolutionary theory was also supported by analyses on victim age which indicated that the majority of victims fell in peak fertility range. This is a particularly convincing argument when victim age range is compared to the female population age range in the same time period (see Figure 8).

4.2.3 Rapist Type Theory

Rapist type theory was partially supported in that analyses indicated that serial rapists tend to fall in one of two main categories or types of rapists; power reassurance or power exploitative. It should be noted that the coders of the original data had four predetermined types of rapists to choose from, forcing each rapist to fit into one of the four types. In the current study, factor analysis was conducted on items that make up the original protocol to ascertain if certain items that associated together clearly represented the pre-determined rapist types. Items loaded highly on two factors, one clearly related to power reassurance and the other including variables describing a power exploitive rapist with a secondary sexual motivation. Taking into consideration past research, it appears that there may be overlap in the power exploitative and sadistic rapist types (Patrick, 2007). It is unknown if this finding is unique to serial rapists or can be found in single instances of rape as well. Using multidimensional scaling to analyze the data, also known as perceptual mapping, would be an effective way to investigate rapist types in serial rapists (Hair, Anderson, Tathaw, & Black, 1998; McCabe & Wauchope, 2005). This method would provide a visual representation of how behavioral characteristics of rapists
group together indicating possible categories or types of rapists (McCabe & Wauchope, 2005).

There was little evidence for an opportunistic type of serial rapist. This type of rapists sees an opening to rape, usually in the midst of another crime such as robbery, and takes advantage of it. It is a bit presumptuous to conclude that an opportunistic rapist is an independent type based on evidence from the current study because little is known about how opportunistic characteristics interact with other rapist types. For example, in the current data set 53% of rapists that committed another crime during the rape (theft) were classified as power reassuring and 47% were classified as power exploitative (opportunistic rapist was not an option for rapist type in the original protocol). It is also difficult to assess the chain of events from the current data set; was the rape the primary goal and stealing from the victim an added bonus or was there an opportunity for rape that presented itself during a robbery. It is possible that rape is almost always the primary motivator and theft/robbery the open opportunity making an opportunistic type of rapist, by definition, unlikely. Based on the current data set, over 85% of rapists demonstrated some evidence of pre-planning indicating a thought out process rather than a stumbled upon opportunity.

4.2.4 Social Disorganization Theory

Social disorganization theory, which correlates the presence of social control mechanisms within a community with lower crime rates (Sampson & Groves, 1989), was difficult to assess based on inconsistent levels of measurement among variables. Social disorganization is typically assessed from a top down approach such that population data is used to predict crime rates and an individual’s likelihood of becoming a criminal.
However, the current study had to take a bottom up approach to the theory as we were already aware that crimes were committed (rapes) and had to essentially work backward to determine if the rapist was living in an area that would be considered socially disorganized at the time of the rape. In doing so, we were restricted to available data from 1990, some at the neighborhood level, some at the county level, and some at the state level. This being so, findings regarding this theory should be interpreted with extreme caution given the variability amongst data used to assess social disorganization.

At the most precise level of measurement, the neighborhood, roughly half of rapists were found to live in a neighborhood that was below the national poverty average. Additionally, only half of rapists were reported to be employed with the majority of the jobs being blue collar laborer positions. This finding provides some support for social disorganization theory in that half of rapists lived in poor neighborhoods and few held jobs that would place them well above a poverty level. Looking at data collected at the county level, fairly strong support for the theory is demonstrated. Over 80% of rapists lived in a county with higher than average population density and 90% lived in counties with higher than average crime rates, which for the purposes of this study was used as an indicator of social disorganization. At the state level analyses, the most imprecise but also the largest amount of population statistics published by the U.S. Census from 1990, most findings have little diagnostic value but slightly favor social disorganization theory. A little over 50% of rapists lived in a state with higher than average migration patterns, divorce rates, female-headed households, and non-familied male households. Almost 60% of rapists resided in a state ranking high in percent of the population with no religious affiliation. Again, these findings, particularly those at the state level, are to be
interpreted with caution as variability within a state is vast. This theory may only be a viable option from a research perspective when using a consistent level of analysis that is defined enough to provide meaningful results.

4.2.5 Feminist Theory

Little support for the feminist theory of rape was found in the current data set; only four out of 16 variables identified as measures of the theory were confirmed. The feminist theory is the most difficult theory to empirically validate as testable variables are not often clearly identified. Research that has sought to study this theory empirically has typically relied on statistics of pornography distribution and gender equality indicators such as percent of women in certain jobs and income of female workers (Ellis, 1989). Those statistics were not available at a level of measurement appropriate for the current study such that a state/county breakdown of pornography distribution and female income from the 1990’s was not available. Overall, rapes were not shown to be about the degradation and humiliation of women such that humiliation of the victim and hostility toward the victim were rare. In the analysis of the path specific to feminist theory, offender aggression was positively related to physical resistance which was positively related to victim injury. Further consideration indicates that the path may be more indicative of an aggression theory versus the feminist theory as it does not incorporate hostility, insensitivity, or control over the victim.

It should be noted that the feminist theory was particularly hard to study due to the restraints of the current data set. The researcher chose to use variables such as humiliation and harm to the victim which on the surface relate to the feminist theory and have also been considered in past research (Thornhill & Palmer, 2000). Alternatively,
other variables such as the presence of weapons and threats by the offender may indirectly measure the theory as well as possibly indicate an effort to intimidate and control the victim. Past research has never identified these variables as indicators or contributors to a man’s behavior during rape which is why the current research chose to leave such variables out of an assessment of both the feminist and evolutionary approaches.

Phase 1 concludes that the evolutionary and psychopathy theories were the most supported by the demographic characteristics. Little support was demonstrated for the feminist theory and social disorganization and rapist type theory are a bit inconclusive such that more precise measurement of each is needed to determine their relevance to serial rape.

4.3 Phase 1: Evolutionary Basis to Psychopathy

Given the different levels of explanations of rape behavior between the evolutionary perspective (ultimate) and the person/social-based perspectives (psychopathy, rapist typology, feminist, and social disorganization; proximate), it is likely that some of the person/social-based theories have components compatible with an evolutionary framework. The current study found support in the FBI serial rape data set for an evolutionary ultimate explanation and a psychopathic proximate explanation of rapist behavior. One line of psychopathy research has identified evolutionary agents that may precede psychopathic behavior. Mealey (1995) explained that psychopaths often have a competitive disadvantage when finding resources and viable mating options and often resort to cheating strategies, thus exposing them to a high likelihood of committing rape.
Psychopathy has been well documented as affecting a small but stable percentage of the population; approximately one percent (Hare, 1993; Lalumiere, Harris, & Rice, 2001; Mealey, 1995). The continued presence of psychopaths in the population after intense, long-term treatment and confinement initiatives; i.e. efforts to correct their behavior or keep them out of society; indicates a genetic or heritable component to the disease. Lalumiere, Harris, and Rice (2001) comment that the characteristics exhibited by psychopaths are not impairments but instead “organized, functional, and specialized phenotypic features that formed a viable reproductive social strategy in human evolutionary history” (p.78).

Research suggests that the classification of psychopathy as a disorder may be ill-advised as often psychopaths experience deficits, which are typically attributed to disorders, but they also may have enhanced abilities. While one of the most defining traits of psychopathy is an emotional deficit, or a lack of empathy or concern for others, psychopaths also exhibit an increased amount of glibness and exploiting behavior making it unique in terms of disorders (Harris, Rice, Hilton, Lalumiere, Qunisey, 2007). Additionally, a disorder is supposed to be caused by the failure of a structure to execute as designed by natural selection (Wakefield, 1992). In contrast, research on psychopaths finds they often have short-term sexual relationships with multiple partners, likely increasing their reproductive success. Increased reproductive success indicates a possible evolutionary functionality to psychopathy making its definition as a disorder slightly misleading.
4.3.1 Extensions of Psychopathy and Evolutionary Theory

Lalumiere et al. (2001) conducted a study designed to investigate psychopathy as either a result of developmental deficiency, measured by obstetrical impairment experienced by the mother during pregnancy, or as a specialized feature that increased successful reproduction. The latter describes psychopaths as “different by design” such that their defining characteristics; i.e. a parasitic lifestyle, manipulative and selfish personalities, and aggressive behavior; allow them to thrive in an environment dominated by those that socially cooperate and do not demonstrate the above characteristics. They found psychopathy to be inversely related to obstetrical problems, quite unlike other mental disorders, indicating developmental deficiencies were not the cause of psychopathic behavior (Lalumiere et al., 2001). Additionally, some support was shown for a “special design” hypothesis, and thus an evolutionary influence, in that psychopaths showed less evidence of developmental deficiency than non-psychopathic offenders but higher developmental deficiencies than non-offenders. Taken together, these results signify that psychopathy is not the result of a deficiency as most classified diseases, but is unique in that psychopathic behavior may positively impact successful reproduction. This finding is also consistent with the selfish gene model, which suggests the basic element of evolution is the gene not the organism and a gene will act in a selfish and ruthless manner to produce more of its own kind (Dawkins, 1976).

More recent research has focused on coercive and precocious sexuality as a core aspect of psychopathy (Harris, Rice, Hilton, Lalumiere, Qunisey, 2007). This research clearly indicates a link between psychopathy and the evolutionary theory in rape situations given the emphasis on sexual influences. It was determined that the inclusion
of measures of precocious sex and sexual coercion in the PCL-R better conceptualize psychopathy compared to measures of promiscuity and multiple marriages that are currently part of the measure. The authors explain that coercive and precocious sexuality are specific behaviors that make up the psychopathic Life History (LH) strategy.

Life History theory contends that all organisms have a limited amount of resources at their disposal and there are trade-offs in the optimal distribution of those resources (Figueroedo et al., 2006; Gladden, Sisco, & Figueredo, 2008). Some of those resource trade-offs applicable to a LH strategy include quantity vs. quality of offspring and mating vs. parental effort. According to Gladden, Sisco and Figueredo (2008), humans can be classified into either “slow LH” or “fast LH” with the latter displaying “low parental investment, high mating effort, short-term mating, low group altruism, criminality, and high risk-taking” (p. 320). Thornhill and Palmer (2004) took LH one step further by associating sexual coercion with fast LH strategies. Taking into consideration Harris et al.’s (2007) findings from above, similarities are easily drawn between characteristics of fast LH individuals (sexually coercive/precocious) and characteristics indicative of psychopathic tendencies, both having been maintained at a low but stable prevalence within the population due to reproductive success.

According to Harris et al.(2007), rapists who score higher on the PCL-R tend to have female victims of reproductive age compared to rapists who have victims below reproductive age. Considering the evolutionary theory of rape and findings of the current research, the majority of victims are likely to be of peak fertility suggesting psychopathic tendencies in the rapist. It was also determined that PCL-R scores are positively correlated with genital-genital sexual contact indicating reproductive potential (Harris et
Additionally psychopaths are more likely to use more weapons, threats, and violence compared to non-psychopathic criminals and there are mixed results on propensity to choose stranger victims (Brown & Forth, 1997; Serin, 1991; Williamson, Hare, & Wong, 1987). The current study, taking the perspective of psychopathy as an evolutionary agent in rape, provides support for psychopath’s inclination for stranger victims and the use of weapons and threats.

4.3.2 Influence of Evolutionary and Psychopathy Theories on Social Disorganization

Although the current study has limitations in the measurement of social disorganization, the findings may have value when considering the impact social disorganization has on psychopathy. Referring back to Mealey’s (1995) two groups of psychopaths discussed in the introduction, primary psychopaths demonstrate psychopathic behavior at an early age and these individuals are said “(1) to be selectively unresponsive to those environmental cues which are necessary for normal socialization and moral development and (2) to actively seek the more deviant and arousing stimuli within the environment.” (Mealey, 1995, p. 15) Secondary psychopathic behavior can be attributed more to an environmental influence such that these individuals show less genetic predisposition to psychopathy and tend to develop psychopathic tendencies later in life.

According to Mealey’s (1995) two factor breakdown of psychopaths, only secondary psychopaths would be affected by social disorganization. Rapists in the current study were not provided measures of psychopathy or childhood environment so it is unknown what proportion of them would fall into primary or secondary psychopaths. It
is interesting that the current study found almost a perfect split between rapists who experienced socially disorganized settings (poverty, migration, divorce rate, female headed households, religiosity, non-familied male households) and those that did not. One could assume in a random data set of serial rapists, prevalence of primary and secondary psychopaths would be somewhat equal as was displayed in the current study based on social disorganization being present in half of the rapists, presumably the secondary psychopaths. Mealy (1995) does not speculate on the frequency of primary versus secondary psychopaths in the population, but contends that presence of secondary psychopaths is more likely to vary across cultures and time. Additionally, it is explained that “secondary sociopaths will almost always come from lower class backgrounds” and approximately 50% of rapists in the current study were living in communities averaging below the poverty level, again supporting the hypothesis that rapists in the current dataset may represent an equal distribution of primary and secondary psychopaths (p. 28).

The two measures indicative of social disorganization that were shown in the majority of rapists in the current study were that of high population density and crime rate. This is particularly interesting in that Colman & Wilson (1997) found that heavily populated inner-city communities may provide anonymity and “therefore offer greater opportunities for antisocial behavior to succeed and go undetected…” (p. 31). The authors make this reference in regards to cheating strategies that psychopaths often employ when interacting with “cooperators” or those that do not employ cheating/psychopathic strategies. It’s possible that in addition to population density having an environmental influence on secondary sociopaths, it also allows for successful cheating strategies for primary psychopaths. Similarly, living in an area of high crime
would provide psychopaths, both primary and secondary, a certain amount of concealment.

4.3.3 Influence of Evolutionary and Psychopathy Theories on Rapist Categorizations

Psychopathy could also be tied to the rapist type theory given the results of the current study and the research on rapist types that defines common characteristics of each type. The power assertive rapist type, which comprised roughly half of the rapists in the current data set, is described as an individual who seeks mastery and control of his victim through humiliation (Robertielli & Terry, 2007). Factor analysis of items in the protocol identified items that appear to represent a factor congruent with power assertive characteristics with additional items corresponding to a sexual motivation. A rapist that shows little empathy or concern for his victim and displays sexually overt, callous behavior perfectly describes psychopathic behavior. Additionally, the power-reassurance rapist type has characteristics congruent with the evolutionary theory of rape such as an effort not to harm or injure.

4.3.4 Psychopathy and the Feminist Perspective

The author would like to note some of the surface similarities between items that indicate psychopathic behavior and items that support a feminist theory of rape. Attributes such as rapist criminal history, justification for the act, hostility toward the victim, and offender aggression overlap between the two theories given the emphasis from both theories on the “evil male.” Although the two theories have commonalities, the underlying motivations of each theory are drastically different. The feminist theory is founded on a cultural/political explanation of rape such that a patriarchal society socializes men to seek power and control over women in a humiliating, violent way.
(Brownmiller, 1975). The feminist theory focuses solely on male violence against females and attributes rape to a deep seeded hostility toward women, de-emphasizing the role of sex. Psychopathy on the other hand has a large sexual component and focuses on the interaction between psychopathic traits and variations of criminality, not just crimes perpetrated against women. It contends that certain individuals have a predisposition to a criminal lifestyle due to a deficiency in empathy and remorse and a heightened ability for successful manipulation tactics (Mealey, 1995). Although some of the variables that can be captured by the current data set that demonstrate support for each theory appear similar, key aspects of the individual theories that drastically differentiate between the two cannot be overlooked.

Overall, phase 1 finds support for the psychopathy and evolutionary theories of rape in a serial rape context. With psychopathy classified as a proximate theory of explanation and evolutionary classified as an ultimate, it is understandable that both may provide insight into serial rape behavior. Past research has clearly identified an evolutionary basis to psychopathy which again supports the proximate/ultimate level distinction and corroborates the current findings. Taking the results of phase 1 a step further, phase 2 first developed a model of serial rape and then assessed the applicability of the theories to the model.

4.4 Phase 2: Assessment of a Serial Rape Model

A goal of this study was to develop a model of rape that explains the interaction of situational variables, such as the presence of threats and weapons, with outcome variables, such as victim injury. Additionally, the current study sought to understand the relationship victim resistance has with both situational and outcome variables. The final
model depicted in Figure 7 clearly shows the interplay between situational variables, victim resistance variables, and outcome variables. Many of the hypothesized relationships were maintained, including but not limited to the presence of threats by the offender increasing physical resistance by the victim and increased offender aggression leading to increased use of force and physical injury to the victim. Given the small to medium size of the effects indicated in the model paths, one should exercise caution in interpretation of the results. Additionally, the results of the model are obviously dependent on the variables included making the current study a starting point for future modeling of situational factors associated with rape and by no means a definitive description of rape behavior.

Some hypothesized paths were found to be significant but in the opposite direction expected. Threats made by the offender was found to increase verbal resistance by the victim, and the more planned the attack the longer the rape (duration). Starting with the relationship between threats and verbal resistance, it is particularly interesting that offender threats increase verbal resistance but have no effect of physical resistance. It’s possible that verbal output from the offender induces verbal output from the victim, similar to a conversation/argument. Another possible explanation for this finding is that the rapist’s threats were interrogative in nature such that they demanded a verbal response from the victim and the victim complied. The finding that planned attacks were longer in duration is not surprising such that instead of the rapist being able to move faster and avoid being caught due to planning as was originally predicted, he was able to prolong the experience for his enjoyment because planning limited unexpected problems.
Non-hypothesized paths were also included in the final model to ensure a better fitting model. As threats made by the offender increase, so did the duration of assault indicating that rapists that make more threats also engage in lengthy rapes. As attacks moved from less planned to more planned, sexual abuse against the victim (severity) increased. This is easily understandable as rapists who have taken time to plan an attack probably feel more comfortable, evidenced by the longer duration, therefore engaging in additional sexual acts. Aggression by the offender was found to increase physical resistance by the victim likely in an effort to avoid continuance of the act and verbal resistance by the victim was found to increase victim injury (this result coupled with similar findings on the effect of verbal resistance on outcome variables is further discussed in the section below).

Phase 2 resulted in the development of a model of serial rape which is lacking in the current literature. The model illustrates the interplay between situational variables, victim resistance, and rape outcome variables (see Figure 7). In an effort to integrate rape theory into the rape model, the next step was to evaluate the impact of rape theory on the identified relationships in the rape model.

4.5 Integration of Phase 1 and Phase 2 findings

Phase 1 of the current study identified support for psychopathy and evolutionary theories of serial rape. Additionally, past research has shown that psychopathic behavior may have been evolutionarily preserved due to successful mating strategies and offspring production. Phase 2 developed a model of rape assessing the relationship between situational variables, like the presence of threats, and outcome variables, such as victim resistance and injury. The theory of psychopathy as an evolutionary agent provides a
convincing explanation of the final model, specifically the relationships between threats/weapons and verbal/physical resistance, and verbal/physical resistance and the outcome variables. Integrating the evolutionary and psychopathy theories into the model of rape will provide valuable insights into both the precedents and antecedents of rapist and victim behavior during the act.

As stated earlier, the size of the effects are not overwhelming and the behavior indicated in the model is dependent on the variables in the model. Therefore there may be alternative explanations for different relationships identified in the model. For example, it could be said that the presence of a weapon or a significant amount of threats made by the offender may indicate a fear or intimidation tactic by the rapist which would be in line with the feminist approach to understanding rape. Additionally, the relationships between offender aggression and the outcome variables, such as amount of force used, could be said to support a feminist view of rape in that it focuses on the anger and control-seeking components of male behavior. Given that phase one identified little support for the feminist theory, the current study has chosen to interpret the current findings from a psychopathy/evolutionary perspective.

4.5.1 Psychopathy: Violence Inhibition Mechanism and Verbal Processing

Research influenced by ethology has postulated that psychopaths lack a Violence Inhibition Mechanism (VIM) that is often seen in animals (Blair, 1995). VIM in animals represents itself in displays of submission when being attacked by a stronger opponent, such as dogs baring their throat when being attacked, which often results in the conclusion of the attack. Blair (1997) hypothesizes that psychopaths are less likely to respond to non-verbal communications of distress by victims and finds that they are less
likely to be concerned with their victim’s welfare compared to non-psychopaths. Similarly, psychopaths are found to be less physiologically reactive to distress cues (Blair, 1997). The current study supported this finding in that fewer than 7% of rapists were identified as showing a significant interest in the victim’s feelings.

Further research has suggested a relationship between psychopathy and verbal processing such that psychopaths have been found to “…not understand or make effective use of the emotional content of language” (Herve, Hayes, & Hare, 2003). Language lateralization has been shown to be weaker in psychopaths than in normal functioning adults. Studies have demonstrated that psychopaths left hemispheres are not as specialized for linguistic processing and that psychopaths have less of a left hemisphere dominance for language (Hare & McPherson, 1984). Typically, in verbal tasks, individuals exhibit a right-ear advantage due to the brain’s ability to process verbal information better in the left-hemisphere (Kimura, 1961). Studies of psychopaths find the right-ear advantage in similar verbal tasks to be lessened if not non-existent. Additionally, Psychopaths have demonstrated left hemisphere dominance in divided visual field tasks when the goal was simple recognition compared to non-psychopaths, but in tasks involving semantic processing, psychopaths showed unique right-hemisphere dominance (Jutai & Hare, 1983). This again leads to the conclusion that psychopath’s process language differently, particularly when encountering complex verbal stimuli.

Herve, Hayes, & Hare (2003) focus specifically on psychopaths understanding of emotionally laden verbal information in terms of an arousal hypothesis. To assess emotional understanding in psychopaths, they asked inmates to determine the literal and emotional meaning of metaphor statements. Psychopaths did not differ from non-
psychopaths in their literal interpretation of the metaphors but showed significant differences in the understanding of the intuitive emotion behind the metaphors. An example of this was when one psychopath correctly inferred that “Sleep is a doctor that heals daily wounds” literally meant “Sleep helps you heal your body” but attributed a negative emotion to it (p. 1505). The researchers hypothesized that psychopaths equate arousal invoking statements as positive and non-arousing statements as negative. While a statement like the one above involving sleep, which has a low arousal likelihood, was seen as having a negative connotation, another metaphor, “Memory is a dog that bites when you least expect it”, was classified as positive likely due to the evoked arousal from the term “bite” (p. 1505). A psychopath focusing primarily on the arousal value of a statement instead of the emotional value is consistent with core features of psychopathy including lack of emotion and sub-optimal arousal.

The findings discussed herein provide an interesting interpretation of the final model of serial rape (see Figure 7). Research has shown that individuals high in psychopathy are likely to use threats and weapons in an assault as well as pervasive aggression. Research has also provided support for the differences in emotional, verbal information processing in psychopaths in the context of arousal and a lack of response to non-verbal distress cues (VIM; Blair, 1997; Herve, Hayes, & Hare, 2003). Paths in the final model support these established findings as evidenced by the relationships between situational variables (threats, weapons, and offender aggression), verbal resistance which involves language processing by the offender, and the outcome variables (severity of assault, use of force, and victim injury).
One hypothesis that would support the findings in phase one and provide an explanation of behavior indicated in the model is that serial rapists have a high likelihood of having psychopathic tendencies. Therefore, they often use threats, weapons, and aggression during the attack. They also may view verbal resistance by the victim, which is a direct result of threats made by the offender, as arousing. Verbal resistance by the victim likely involves screams and pleas which for normal functioning individuals would cause an emotional, empathetic reaction, similar to that discussed in VIM research. However, psychopaths may regard the negative connotation behind the victim’s verbal resistance with positive emotion due to its arousing influence. Increased arousal then reinforces the behavior and contributes to increased severity, use of force, and victim injury during the rape. Hare and McPherson (1984) comment “If psychopaths have a left-hemisphere that is not strongly or consistently dominant for language or that is characteristically under-aroused, they may tend to use cognitive strategies and overt behaviors that rely relatively little on verbal, logical, and sequential operations” (p. 148).

One would expect an individual with normally functioning emotional faculties and verbal processing to be negatively affected by verbal distress cues. This negative reaction would typically lessen or stop the behavior that is causing the other person’s distress. The current study suggests that serial rapists with psychopathic tendencies process the verbal resistance by their victims differently, in that they proceed more harshly in the rape (increased amount of sexual acts, more force used, and greater injury to the victim). Whether this is due to poor organizational abilities with language, inappropriate semantic processing, or heightened arousal is unknown. Given Kahneman’s (1973) work on mental effort and attention, the author leans more toward an arousal
explanation. Kahneman’s (1973) model of attention factors in the level of arousal on attention and processing capacity, such that an optimal level of arousal, likely heightened in psychopaths due to their reported sub-optimal arousal, increases attention and processing ability. Given the findings of the above research on psychopaths’ deficiencies in processing the emotional meaning of language, coupled with research on psychopaths attribution of arousal invoking statements to positive emotion, support for an arousal hypothesis is demonstrated.

Physical resistance by the victim increased the amount of force used by the offender and victim injury but was not related to severity or duration of the assault. This indicates that overt distress displayed by the victim; i.e. physical resistance; tended to increase force and injury to the victim. Similarly, a cue of submission by the victim, evidenced by a lack of physical resistance, decreased the use of force by the offender and victim injury. It’s possible that an increase in physical resistance by the victim requires increased force by the offender in order to successfully complete the rape and injury, being strongly correlated with force, is likely to increase as force increases. Conversely, physical resistance by the victim had no influence on the severity of the assault. In other words, severity of the assault was not related to physical distress or submission cues by the victim. These findings demonstrate partial support for a VIM deficit in psychopaths.

The current study provided an indirect assessment of rape theories and their applicability to serial rapists and developed a model of rape based on situational factors which can be interpreted from a theoretical perspective. Phase 1 demonstrated support for the psychopathy and evolutionary theories of rape from a proximate and ultimate explanation of behavior. Research has identified an evolutionary basis to psychopathy
such that psychopathic characteristics likely contributed to increased fitness through
successful offspring reproduction, making the current findings plausible. Phase 2 of the
current study developed a model of rape, which after adding non-hypothesized paths
based on modification indices indicating associations not previously hypothesized,
provided further support for a psychopathy explanation of rape. Psychopaths are known
to have aggressive tendencies and use threats and weapons in an attack. They also have
atypical processing abilities for verbal information which in the context of the current
study is evident in that victim verbal resistance increased harmful rape outcomes
(severity, injury, and force). The current study is the first of its kind to find empirical
support for evolutionary and psychopathy theories based on serial rape data and
contribute to the integration of rape behavior and rape theory. Only when we have a firm
understanding of rape behavior sustained by theoretical assumptions can we truly
advance the field.

4.6 Limitations and Future Directions

There are limitations to the current study based on the method of data collection.
The use of pre-existing data did not allow the researcher to design the collection
methodology restricting all analyses to the data extracted from the protocol for the
purposes of the original research. Rapes included in the data set are not random as
students in a class at the FBI facility in Quantico, VA, were requested to bring in cases
from their home jurisdiction. Although there is a fairly even distribution of rapes from
across the U.S., not every state is represented in the data set and certain states and
counties are represented more than once. Additionally, the dataset was dated which may
limit its current applicability. The researcher did not oversee the collection and/or coding
of the data leaving the process amenable to research safeguards in place at the time, which might not have been as stringent as today.

With the use of archival data, research is limited to the data collected such that independent and dependent variables are constrained to previous research goals. For example, in an effort to study social disorganization theory in the current data set, it was not possible to assess the prevalence of serial rape in an area already pre-determined to be high in social disorganization. Instead, social disorganization had to be measured using U.S. census data from 1990 and rapist’s addresses at the time of the assault. An indirect measure of all the theories was the only option available. Similarly, the model of rape had to be developed from pre-existing variables in the data set. Although other variables may be of interest or may be important in understanding how situational aspects of a rape influence outcome variables, the current study could only use those available.

Additionally, certain variables that would provide compelling evidence for or against different theories of rape were not available. For example, condom use by rapists would clearly indicate intent to not impregnate the victim thus lowering the likelihood that rapists are sexually motivated to rape in an effort to pass on their genes to future offspring. Additionally, further examination of cultural differences in rape behavior may provide theoretical implications, specifically when considering Hofstede’s (1983) cultural dimensions such as femininity versus masculinity and individualism versus collectivism.

As the current study was a first step in considering serial rape from different theoretical perspectives, future research should work toward more direct assessment of each theory’s ability to predict serial rape behavior. For example, a logical next step based on the findings of the current study is to test a group of serial rapists on the PCL-R,
or other measure of psychopathy, and compare scores to both non-rapist incarcerated individuals and one-time rapists. Additionally, research should strive to clearly differentiate between serial and one-time rapists, as an established distinction between the two groups may indicate alternative theoretical explanations and thus different avenues of research. If serial rapists are unique compared to other rapists, general rape research may not apply as an explanation for serial rape behavior.

Additionally, future research focusing on empirical modeling of rape behavior should seek to extend the current findings. Converging models of rapist characteristics; i.e. alcohol consumption, mental health, parental bonding, etc; with situational models would provide a more complete understanding of how rapist behavior interacts with situational variables and eventually rape outcomes like victim injury or severity of assault. Victim resistance also presents a concept that warrants future research as its position as a possible mediator between situational variables, such as the presence of threats and weapons, on outcome variables is not fully understood. Knowledge of and information on resistance strategies is an important aspect of rape the academic field can provide to females to possibly decrease negative outcomes associated with rape experiences.

The current study presents interesting findings for psychopathy research in that psychopaths may make up a large portion of serial rapists, following Prentky and Knight (1991). Additionally, emotionally laden verbal information in the form of verbal resistance by the victim induced more violence from the serial rapist (psychopath). This may provide additional support for the hypothesis that psychopaths process verbal information differently than non-psychopaths in that negative emotional verbal stimuli
induces arousal (Blair, 1995; Hare & McPherson, 1984; Herve, Hayes, & Hare, 2003; Jutai & Hare, 1983). Future research should investigate psychopath’s physical responses to verbal information as the current research indicates that verbal resistance incites violent behavior. An understanding of how the atypical processing of verbal information in psychopaths influences actions is lacking and could provide an avenue of research that further explores the criminal behavior of psychopaths.

The implications of the findings from the current study to researchers and practitioners alike are vast. Comprehending serial rape from a theoretical standpoint is critical to understanding the precursors of such behavior which can then be integrated into prevention programs. Theoretical explanations of behavior also afford information on effective rehabilitation strategies for offenders and education in preventing negative outcomes for victims. The findings of the current study indicate that serial rapists may have a high likelihood of exhibiting psychopathic traits (proximate) which was an evolutionary benefit because it produced numerous offspring while expending little energy in parental effort (ultimate). Psychopath’s resistance to treatment is well documented in the research literature as is their tendency for recidivism (Hare, 1993; Quinsey & Lalumiere, 1995). It may be possible to re-define psychopathy treatment from an evolutionary perspective, to not only address the proximate behavior but the ultimate as well. Females alike may benefit from education on rape prevention that is grounded in and understanding of rape theory. Educating women on indicators of psychopathy, such as little empathy and an overt charm, as well as why psychopaths have continued to make up a low but stable percentage of the population, may help them to identify and avoid dangerous situations. An understanding of the real danger that may accompany a
manipulative and impulsive yet charismatic man will hopefully persuade women to avoid such interactions. Additionally, modeling rape with situational factors that are clearly identifiable, such as aggression or use of threats by the offender, will provide concrete guidance on the best course of action a victim could take to reduce negative outcomes such as injury. The majority of women are looking for tips that can reduce the likelihood of being raped in the first place, and if that cannot be avoided, what to do during the act that may prevent the completion of the rape or reduce injury. The current study sought to address both by (a) considering the underlying motivating factors from a theoretical standpoint that increase the likelihood that an individual would rape and (b) studying both rapist and victim behavior during the act to assess the effect on rape outcomes. Although the current study was a first step in an effort to promote a complete understanding of rape/serial rape, it shows promising implications for future research and practical applications for rape education and prevention.
Figure 1: Conceptual display of theory interaction

Figure 2: Ullman & Knight (1991) rape model
Table 1: Rape types and descriptions

<table>
<thead>
<tr>
<th>Rape Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger</td>
<td>Make aggressive/angry comments or gestures, often uses elements of force during all aspects of attack, demonstrates deep seeded rage</td>
</tr>
<tr>
<td>Power Exploitative</td>
<td>Rapist demonstrates feelings of inadequacy, and a need to overcome those feelings through controlling or humiliating the victim, involves elements of force</td>
</tr>
<tr>
<td>Power Reassurance</td>
<td>Rapist demonstrates feelings of inadequacy, sexual dysfunction, is apologetic, complimentary, and sensitive</td>
</tr>
<tr>
<td>Sadistic (anger-excitation)</td>
<td>Sexually excited by pain and fear experienced by victim, acts are often violent and involve torture, stranger attacks, high level of planning</td>
</tr>
<tr>
<td>Opportunistic</td>
<td>Rape occurs as part of another crime, date rape</td>
</tr>
</tbody>
</table>

Table 2: Variables in the data set that predict psychopathy

<table>
<thead>
<tr>
<th>PSYCHOPATHY Theoretical Predictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little remorse by rapist (part B, 11)</td>
</tr>
<tr>
<td>Little empathy by rapist (part B, 5)</td>
</tr>
<tr>
<td>Hostility by rapist (part B, 8)</td>
</tr>
<tr>
<td>Aggression by rapist (part B scale 2)</td>
</tr>
<tr>
<td>Rapist feels act is justified (part B, 2)</td>
</tr>
<tr>
<td>Rapist uses a weapon (part A, 17)</td>
</tr>
<tr>
<td>Rapist uses threats (part A, 13)</td>
</tr>
<tr>
<td>Rapist Impulsivity (part B, 34)</td>
</tr>
<tr>
<td>Sub-optimal arousal by rapist (part A, 22 - 5 and 6)</td>
</tr>
</tbody>
</table>
Table 3: Variables in the data set that predict rapist type

<table>
<thead>
<tr>
<th>RAPIST TYPE Theoretical Predictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger Rapist (part B, 51)</td>
</tr>
<tr>
<td>Power Exploitive Rapist (part B, 51)</td>
</tr>
<tr>
<td>Power Reassurance Rapist (part B, 51)</td>
</tr>
<tr>
<td>Sadistic (anger-excitation) Rapist (part B, 51)</td>
</tr>
<tr>
<td>Opportunistic Rapist (part A, 41; part B, 34)</td>
</tr>
</tbody>
</table>

Table 4: Variables in the data set that predict social disorganization

<table>
<thead>
<tr>
<th>SOCIAL DISORGANIZATION Theoretical Predictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapist lives in high population density area (rapist address)</td>
</tr>
<tr>
<td>Rapist lives in high poverty area (rapist address)</td>
</tr>
<tr>
<td>Rapist lives in area with high crime rate (rapist address)</td>
</tr>
<tr>
<td>Rapist lives in area with high mobility (rapist address)</td>
</tr>
<tr>
<td>Rapist lives in area with high divorce rate (rapist address)</td>
</tr>
<tr>
<td>Rapist lives in area with high rate of female headed households (rapist address)</td>
</tr>
<tr>
<td>Rapist lives in area with no religious affiliation (rapist address)</td>
</tr>
<tr>
<td>Rapist lives in area with high rate of non-familied male households (rapist address)</td>
</tr>
</tbody>
</table>
Table 5: Variables in the data set that predict evolutionary and feminist theories

<table>
<thead>
<tr>
<th></th>
<th>EVOLUTIONARY Theoretical Predictions</th>
<th>FEMINIST Theoretical Predictions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Victim Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (part A, 33)</td>
<td>Between mid-teens and twenties</td>
<td>Early teens or older adults (vulnerable victims)</td>
</tr>
<tr>
<td>Injury (part B, 23)</td>
<td>Little injury</td>
<td>Significant injury</td>
</tr>
<tr>
<td>Marital Status (part A, 35)</td>
<td>Married women will resist more</td>
<td>Marital status has no effect on amount of resistance</td>
</tr>
<tr>
<td><strong>Rapist Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES (part A, 14; employment)</td>
<td>Low SES and status</td>
<td>No hypothesis on SES and status</td>
</tr>
<tr>
<td>Disability/Sexual Dysfunction (part A, 30)</td>
<td>Disability/sexual dysfunction may be present</td>
<td>No hypothesis on disability/dysfunction</td>
</tr>
<tr>
<td><strong>Rape Action Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of Force (part B, 20)</td>
<td>Not used in excess</td>
<td>Significant force used</td>
</tr>
<tr>
<td>Infliction of Pain (part B, 26)</td>
<td>Little infliction of pain</td>
<td>Significant infliction of pain</td>
</tr>
<tr>
<td>Harm (part B, 29)</td>
<td>Effort not to harm</td>
<td>Significant harm</td>
</tr>
<tr>
<td>Hostility Toward Victim (part B, 8)</td>
<td>Little hostility toward the victim</td>
<td>Significant hostility toward victim</td>
</tr>
<tr>
<td>Sensitivity Toward Victim (part B, 9)</td>
<td>Some sensitivity toward the victim</td>
<td>Little sensitivity toward victim</td>
</tr>
<tr>
<td>Humiliation (part B, 35)</td>
<td>Little effort to humiliate</td>
<td>Effort to humiliate</td>
</tr>
<tr>
<td>Victim Enjoyment (part B, 36)</td>
<td>Important to the rapist</td>
<td>No interest in victim enjoyment</td>
</tr>
<tr>
<td>Sexual References (part B, 14)</td>
<td>Explicit sexual references made</td>
<td>Few sexual referenced made</td>
</tr>
<tr>
<td>Justification for the Rape (part B, 2)</td>
<td>No hypothesis on excuses</td>
<td>No excuses for behavior</td>
</tr>
<tr>
<td>Type of Rape (part A, 18)</td>
<td>Vaginal intercourse with ejaculation</td>
<td>No hypothesis on type of rape</td>
</tr>
</tbody>
</table>
Figure 3: Proposed phase 2 model of serial rape
Figure 4: Frequency distribution of victim age
Table 6: Demographic characteristics of the rapes

<table>
<thead>
<tr>
<th>Number of victims per rapist (range 2-16)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6-9</th>
<th>10+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31</td>
<td>20</td>
<td>11</td>
<td>11</td>
<td>19</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Victim/offender relationship</th>
<th>Strangers</th>
<th>Acquaintance/friend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>89.7%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concordance between ethnicities</th>
<th>64.9%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Time of rape (most frequent)</th>
<th>Midnight-6 a.m.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Day of week of rape (most frequent)</th>
<th>Thursday and Friday</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Location of rape</th>
<th>74.6%</th>
<th>25.4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Context of meeting</th>
<th>59.9%</th>
<th>27.3%</th>
<th>12.8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entered victim home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some outdoor activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initial approach</th>
<th>56%</th>
<th>22.2%</th>
<th>18.6%</th>
<th>3.2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surprised victim in home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Different surprise approach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deceptive approach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate assault</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weapon presence</th>
<th>Knife</th>
<th>Gun</th>
<th>Other</th>
<th>No weapons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>49.9%</td>
<td>16.8%</td>
<td>4.4%</td>
<td>28.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration of assault</th>
<th>Less than 10 min</th>
<th>11-45 min</th>
<th>46 min or longer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21.5%</td>
<td>56.2%</td>
<td>22.3%</td>
</tr>
</tbody>
</table>
Table 7: Demographic characteristics of the victims and offenders

<table>
<thead>
<tr>
<th>Victim Characteristics</th>
<th>Offender characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of victims/offenses</td>
<td>Number of offenders</td>
</tr>
<tr>
<td></td>
<td>543</td>
</tr>
<tr>
<td>Mean age of victim (range 4-85)</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>29.37</td>
</tr>
<tr>
<td>Mean age of offender (range 11-48)</td>
<td>27.36</td>
</tr>
<tr>
<td>Victim Ethnicity</td>
<td>Offender Ethnicity</td>
</tr>
<tr>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>76.2%</td>
</tr>
<tr>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>19.7%</td>
</tr>
<tr>
<td>Other</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>4.1%</td>
</tr>
<tr>
<td>Victim marital status</td>
<td>Sexual dysfunction of offender</td>
</tr>
<tr>
<td>Not married</td>
<td>25.8%</td>
</tr>
<tr>
<td></td>
<td>Offender criminal history</td>
</tr>
<tr>
<td>Married/living with partner</td>
<td>79%</td>
</tr>
<tr>
<td></td>
<td>Average number of crimes (range 1-27)</td>
</tr>
<tr>
<td></td>
<td>3.82</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>1.</td>
<td>1.00</td>
</tr>
<tr>
<td>2.</td>
<td>1.00</td>
</tr>
<tr>
<td>3.</td>
<td>0.085**</td>
</tr>
<tr>
<td>4.</td>
<td>0.062</td>
</tr>
<tr>
<td>5.</td>
<td>0.026**</td>
</tr>
<tr>
<td>6.</td>
<td>0.213**</td>
</tr>
<tr>
<td>7.</td>
<td>-0.009</td>
</tr>
<tr>
<td>8.</td>
<td>2.66**</td>
</tr>
<tr>
<td>9.</td>
<td>1.00</td>
</tr>
<tr>
<td>10.</td>
<td>1.00</td>
</tr>
</tbody>
</table>

+ = marginally significant; * = significant at p<.05; ** = significant at p<.01
### Table 9: Indication of support for psychopathy in FBI data

<table>
<thead>
<tr>
<th>Variables that indicate psychopathy in the data set</th>
<th>Variables that do not indicate psychopathy in the data set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapist remorse</td>
<td>93.2% were not apologetic</td>
</tr>
<tr>
<td>Hostility Toward Victim</td>
<td>21.2% demonstrated hostility toward victim</td>
</tr>
<tr>
<td>Rapist Empathy</td>
<td>93.4% showed little concern for victim’s feelings</td>
</tr>
<tr>
<td>Rapist Impulsivity (secondary psychopathy characteristic)</td>
<td>13.3% demonstrated impulsivity</td>
</tr>
<tr>
<td>Rapist aggression</td>
<td>73% demonstrated anger toward victim</td>
</tr>
<tr>
<td>Sub-optimal arousal by rapist</td>
<td>10% of rapists had been drinking</td>
</tr>
<tr>
<td>3.7% of rapists used drugs</td>
<td></td>
</tr>
<tr>
<td>Rapist feels act is justified</td>
<td>84% made no excuses</td>
</tr>
<tr>
<td>Rapist uses weapon</td>
<td>70.1% used a weapon</td>
</tr>
<tr>
<td>Rapist made threats</td>
<td>68.9% made threats</td>
</tr>
</tbody>
</table>

### Table 10: Indication of support for rapist type theory in FBI data

<table>
<thead>
<tr>
<th>Variables that indicate rapist type in data set</th>
<th>Variables that do not indicate rapist type in data set</th>
<th>Variables with little diagnostic value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power reassurance rapist</td>
<td>46.6%</td>
<td>Opportunistic rapist</td>
</tr>
<tr>
<td>Angry rapist</td>
<td>4.2%</td>
<td>33.9% (committed other crime during rape)</td>
</tr>
<tr>
<td>Power assertive rapist</td>
<td>47.3%</td>
<td>Sadistic rapist</td>
</tr>
<tr>
<td>1.8%</td>
<td></td>
<td>86.7% (pre-planned rape)</td>
</tr>
</tbody>
</table>
Table 11: Confirmatory factor analysis on rapist type theory

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostile comments toward victim</td>
<td>.530</td>
<td>-.366</td>
</tr>
<tr>
<td>Humiliation</td>
<td>.663</td>
<td>-.378</td>
</tr>
<tr>
<td>Victim Enjoyment</td>
<td>.448</td>
<td>.089</td>
</tr>
<tr>
<td>Rape involves sexually verbal comments</td>
<td>.570</td>
<td>.156</td>
</tr>
<tr>
<td>Rape involves a verbal script</td>
<td>.570</td>
<td>-.187</td>
</tr>
<tr>
<td>Rapist requires demeaning script</td>
<td>.375</td>
<td>-.101</td>
</tr>
<tr>
<td>Rapist requires script that compliments him</td>
<td>.441</td>
<td>-.191</td>
</tr>
<tr>
<td>Rapist requires behavioral script</td>
<td>.449</td>
<td>.128</td>
</tr>
<tr>
<td>Victim injury</td>
<td>.413</td>
<td>-.405</td>
</tr>
<tr>
<td>Sadistic pain</td>
<td>.435</td>
<td>-.339</td>
</tr>
<tr>
<td>Duration</td>
<td>.502</td>
<td>.198</td>
</tr>
<tr>
<td>Rapist self deprecates</td>
<td>.232</td>
<td>.418</td>
</tr>
<tr>
<td>Rapist shows sensitivity toward victim</td>
<td>.203</td>
<td>.712</td>
</tr>
<tr>
<td>Rapist compliments victim</td>
<td>.309</td>
<td>.418</td>
</tr>
<tr>
<td>Rapist reassures victim</td>
<td>.151</td>
<td>.624</td>
</tr>
<tr>
<td>Rapist is apologetic</td>
<td>.241</td>
<td>.477</td>
</tr>
<tr>
<td>Rape involves verbal negotiation</td>
<td>.199</td>
<td>.423</td>
</tr>
<tr>
<td>An effort is made not to harm the victim</td>
<td>.231</td>
<td>.487</td>
</tr>
<tr>
<td>Macho behavior is demonstrated</td>
<td>.269</td>
<td>-.587</td>
</tr>
</tbody>
</table>
Table 12: Indication of support for social disorganization theory in FBI data

<table>
<thead>
<tr>
<th>Variables that indicate social disorganization in the data set</th>
<th>Variables that do not indicate social disorganization in the data set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapist county density above average</td>
<td>Rapist neighborhood below national poverty average</td>
</tr>
<tr>
<td></td>
<td>82.8%</td>
</tr>
<tr>
<td>Rapist county crime rate above average</td>
<td>Rapist state above national migration average</td>
</tr>
<tr>
<td></td>
<td>90.9%</td>
</tr>
<tr>
<td>Rapist state above average national divorce rate</td>
<td>Rapist state above average in females headed households</td>
</tr>
<tr>
<td></td>
<td>55%</td>
</tr>
<tr>
<td>Rapist state likelihood of having high percentage of no religious affiliation</td>
<td>Rapist state above average in nonfamilied male households</td>
</tr>
<tr>
<td></td>
<td>57.7%</td>
</tr>
<tr>
<td>Rapist state above average in nonfamilied male households</td>
<td>51.5%</td>
</tr>
</tbody>
</table>
Table 13: Indication of support for evolutionary and feminist theories in FBI data

<table>
<thead>
<tr>
<th>Variables in data set</th>
<th>Feminist</th>
<th>Evolutionary</th>
<th>Indicated Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victim Age</td>
<td>10% in vulnerable age group</td>
<td>54% in peak fertility</td>
<td>EV</td>
</tr>
<tr>
<td>Victim Injury</td>
<td>9.6% suffered moderate to severe injury</td>
<td>90.3% suffered little injury</td>
<td>EV</td>
</tr>
<tr>
<td>Rapist SES- employment</td>
<td>50% employed, most in hard labor jobs</td>
<td></td>
<td>EV</td>
</tr>
<tr>
<td>Rapist SES- clothing</td>
<td>68% wearing soiled clothing</td>
<td></td>
<td>EV</td>
</tr>
<tr>
<td>Rapist criminal history</td>
<td>80% had a criminal history</td>
<td></td>
<td>FEM</td>
</tr>
<tr>
<td>Rapist Disability/Sexual Dysfunction</td>
<td>25.2% suffered sexual dysfunction (above average rate)</td>
<td></td>
<td>EV</td>
</tr>
<tr>
<td>Amount of Force</td>
<td>21.5% used moderate to excessive force</td>
<td>78.5% used only necessary force</td>
<td>EV</td>
</tr>
<tr>
<td>Infliction of Pain</td>
<td>9.6% severe infliction of pain</td>
<td>90.4% showed no sadistic infliction of pain</td>
<td>EV</td>
</tr>
<tr>
<td>Hostility Toward Victim</td>
<td>21.2% showed hostility toward victim</td>
<td>78.8% had no hostility toward victim</td>
<td>EV</td>
</tr>
<tr>
<td>Hostility Toward Women in general</td>
<td>4.2% showed hostility toward women</td>
<td>95.8% had no hostility toward women in general</td>
<td>EV</td>
</tr>
<tr>
<td>Sensitivity Toward Victim</td>
<td>48% showed no sensitivity</td>
<td>52% showed sensitivity</td>
<td>N/A</td>
</tr>
<tr>
<td>Humiliation</td>
<td>29% humiliated the victim</td>
<td>71% made an effort to not humiliate</td>
<td>EV</td>
</tr>
<tr>
<td>Victim Enjoyment</td>
<td>83.6% had no interest in victim enjoyment</td>
<td>16.4% showed interest in victim enjoyment</td>
<td>FEM</td>
</tr>
<tr>
<td>Sexual References</td>
<td>61.2% did not make sexual references</td>
<td>38.8% made sexual references</td>
<td>FEM</td>
</tr>
<tr>
<td>Justification for Rape</td>
<td>84% made no excuses</td>
<td></td>
<td>FEM</td>
</tr>
<tr>
<td>Outcome of Rape</td>
<td>80.7% rapes involved vaginal intercourse with penis</td>
<td></td>
<td>EV</td>
</tr>
</tbody>
</table>
Table 14: Unstandardized regression weights for hypothesized theoretical paths

<table>
<thead>
<tr>
<th>Model Path</th>
<th>Unstandardized Estimate (P Value)</th>
<th>Unstandardized Estimate (P Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypothesized Paths</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Psychopathy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Violent Crime → Aggression → Victim Injury</td>
<td>-.026 (.888)</td>
<td>.331 (.001**)</td>
</tr>
<tr>
<td>2. Threats → Verbal Resistance → Severity of Assault → Use of Force → Victim Injury</td>
<td>.133 (.032*)</td>
<td>.147 (.001*)</td>
</tr>
<tr>
<td><strong>Rape Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power Reassurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Physical Resistance → Severity of Assault → Victim Injury</td>
<td>.097 (.232)</td>
<td>.107 (.004*)</td>
</tr>
<tr>
<td><strong>Power Assertive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Physical Resistance → Severity of Assault → Victim Injury</td>
<td>.152 (.033*)</td>
<td>.252 (.001**)</td>
</tr>
<tr>
<td><strong>Social Disorganization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Population Density → Weapons → Physical Resistance → Crime Rate</td>
<td>-.072 (.517)</td>
<td>-.065 (.564)</td>
</tr>
<tr>
<td><strong>Feminist</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Aggression → Physical Resistance → Severity → Victim Injury</td>
<td>.231 (.001**)</td>
<td>.088 (.134)</td>
</tr>
<tr>
<td>Aggression → Victim Injury (Main Effect)</td>
<td>.296 (.001**)</td>
<td></td>
</tr>
<tr>
<td>2. Vulnerable Victims → Offender Hostility → Force → Victim Injury</td>
<td>.057 (.657)</td>
<td>.256 (.001**)</td>
</tr>
<tr>
<td><strong>Evolutionary</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Victim Married → Physical Resistance → Force</td>
<td>.057 (.688)</td>
<td>.295 (.001**)</td>
</tr>
<tr>
<td>2. Victim Married → Sexual Comments → Intercourse</td>
<td>.078 (.292)</td>
<td>.089 (.001*)</td>
</tr>
<tr>
<td>Victim Married → Intercourse (Main Effect)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*= significant on p<.05, **= significant on p<.01
Figure 5: Psychopathy path using MPlus

Figure 6: Feminist path using MPlus


Table 15: Unstandardized regression weights for hypothesized model (controlling for victim age, concordance of ethnicity, and rapist criminal history)

<table>
<thead>
<tr>
<th>Model Path</th>
<th>Unstandardized Estimate</th>
<th>Standard Error (SE)</th>
<th>p-value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypothesized Paths</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Threats</td>
<td>.129</td>
<td>.058</td>
<td>.024*</td>
<td>.017-.242</td>
</tr>
<tr>
<td>2. Threats</td>
<td>.038</td>
<td>.049</td>
<td>.439</td>
<td>-.058-.135</td>
</tr>
<tr>
<td>3. Decreased Victim Resistance (take out concordance, totVresis)</td>
<td>(.222)</td>
<td>.101</td>
<td>.028*</td>
<td>.024-.419</td>
</tr>
<tr>
<td>4. Decreased Severity of Assault</td>
<td>.098</td>
<td>.031</td>
<td>.001**</td>
<td>.038-.159</td>
</tr>
<tr>
<td>5. Decreased Victim Resistance (physicalresis)</td>
<td>.261</td>
<td>.057</td>
<td>.001**</td>
<td>.149-.372</td>
</tr>
<tr>
<td>6. Decreased Physical Injury</td>
<td>-.037</td>
<td>.111</td>
<td>.735</td>
<td>-.254-.179</td>
</tr>
<tr>
<td>7. Decreased Duration</td>
<td>.148</td>
<td>.050</td>
<td>.003*</td>
<td>-.037-.285</td>
</tr>
<tr>
<td>8. Decreased Physical Injury</td>
<td>.268</td>
<td>.064</td>
<td>.001**</td>
<td>-.095-.149</td>
</tr>
<tr>
<td>9. Use of Force</td>
<td>-.094</td>
<td>.092</td>
<td>.303</td>
<td>-.274-.085</td>
</tr>
<tr>
<td>10. Decreased Duration</td>
<td>-.272</td>
<td>.081</td>
<td>.001**</td>
<td>-.541-1.02</td>
</tr>
<tr>
<td>11. Use of Force</td>
<td>.346</td>
<td>.041</td>
<td>.001**</td>
<td>.266-.426</td>
</tr>
<tr>
<td>12. Physical Injury</td>
<td>.314</td>
<td>.034</td>
<td>.001**</td>
<td>.246-.381</td>
</tr>
</tbody>
</table>

*= significant on p<.05, **= significant on p<.01, SE= Standard Error, CI= Confidence Interval
Concordance of ethnicity= matching ethnicities between victim and rapist
Table 16: Model fit indices of baseline and revised nested path analysis models of characteristics of rapes committed by serial rapists (N=403, 90 rapists)

<table>
<thead>
<tr>
<th>Additional Paths</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>CFI</th>
<th>TLI (NNFI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Model</td>
<td>143.42</td>
<td>41</td>
<td>&lt;.001</td>
<td>.079</td>
<td>.065</td>
<td>.812</td>
<td>.670</td>
</tr>
<tr>
<td>Model v1</td>
<td>121.49</td>
<td>40</td>
<td>&lt;.001</td>
<td>.071</td>
<td>.053</td>
<td>.851</td>
<td>.731</td>
</tr>
<tr>
<td>Model v2</td>
<td>105.34</td>
<td>39</td>
<td>&lt;.001</td>
<td>.065</td>
<td>.049</td>
<td>.878</td>
<td>.775</td>
</tr>
<tr>
<td>Model v3</td>
<td>83.84</td>
<td>38</td>
<td>&lt;.001</td>
<td>.055</td>
<td>.039</td>
<td>.916</td>
<td>.841</td>
</tr>
<tr>
<td>Model v4</td>
<td>68.12</td>
<td>37</td>
<td>.001</td>
<td>.046</td>
<td>.030</td>
<td>.943</td>
<td>.889</td>
</tr>
<tr>
<td>Model v5</td>
<td>61.42</td>
<td>36</td>
<td>.005</td>
<td>.042</td>
<td>.029</td>
<td>.953</td>
<td>.907</td>
</tr>
<tr>
<td>FINAL Model</td>
<td>57.28</td>
<td>35</td>
<td>.010</td>
<td>.040</td>
<td>.027</td>
<td>.959</td>
<td>.916</td>
</tr>
</tbody>
</table>

Notes: Additional paths are paths added to the model if model fit could be significantly improved; $\chi^2$= chi-square value (lower value indicating better model fit); df= degrees of freedom; $p$= p-value indicating significance; RMSEA= Root Mean Square Error of Approximation; SRMR= Standardized Root Mean Square Residual; CFI= Comparative Fit Index; TLI (NNFI)= Tucker-Lewis Index (Non-Normative Fit Index).
Table 17: Unstandardized regression weights for baseline path analysis model

<table>
<thead>
<tr>
<th>Model</th>
<th>Path</th>
<th>Unstandardized Estimate</th>
<th>Standard Error (SE)</th>
<th>p-value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Hypothesized Paths</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Threats → Severity of Assault</td>
<td>.160</td>
<td>.072</td>
<td>.025*</td>
<td>.020-.301</td>
</tr>
<tr>
<td></td>
<td>2. Threats → Decreased Physical Resistance</td>
<td>-.019</td>
<td>.050</td>
<td>.703</td>
<td>-.116-.041</td>
</tr>
<tr>
<td></td>
<td>3. Threats → Decreased Verbal Resistance</td>
<td>.227</td>
<td>.065</td>
<td>.001**</td>
<td>.100-.355</td>
</tr>
<tr>
<td></td>
<td>4. Weapons → Severity of Assault</td>
<td>.032</td>
<td>.100</td>
<td>.752</td>
<td>-.156-.229</td>
</tr>
<tr>
<td></td>
<td>5. Weapons → Decreased Physical Resistance</td>
<td>-.195</td>
<td>.120</td>
<td>.105</td>
<td>-.430-.041</td>
</tr>
<tr>
<td></td>
<td>6. Weapons → Decreased Verbal Resistance</td>
<td>-.183</td>
<td>.146</td>
<td>.209</td>
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<td>7. Planned Attack → Decreased Duration</td>
<td>.118</td>
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<td>.029*</td>
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<td>8. Planned Attack → Decreased Physical Injury</td>
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<td>9. Location → Decreased Duration</td>
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<td>10. Location → Use of Force</td>
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<td>13. Physical Resistance → Severity of Assault</td>
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<td>.013*</td>
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<td>15. Verbal Resistance → Severity of Assault</td>
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<td>.005**</td>
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*= significant on p<.05, **= significant on p<.01, SE= Standard Error, CI= Confidence Interval
Table 18: Unstandardized regression weights for final path analysis model

<table>
<thead>
<tr>
<th>Model Path</th>
<th>Unstandardized Estimate</th>
<th>Standard Error (SE)</th>
<th>p-value</th>
<th>95% CI</th>
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<tr>
<td>1. Threats → Severity of Assault</td>
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<td>6. Weapons → Decreased Verbal Resistance</td>
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<td>.051</td>
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<td>13. Physical Resistance → Severity of Assault</td>
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<td>16. Verbal Resistance → Use of Force</td>
<td>.064</td>
<td>.029</td>
<td>.026*</td>
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</table>

Hypothesized Paths

Added Direct Paths

17. Aggression → Physical Resistance | .192 | .052 | .001** | .090-.294 |
18. Physical Resistance → Injury | .112 | .041 | .007** | .031-.193 |
19. Planned → Severity | .352 | .071 | .001** | .214-.941 |
20. Threats → Duration | .112 | .030 | .001** | .052-.171 |
22. Aggression → Duration | .054 | .027 | .044* | .001-.106 |

*= significant on p<.05, **= significant on p<.01, SE= Standard Error, CI= Confidence Interval
Figure 7: Final model of serial rape
Figure 8: Rape victim age range compared to female population age range
References


Violence, 6, 423-431.


Appendix A
SECTION A  5/7/92

Rape Code Number: ________________________________

Coder I.D.: ________________________________

Date of Offense: ________________________________

Day of the Week: ________________________________

Hour of Offense: ________________________________
(Military Time)

1. Relationship of offender to victim:
   1. stranger (never encountered before)
   2. acquaintance (encounter only once prior to the rape)
   3. acquaintance (encountered on more than one occasion prior to the rape, but not a frequent contact)
   4. acquaintance (encountered on numerous occasions prior to the rape, but not a personal friend)
   5. friend (close personal relationship with the victim, i.e., implies some reciprocity and closeness, rather than mere social contact)
   6. relative by blood
   7. relative by law (step-father; sister’s husband)
   8. victim is not sure, couldn’t tell
   99. no data/can’t tell

2. General context in which offender encountered victim:
   1. date rape
   2. victim encountered and picked up in some social context (e.g., at bar or party)
   3. victim hitchhiking
   4. victim encountered and picked up in some business/commercial context (e.g., real estate sales)
   5. victim jogging or bike riding
   6. victim encountered in some other outside activity (e.g., walking down street)
   7. babysitting
   8. offender broke into victims home - no goods stolen
   9. offender broke into victims home - stole items from victim
   10. offender gained access to victim’s home through a con
   11. Other: specify ________________________________
   99. no data/can’t tell

3. The initial contact site was:
   1. indoors
   2. outdoors
   99. no data/can’t tell
4. Specific description of the initial contact site:
   1. in victims residence
   2. in victim's work place
   3. shopping mall/area
   4. school or playground
   5. public street
   6. parking lot
   7. in a vehicle
   8. remote open area/wooded area
   9. hotel/motel
   10. bike path/jogging trail
   11. other/describe____________________________

99. no data/can't tell

5. Description of community where initial contact occurred (code apartments as suburban unless clearly indicated as being urban):
   1. rural
   2. suburban
   3. urban

99. no data/can't tell

6. Description of neighborhood where initial contact occurred:
   1. uninhabited or wilderness
   2. farm or agriculture
   3. residential
   4. commercial, industrial

99. no data/can't tell

7. If the initial contact site was inside a building, how did offender make entry?
   1. offense not in building
   2. building was open to public
   3. through unlocked door
   4. let in by victim
   5. forced entry
   6. let in by 3rd person
   7. victim does not know

99. no data/can't tell

8. Describe the offender's initial approach to the victim:

   Deceptive Approaches:
   1. posed as authority figure
   2. pseudo business transaction
   3. asked victim to pose or model for photographs
   4. offered job, money, treats, toys

*5 and 6 to be cross checked with map by coder responsible for coding Section C
5. implied family emergency or illness
6. wanted to show something to victim
7. asked for or offered assistance (e.g. ask to use phone; ask for directions.)
8. caused or staged traffic accident
9. phoney police traffic stop
10. solicitation for sex
11. offered ride or transportation
12. some other deception. Describe

Surprise Approaches (can involve the use of a weapon):
13. lay in wait - out of doors
14. lay in wait - in building
15. lay in wait - in a vehicle
16. victim in home
17. victim in home sleeping
18. followed/stalked victim
19. other surprise. Describe

Direct or Immediate Assault:
20. immediately physically overpower victim
(tackled, picked up)
21. immediately hit victim with hand, fist or clubbing weapon
22. grabbed and immediately choked victim
23. immediately stabbed victim
24. some other direct assault. Describe

99. no data/no information on any of the approach strategies

9. Specific description of rape site:
1. in victim's residence
2. in victim's work place
3. shopping mall/area
4. school or playground
5. public street
6. parking lot
7. in a vehicle
8. remote open area/wooded area
9. hotel/motel
10. bike path/jogging trail
11. other/describe

99. no data/can't tell

10. Which of the following types of restraints were used:
1. no restraints used
2. rope
3. tape
4. belt
5. nylons/panty hose
6. underclothing
7. outer clothing
8. socks
9. handcuffs
10. blindfold
11. restraints used, but victim doesn’t know what they were (describe)
12. other
99. no data/can’t tell

11. How were restraints obtained?
   1. no restraints employed
   2. restraints available at the scene of the offense were used
   3. restraints available at the scene AND those brought to the scene were used
   4. only restraints brought to the scene were employed
99. no data/can’t tell

12. Removal of victim’s clothing:
   1. vaginal area exposed
   2. breast area exposed
   3. vaginal and breast area exposed
   4. victim disrobed completely
   5. victim nude at time of encounter
88. not applicable/no clothing removed
99. no data/can’t tell

13. Manner of removing the victim’s clothing:
   1. victim forced to remove her own clothes
   2. torn/ripped by offender
   3. cut/slashed by offender
   4. without damage by offender
   5. both victim and offender took part in clothing removal
   6. Other. Describe
88. not applicable/no clothing removed
99. no data/can’t tell

14. Clothing worn by the offender:
   1. soiled, tattered or unkempt
   2. decent but not expensive
   3. expensive (e.g., designer jeans, expensive sweaters, good suit)
   4. other
99. no data/can’t tell

15. Offender’s removal of his own clothing:
   1. genital area only exposed
   2. completely removes pants (clear indication of patn removal)
   3. exposes chest and genital areas
   4. disrobes completely
16. Did the rapist give some verbal indication that he had carefully selected this victim:
   1. no
   2. yes
   99. no data/can’t tell

17. What types of weapons were present or used?
   1. knife/cutting
      1. no knife/cutting
      2. present/displayed
      3. used on victim
      2. screwdriver
      1. no screwdriver
      2. present/displayed
      3. used on victim
      3. blunt instrument (pipe, rock, club)
      1. no blunt instrument
      2. present/displayed
      3. used on victim
   4. handgun
      1. no handgun
      2. present/displayed
      3. used on victim
   5. rifle/shotgun
      1. no rifle/shotgun
      2. present/displayed
      3. used on victim
   6. ligature (around neck)
      1. no ligature
      2. present/displayed
      3. used on victim
   7. household appliance
      1. no household appliance
      2. present/displayed
      3. used on victim
   8. victim unsure about presence or type of weapon
   9. other
      Describe
   99. no data/can’t tell

18. Sexual acts committed by the offender to the victim:
   1. kissing/nuzzling
   2. fondling
   3. biting
   4. cunnilingus
   5. masturbation
   6. vaginal intercourse with penis
   7. anal intercourse with penis
   8. digital penetration of vagina or anus
   9. vaginal penetration with inanimate object
10. anal penetration with inanimate object
11. Other  Please specify____________________________

88. Not applicable
99. no data/can't tell

19. Offender had victim perform the following sexual acts:
   1. fellatio
   2. kissing
   3. fondling/masterbation of offender
   4. foreign object(s) in victim
   5. foreign object(s) in offender
   6. masturbation of victim
   7. wear specific clothing
   8. Other  Please specify____________________________

88. Not applicable
99. no data/can't tell

20. If there was foreign object penetration, what object_____________ was inserted into what body opening__________________.

21. Did the offender display any obvious fetishes?
   1. no
   2. yes
   99. no data/can't tell
   If yes, describe__________________________________

22. Was there evidence of:
   1. Sexual ritual (e.g. meals, outfits, chitchat, repetitive pattern of sexual acts, verbal/behavioral scripting, bondage, torture, fetish behavior, exhibitionistic behavior)
      1. no
      2. yes
      99. no data/can’t tell

   2. Did harming the victim seem to "turn the rapist on?"
      1. no
      2. yes
      99. no data/can’t tell

   3. Did the rapist request masochistic stimulation?
      1. no
      2. yes
      99. no data/can’t tell
      If yes, describe__________________________________

   4. The rater should try to capture whether the rapist performed any acts that were masochistic in nature:
1. no
2. yes
99. no data/can't tell

5. Offender had been drinking (if no mention, code 1):
   1. no
   2. yes
   99. no data/can't tell

6. Offender used drugs (if no mention, code 1):
   1. no
   2. yes
   99. no data/can't tell

7. Offender gave drugs to victim (if no mention, code 1):
   1. no
   2. yes
   99. no data/can't tell

8. Offender experience or knowledge about police or prison (do not code if offender only demonstrates awareness of ID protection):
   1. no
   2. yes
   99. no data/can't tell

9. Offender wearing any item of victim clothing:
   1. no
   2. yes
   99. no data/can’t tell

23. Did the offender bite the victim?
   1. no
   2. yes
   99. no data/can’t tell

24. Location of bite marks on the victim's body:

25. Besides the offender, did another male participate in the assault?
   1. no
   2. yes
   99. no data/can’t tell

26. Besides the offender, did a female participate in the assault?
   1. no
   2. yes
   99. no data/can’t tell
27. Role of the offender with multiple assailants?
   1. follower
   2. accomplice
   3. leader; initiator
   88. not applicable/no multiple assailants
   99. no data/can’t tell

28. Other persons present during the assault (must be present in the same room):
   1. no one else present
   2. parent of victim
   3. spouse of victim
   4. child of victim (actually witnessing the assault)
   5. male friend of victim
   6. female friend of victim
   7. other: __________________________
   99. no data/can’t tell

29. If another person was present, were they included in the sexual behavior?
   1. no
   2. yes
   88. not applicable
   99. no data/can’t tell

30. Evidence of sexual dysfunction:
   1. absent
   2. present
   99. no data/can’t tell

31. What did the offender do to overcome the dysfunction?
   1. no dysfunction
   2. nothing
   3. masturbate self
   4. forced victim to orally copulate offender
   5. forced victim to fondle/masturbate offender
   6. other: __________________________
   99. no data/can’t tell

32. Specific description of release site:
   1. same as contact site
   2. same as rape site
   3. same as contact and rape site
   4. in victim’s residence
   5. in victim’s business
   6. shopping mall/area
   7. school or playground
   8. public street
   9. parking lot
   10. in a vehicle
11. remote, open area/wooded area
12. hotel/motel
13. bike path/jogging trail
14. other
99. no data

33. Age of victim at time of assault, in years:
99 = no data available

34. Race/ethnicity of victim:
1. white, Caucasian
2. black, African-American
3. brown, Hispanic
4. Asian
5. native American
6. other: describe
99. no data available/can’t tell

35. Marital status of victim:
1. never married
2. separated
3. divorced
4. widowed
5. unmarried, living with significant other
6. married at time of assault
7. other
99. no data/can’t tell

36. Victim’s residence at time of assault:
1. rooming house
2. dormitory
3. hotel/motel
4. apartment/town house/ any attached dwelling
5. single family
6. other: describe in detail
99. no data/can’t tell

37. At time of assaults, the victim resided with:
1. alone
2. group living situation (e.g., dormitory)
3. in family situation (specify who lived in home)
4. with female or male roommate
5. other (specify):
99. no data/can’t tell

38. Victim’s occupation at time of assault?

39. Sex of co-victims of sexual assault:
1. no co-victims
2. female only
3. male only
4. both male and female co-victims
99. no data/can’t tell

40. Major weather conditions at time of offense:
1. very hot
2. fair, warm
3. cool
4. foggy
5. rain
6. very cold
7. snow
8. other: describe __________________________
99. no data/can’t tell

41. Articles removed from crime scene:
1. nothing taken
2. money/credit cards
3. any item of victim clothing
4. any other personal items of victim
   (describe:) __________________________
5. jewelry
6. other articles of value
7. other: __________________________ describe
99. no data/can’t tell

42. Was weapon taken from the scene by the offender:
1. no
2. yes
99. no data/can’t tell

43. Did offender leave anything at scene of crime:
1. no
2. yes Specify __________________________
99. no data/can’t tell

44. Offender made a statement indicating that:
1. he is married
2. he has a girlfriend
3. is consistently employed or has stable employment
4. indicates his involvement in other criminal behavior
99. no data/doesn’t mention these topics

45. Offender indicates the following about his job:
1. has no job
2. he is a laborer
3. he has a white collar job
4. he has a professional job
5. is a student
99. no data/doesn’t mention his job

46. Did offender vandalize (damage for the sake of damaging) any victim property?
   1. no
   2. yes
   99. no data/can’t tell

47. Vehicle used in the assault:
   1. no
   2. yes
   99. no data/can’t tell

48. Ownership of vehicle used in assault:
   1. victim’s vehicle
   2. vehicle borrowed or stolen by offender
   3. vehicle owned by offender
   88. not applicable; no vehicle used
   99. no data/can’t tell

49. If vehicle used, in what way?
   1. offender gave victim a ride
   2. offender hid in victim’s car
   3. offender forced victim into victim’s car
   4. offender forced victim into offender’s car
   5. offender disabled victim’s car
   6. offender involved victim’s car in accident
   7. offender simulated accident or car trouble
   8. offender assaulted victim in the car
   9. offender parked car and followed victim on foot
   10. other: ____________________________

   describe in detail
   88. not applicable; vehicle not used
   99. no data/can’t tell

50. Age of vehicle owned by offender at the time of the offense:
   1. less than 6 months old
   2. 6 mos. to 1 year old
   3. 1-5 years old
   4. more than 5 years old
   88. does not apply; no vehicle used
   99. no data/can’t tell

51. Vehicle condition:
   1. well cared for
   2. average wear and tear
   3. neglected, poor condition

   88. does not apply; no car used
99. no data/can't tell

52. Quality/expense of vehicle used in the offense:
   1. inexpensive sub-compact
   2. average cost car (full size, sports, or pick-up)
   3. expensive car (Jaguar, Mercedes, Buick Park Avenue, etc.)
88. does not apply; no car used
99. no data/can't tell

SECTION B

VERBAL BEHAVIORAL SCALES

1. PERSONAL INFORMATION ABOUT SELF

   1. Did not talk about self; Did not talk at all, or, did talk but none of it was about self (e.g. all he did was given orders to the victim).

   2. Scoring 2 or higher means the rapist said one thing about himself.

   3. Talk about self is less than a significant part of what the rapist says.

   4. Talk about self was a significant part of rapist's conversation, however much conversation there is.

   5. Talked mostly about self; virtually everything the rapist said was about himself. Rapist may have talked a lot or not talked much at all, but almost all of what he did say was about himself.

2. EXCUSES

   1. Did not make any excuses or justifications of his behavior.

   2. Made one statement that excused or justified his behavior.

   3. Justifications are less than a significant part of what the rapist said.

   4. Justifications were a significant part of the rapist's conversation.

   5. Virtually everything the rapist said was designed to justify or excuse his behavior.
3. SELF-PROMOTION

1. Says nothing at all, or nothing self-promoting about himself.
2. Says one self-promoting thing about himself.
3. Less than a significant part of his conversation.
4. A significant part of rapist's conversation, however much conversation there is.
5. Almost everything rapist says is self-promoting.

4. SELF-DEPRECATING

1. Says nothing at all, or nothing demeaning about himself.
2. Says one demeaning thing about himself.
3. Less than a significant part of his conversation.
4. A significant part of rapist's conversation, however much conversation there is.
5. Almost everything rapist says is demeaning about himself.

5. SENSITIVITY TO VICTIM

1. No verbal indication of any interest in victim's feelings or needs. Total lack of interest in how victim feels.
2. Rapist makes one statement indicating concern about victim feelings or needs.
3. Less than a significant part of his conversation.
4. A significant part of the conversation.
5. Verbal indications of concern for victim's needs are major part of rapist conversation.

6. INQUISITIVE

1. No questions: if none are asked, mark this.
2. Rapist asks victim one question about her life.
3. Less than a significant part of conversation.
4. A significant part of the conversation.

5. Questions about victim's life are a major part of rapist conversation.

7. COMPLIMENTARY TOWARD VICTIM

1. Says nothing at all, or nothing complimentary about victim.

2. Says one complimentary thing about victim: (e.g., "You have a nice body."

3. Less than a significant part of the conversation.

4. Complimentary about victim is a significant part of rapist's conversation.

5. Almost everything rapist says is complimentary about victim.

8. HOSTILITY/WOMEN

1. Says nothing at all, or nothing hostile about victim.

2. Says one hostile thing about victim.

3. Hostile statements about victim were less than a significant part of his conversation.

4. Hostile statements about victim are a significant part of rapist's conversation, however much conversation there is.

5. Almost everything rapist says is hostile about victim.

9. HOSTILITY/GENERAL

1. Says nothing hostile, or only hostile comments about the victim or women in general (Code Hostility/Women).

2. Makes one generic hostile statement.

3. Hostile statements were less than a significant part of his conversation.

4. Hostile statements are a significant part of the rapist's conversation, however much conversation there is.

5. Almost everything the rapist says is hostile.
10. REASSURING

1. No verbal attempts to reassure victim.
2. Rapist makes one verbal attempt at reassurance.
3. Reassuring comments are less than a significant part of conversation.
4. Reassuring comments are a significant part of rapist’s conversation, however much conversation there is.
5. Almost everything the rapists says is reassuring.

11. APOLOGETIC

1. No apologetic statements by rapist.
2. Rapist makes one apologetic statement.
3. Apologetic statements are less than a significant part of the rapist’s conversation, however much conversation there is.
4. Apologetic statements are a significant part of the rapist’s conversation.
5. Apologies are the primary theme in the rapist’s conversation.

12. DEMANDS

1. No demanding statements by rapist.
2. Rapist makes one demanding statement (this would include issuing orders: "Roll over"; "Shut up").
3. Demanding statements less than significant part of the rapist’s conversation, however much conversation there is.
4. Demanding statements are a significant theme in the rapist’s conversation.
5. Demands are the primary theme in the rapist’s conversation.

13. THREATS

1. No threatening statements by rapist.
2. Rapist makes one threatening statement.
3. Threatening statements less than significant part of the rapist's conversation, however much conversation there is.

4. Threatening statements are a significant theme in the rapist's conversation.

5. Threats are the primary theme in the rapist's conversation.

14. SEXUALLY-ORIENTED

1. No explicit sexual verbal content at all.

2. One explicit sexual reference.

3. Sexual content was less than a significant part of the rapist's conversation, however much conversation there is.

4. Sexual references are a significant theme in the rapist's conversation.

5. Conversation is filled with explicit sexual references.

15. VERBAL SCRIPTING

1. No verbal scripting.

2. One directive regarding verbal scripting.

3. Verbal scripting was less than a significant part of the rapist's encounter with the victim.

4. Verbal scripting was a significant theme in the rapist's encounter with the victim.

5. Victim scripting was dominant part of the encounter.

16. DEMEANING SCRIPTING

1. No demeaning scripting.

2. One directive regarding demeaning scripting.

3. Demeaning scripting was less than a significant part of the rapist's encounter with the victim.

4. Demeaning scripting was a significant theme in the rapist's encounter with the victim.

5. Victim scripting was dominant part of the encounter.
17. SCRIPTING TO COMPLIMENT RAPIST

1. No scripting to compliment rapist.

2. One directive regarding scripting to compliment rapist.

3. Scripting to compliment rapist was less than a significant part of the rapist’s encounter with the victim.

4. Scripting to compliment rapist was a significant theme in the rapist’s encounter with the victim.

5. Victim scripting was dominant part of the encounter.

18. BEHAVIORAL SCRIPTING

1. No behavioral scripting.

2. One directive regarding behavioral scripting.

3. Behavioral scripting was less than a significant part of the rapist’s encounter with the victim.

4. Behavioral scripting was a significant theme in the rapist’s encounter with the victim.

5. Victim behavioral scripting was dominant part of the encounter.

19. VERBAL NEGOTIATION

1. No attempt at negotiation took place.

2. One attempt at negotiation took place.

3. Attempts at negotiation are less than significant part of the conversation, however much conversation there is.

4. Attempts at negotiation are a significant theme in the rapist’s conversation.

5. Attempts at negotiation are a primary theme in the rapist’s conversation.
20. **BLUNT FORCE**

1. No such force.

2. Minimal force (struck the victim, but more to intimidate than to punish).

3. Moderate force (victim was struck repeatedly in a painful manner).

4. Excessive force (victim was seriously beaten).

5. Brutal/Fatal force (victim was severely beaten and/or killed).

Please check if incident resulted in the death of the victim _____.

21. **VICTIM INJURY RESULTING FROM BLUNT FORCE**

1. No blunt force used.


3. Moderate injuries requiring medical treatment (stitches, testing).

4. Extreme injuries resulting in long-term or permanent damage.

5. Death.

22. **VICTIM INJURY BY OTHER THAN A BLUNT WEAPON**

1. No such force/injury.

2. The offender had a weapon, but did nothing other than display or threaten with it.

3. A weapon was present and injuries, not requiring hospitalization, were involved.

4. A weapon was present and injuries involving hospitalization were inflicted.

5. A weapon was present and life-threatening injuries were involved.
23. **VICTIM INJURY**

1. No physical injury.

2. Minor cuts, scratches, abrasions only; injuries that would not ordinarily require professional medical attention.

3. Injuries require medical attention.

4. Injuries are life threatening or may result in permanent disfigurement or impairment.

5. Victim is killed.

24. **BINDINGS**

1. No bindings involved.

2. Victim was bound but later unbound by the rapist.

3. Victim was bound and left bound by the rapist.

4. Victim was bound in a physically painful manner, and was left bound by the rapist.

5. Victim was bound in a variety of positions and/or in an unnecessary manner (upper arms, calves, thighs, hogtied).

25. **BINDING MATERIAL**

1. No bindings used.

2. Bindings of opportunity (items from victim's possessions).

3. Items other than listed in 4 or 5 brought by the rapist.

4. Pre-cut lengths of rope, handcuffs, tape brought by the rapist.

5. Special purchase items (leather wrist restraints, hoods, leather restraints) brought by the rapist.

26. **SADISTIC INFILCTION OF PAIN**

1. No intentional infliction of pain involved.

2. Rapist intentionally inflicted pain on the victim on one occasion.
3. Rapist intentionally inflicted pain on victim at least twice.

4. Rapist intentional inflicted pain on victim at least three times.

5. Intentional infliction of pain dominated the sexual assault.

27. FUNCTION OF FORCE USED BY OFFENDER

1. Force used was instrumental only, that is, used only for purpose of forcing victim compliance.

2. On one occasion, rapist used force that was more than necessary to achieve compliance.

3. Force not necessary to achieve compliance was used more than once, but was not a significant theme in the use of force in this rape.

4. Force that was not necessary to achieve compliance was a significant part of the force used in this rape.

5. Expressing rapist rage or other emotions was the primary function of force used by the rapist in this encounter.

28. CAPTIVITY

1. No captivity occurred.

2. Captivity involved 24 through 48 hours.

3. Captivity involved 49 through 72 hours.

4. Captivity involved 73 through 96 hours.

5. Captivity involved more than 96 hours.

29. EFFORT NOT TO HARM VICTIM

1. No effort at all is made to ensure victim suffers no physical injury; whether or not the victim is harmed is not the issue.

2. Rapist makes one effort to protect victim from physical harm.

3. Attempts at avoiding harm are less than significant throughout rape.
4. Attempts at avoiding harm are a significant part of rapist’s behavior.

5. Rapist demonstrates a continuous, concerted effort to avoid causing physical harm to the victim. Avoiding physical harm to victim is a principal concern of the rapist.

30. TRANSPORTATION OF VICTIM

1. No transportation involved.
2. Transporting the victim less than a city block.
3. Transporting the victim up to a mile.
4. Transporting the victim up to five miles.
5. Transporting the victim more than five miles.

31. RAPIST’S EFFORTS TO PROTECT IDENTITY

1. Value of one on identity protection.
2. Value of two on identity protection.
3. Value of three on identity protection.
4. Value of four on identity protection.
5. Value of five on identity protection.

32. DURATION OF THE ASSAULT

1. Less than 10 minutes.
2. 11 through 45 minutes.
3. 46 through 90 minutes (1 1/2 hours).
4. 91 through 135 minutes (2 1/4 hours).
5. More than 2 1/4 hours.

33. MACHO BEHAVIOR OF THE RAPIST

1. Not at all macho.
2. Not usable code.

3. Some indication of rapist being macho-like; but not a overwhelming sense of this being a very macho individual.

4. Not usable code.

5. Rapist could hardly act in a more macho manner.

34. PLANNING OF RAPE

1. No evidence of any planning or preparation. The assault seemed as if it occurred impulsively after the victim was encountered.

2. Minimal planning, although the encounter with the victim may have elicited the assault, there is some evidence that the offender being proned to wait. For example, a man who picks up hitchhiker, who takes a woman home from a bar, who stops to offer assistance on roadside.

3. Moderate planning, there is clear evidence that the offender conceived of the idea of raping before the offense. For instance, he breaks into the victim’s residence and/or carries with him one crime related item, e.g., a mask, gloves.

4. Significant planning, evidence of fairly extensive preparation or some previous occasion, e.g., rapist already knew the layout of the house or the names of the children. Suggestion that particular victim had beer surveyed. Brought a variety of crime related articles (e.g., restraints, mask, blindfold).

5. Extensive planning, every aspect of rape seemed prearranged, e.g. rapist used a modified vehicle, took victim to a preslected location, used a rape kit, brought recording equipment. Clear evidence of specific scenario the rapist was following.

35. HUMILIATION OF VICTIM

1. None of the rapist’s acts are performed specifically to humiliate the victim.

2. Rapist deliberately humiliated the victim on one occasion.

3. A few instances where rapist humiliated the victim.

4. It’s clear that humiliation of the victim is one theme, among others, of the rape.

5. Causing humiliation to the victim is a central concern of the rapist and is present in many of his acts.
36. ENJOYMENT

1. No rapist interest in display of enjoyment by victim.
2. Any evidence at all of interest in victim enjoyment ("I bet you liked that").
3. Some talk about victim enjoyment.
4. Interest in victim enjoyment is more than just casual.
5. Demands excessive display of enjoyment.

SEXUAL BEHAVIOR OF THE RAPIST

37. KISSING ON MOUTH

1. No kissing took place.
2. One kiss.
3. Kissing less than significant part of rape.
4. Kissing a significant part of rape.
5. Kissing was a definitive part of the attack.

38. NUZZLING (SUCKING, NIBBLING, BITING, RUBBING BUT NOT BITING) ON THE BODY (E.G., BREASTS)

1. No nuzzle took place.
2. One nuzzle.
3. Nuzzling less than significant part of rape.
4. Nuzzling a significant part of rape.
5. Nuzzling was a definitive part of the attack.

39. FONDLING

1. No act took place.
2. Took place once.
3. Less than a significant part of rape.
4. Significant part of rape.
5. Dominated the sexual assault.

40. FELLATIO
1. No fellatio took place.
2. Victim was forced to place penis in mouth on one occasion.
3. Fellatio was forced on 2 occasions.
4. Fellatio was forced on 3 occasions.
5. Fellatio was forced more than three times.

41. CUNNILINGUS
1. No acts took place.
2. Cunnilingus occurred on one occasion.
3. Cunnilingus occurred on at least two occasions.
4. Cunnilingus occurred on at least three occasions.
5. Cunnilingus occurred on more than three occasions.

42. ANAL SEX
1. No act took place.
2. Anal sex occurred once.
3. Anal sex occurred at least twice.
4. Anal sex occurred at least three times.
5.Anal sex occurred more than three times.

43. VAGINAL SEX
1. No act took place.
2. Vaginal sex occurred once.
3. Vaginal sex occurred at least twice.
4. Vaginal sex occurred at least three times.
5. Vaginal sex occurred more than three times.

44. FOREIGN OBJECT

1. No act took place.
2. Took place once.
3. Took place at least twice.
4. Took place at least three times.
5. Took place more than three times.

45. DIGITAL OR MANUAL INSERTION

1. No act took place.
2. Took place once.
3. Took place at least twice.
4. Took place at least three times.
5. Took place more than three times.

46. SEXUAL DYSFUNCTION OF THE RAPIST

1. No sexual dysfunction reported.
2. Erectile insufficiency.
3. Premature ejaculation.
4. Retarded ejaculation.
5. Conditional impotence/ejaculation.
RESISTANCE SCALES

47. VERBAL RESISTANCE BY VICTIM
   1. No verbal resistance.
   2. One resistive statement.
   3. Resistive statements are less than a significant component of the victim's remarks.
   4. Resistive statements are a significant component of the victim's remarks.
   5. Continuous, verbal resistance throughout encounter.

48. NONCONFRONTATIVE RESISTANCE BY VICTIM
   1. No nonconfrontative resistance.
   2. One nonconfrontative resistive behavior.
   3. Nonconfrontative resistance less than a significant component of rape.
   4. Nonconfrontative resistance significant component of rape.
   5. Extensive and pervasive nonconfrontative resistance throughout entire encounter.

49. PHYSICAL RESISTANCE
   1. No physical resistance.
   2. One attempt at physical resistance.
   3. Physical resistance less than significant part of encounter.
   4. Physical resistance a significant part of encounter.
   5. Pervasive, prolonged physical resistance throughout entire encounter.

50. RAPIST'S RESPONSE TO VICTIM RESISTANCE
   1. None
2. Verbal (offender responds nonphysically with verbal statements intended to gain victim compliance via threat or negotiation).

3. Physical nonbrutal (offender uses physical force that is noninjurious to gain victim compliance, such as slapping or holding the victim down).

4. Physical, excessive (uses more force than necessary to end resistance.)

5. Physical, brutal (offender uses physical force that is highly injurious, resulting in long-term or permanent injury to the victim).

51. RAPE TYPE
What type rape is this?

1. Power-reassurance
2. Power-assertive
3. Anger-retaliatory
4. Anger-excitation

52. Please complete the following scales. These represent earlier versions of the verbal/behavioral scales and will be used for comparative purposes only.

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c) No info

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SECTION C

Rapist ID #

City and State in which offenses occurred

1. Date of Birth: 

2. Physique at time of last offense:
   - thin, skinny..........................1
   - slim, slender........................2
   - medium, average.....................3
   - muscular..............................4
   - heavy, stocky........................5
   - obese, fat............................6
   - data not available..................9

3. Race or ethnic origin:
   (as defined by rapist)
   - white, caucasian.....................1
   - black, African-American...............2
   - hispanic, Latin American...............3
   - asian..................................4
   - native american.......................5
   - other..................................9
   - data not available..................9

4. Most recent marital status:
   - unmarried, no significant other......1
   - unmarried, lives with significant other........2
   - married................................3
   - separated..............................4
   - divorced..............................5
   - widowed...............................6
   - no data available....................9

5. Education:
   Highest grade completed or attended:
   - 0 = less than 1st grade
   - 1 = first grade - 13 = college freshman, etc.
   - No Data Available = 99

6. Offender’s normal work hours: (Military Time) 
   - 00=Unemployed; 99= No recall, no data

7. Did the offender demonstrate similarities between his victims in term of:
   1. hair color
      1 no similarity
      2 suspected similarity
3. confirmed similarity

2. physical build (large breasts)
   1. no similarity
   2. suspected similarity
   3. confirmed similarity

3. physical handicap
   1. no similarity
   2. suspected similarity
   3. confirmed similarity

4. psychological handicap
   1. no similarity
   2. suspected similarity
   3. confirmed similarity

5. dress or clothing
   1. no similarity
   2. suspected similarity
   3. confirmed similarity

6. age
   1. no similarity
   2. suspected similarity
   3. confirmed similarity

7. occupation
   1. no similarity
   2. suspected similarity
   3. confirmed similarity

8. other (specify)
Vita

Brooke Smith (de Heer) was born and raised in Peoria, Arizona. She earned her Bachelor of Psychology/Criminal Justice degree from Northern Arizona University in Flagstaff, AZ in 2003. She entered the Legal Psychology Doctoral program in 2005 and received her Master of Science degree in Experimental Psychology from the University of Texas at El Paso in 2008.

She has been the recipient of honors and awards during her time at UTEP such as Minority Research Infrastructure Support Program (MRISP) funding as well as the Honors Internship with the Federal Bureau of Investigation (FBI). Additionally, she worked under grants from the HOGG and Meadows Foundations at the Mental Health Unit of the El Paso Public Defender’s Office.

While pursuing her degree, she worked as a research assistant and instructor for the department of Psychology, teaching the Experimental Lab and Psychology and Law. She held internships at the El Paso Public Defender’s Office and the FBI. She currently works full time for the FBI in Washington D.C.

Brooke has presented her research at national conferences such as the 2007 and 2008 Applied Psychology and Law Society annual meeting. She has engaged in joint research ventures with the FBI, namely her dissertation which used FBI data from the Behavioral Science Unit. She has published work in the Encyclopedia of Psychology and Law as well as in the book Expert Psychological Testimony on Eyewitness Identification: Consensus Among Experts.

Brooke’s dissertation entitled, “Studying Rape through a Theoretical Lens: The Development of a Serial Rape Model Using FBI Data” was supervised by Dr. Harmon Hosch. Future plans include continuing to work for the FBI and possibly instructing courses at local universities.
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This dissertation was typed by Brooke Smith