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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

ILLICIT SEXUAL BEHAVIORS:

A TEST OF SELF CONTROL THEORY

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

SHARON REDHAWK LOVE
Norman, Oklahoma
2001

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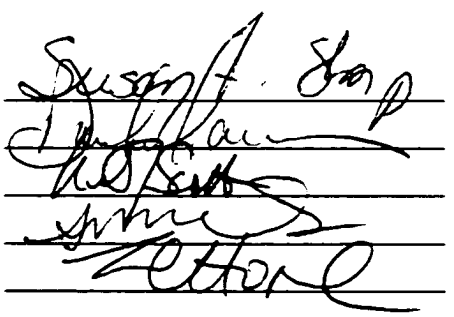
ILLICIT SEXUAL BEHAVIORS: A TEST OF SELF-CONTROL THEORY

A Dissertation APPROVED FOR THE
DEPARTMENT OF SOCIOLOGY

BY



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In completing this degree, I am reminded there are many people who have made this journey possible, far too many to name, although several deserve special mention. First, I send prayers to The Creator, the Grandfathers and Grandmothers before me who made this way. To the Elders and the Whippoorwill who have and continue to sustain me, I honor each of you. I pledge to continue to carry your words and ways as I go forward, remembering to give as I have been given to. Mitakuye Oyasin.

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In turn, I want to thank each of you who have made this journey with me in some way, I am grateful beyond words. I acknowledge each of you and I share with you this accomplishment. May you each stand in peace.

> This is the way of it. Let the story fires be lighted. Let our circle be strong and full of medicine. Hear me. This is my dream song that I am singing for you. This is my power song that is taking me to the edge. This is Rock medicine. The talking tree. The singing water. Listen. I am dancing underneath you.
>
> This is the way of it. It is a river. It is a chant. It is a medicine story. It is what happened long ago. It is a bead in a story belt. It is what has been forgotten. It is the smell of sweetgrass and cedar and prayers lifted to Sky Father. It is a way, a tradition. The way it was always done by the people. It is a feeling of warmth. The sound of voices. Listen. I am dancing underneath you.

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ABSTRACT

This study proposes a test of self-control theory using illicit sexual behaviors. Specifically this research tests the correlation of illicit sexual behaviors with crime/delinquency as they relate to measures of self-control, and opportunity. This research explores both the possibility of an interaction between self-control and opportunity as well as examines the concept of a displacement effect between crime/delinquency and illicit sexual behaviors. In addition, the relationship between crime/delinquency and illicit sexual behaviors with self-control, opportunity, age, gender and race are analyzed.

Data for this project were gathered in two survey periods conducted during the 1999-2000 academic year. Data used to test the theory as discussed above are drawn from a survey of 708 college students, age 18 and above, attending three southwestern universities, one rural, one commuter, and one Carnegie I research institution. Participation in the survey was voluntary.

These analyses report illicit sexual behaviors are positively correlated with criminal/delinquent behaviors providing support for self-control theory. No displacement effect was found to exist further supporting self-control theory. However, for the interaction term of self-control and opportunity results are mixed in their support for the General Theory. Finally, when crime/ delinquency and illicit sexual behaviors are regressed by race on self-control and opportunity there is a failure of self-control theory to account for the findings.

Chapter One

Introduction

Gottfredson and Hirschi's General Theory of Crime, often called Self-Control Theory, has generated an increasing amount of research (Brannigan 1997; Burton et al. 1998; Cochran et al.1998; Gibbs et al. 1998; Grasmick et al. 1993; Herbert et al. 1998; Keane et al. 1993; Kruttschnitt et al. 2000; Lagrange and Silverman 1999; Longshore 1998; Paternoster and Brame 1998; Peluso et al. 1999; Polakowski 1994; Reed and Yeager 1996; Sellers 1999; Sorenson and Brownfield 1995; Tittle and Grasmick 1997; Tittle and Ward 1994). The authors of this theory (Gottfredson and Hirschi 1990) contend that their general theory of crime can explain a wide variety of both conforming and non-conforming behaviors, across different socio-economic statuses, racial and ethnic backgrounds, as well as gender. In short, they argue that inadequate child rearing practices result in low levels of self-control, which can lead to a variety of criminal and analogous deviant behaviors. Analogous deviant behaviors include smoking, drinking, gambling, substance abuse, illicit (deviant) sexual behaviors and eating disorders. The contribution of the present research is to empirically test the interactive effect between opportunity and low self-control on one type of behavior considered analogous to crime, illicit sexual behaviors (Gottfredson and Hirschi 1990:90,91), in a sample of college freshmen.

Theory Testing

Theories make contributions to the field, undergoing rigorous examination and sometimes producing social change as a result. In the field of sociology, theory testing is essential, in that it permits us to gain a better understanding of social behaviors, more

specifically deviant behaviors, and how that understanding can aid in effective policy making. Theories must then be "testable by objective, repetitive evidence" (Akers 1994:7); meaning that theories must be amenable to testing; whether the evidence supports or contradicts their hypothesis, with empirical findings. Researchers must then be able to test theories, to prove or disprove their validity and reliability in examining this social life, because theories "that are untestable are of little use" (Winfree and Abadinksy 1996:18).

While Gottfredson and Hirschi's General Theory of Crime is still relatively new in the field of criminology it is encouraging a great deal of empirical testing (Brannigan 1997; Burton et al. 1998; Cochran et al. 1998; Gibbs et al. 1998; Grasmick et al. 1993; Herbert et al. 1998; Keane et al. 1993; Kruttschnitt et al. 2000; Lagrange and Silverman 1999; Longshore 1998; Paternoster and Brame 1998; Peluso et al. 1999; Polakowski 1994; Reed and Yeager 1996; Sellers 1999; Sorenson and Brownfield 1995; Tittle and Grasmick 1997; Tittle and Ward 1994). Gottfredson and Hirschi (1990) claim their theory to be "general," meaning it explains a variety of deviant behaviors including crime, and should therefore be both valid and reliable even when using other analogous behaviors as dependent variables. Other self-control researchers have found mixed support for the theory using variables such as juvenile delinquency (Sorenson and Brownfield 1995), offender specialization (Piquero et al. 1999), age (Burton et al. 1998; Tittle and Grasmick 1997; Tittle and Ward 1994), academic dishonesty (Cochran et al. 1998), and parental management (Gibbs et al. 1998). This research project will empirically test Gottfredson and Hirschi's theory by moving beyond archetypal criminal behaviors and include a previously untested behavior, illicit sexual behaviors. As

representative of an analogous behavior this research will examine illicit sexual behaviors using self-report data on:

- The number of sexual partners of the respondent
- Affairs outside of a primary relationship
- Having the urge to sexually expose oneself
- Crossdressing, observing someone sexually, or engaging in sexual behaviors that could produce trouble
- Worrying that someone will find out about individual sexual behavior or romantic relationships
- Thinking sexual thoughts more than most people
- Reading sexually explicit books
- Masturbation.

This study will explore

1. the degree to which illicit sexual behaviors correlate with crime and delinquency as measure of deviance and
2. the efficacy of self-control theory to explain illicit sexual behavior.

For the purpose of this study, Chapter Two re-examines Gottfredson and Hirschi's General Theory of Crime to present both the theoretical perspective of Gottfredson and Hirschi as well as a review of the relevant literature. Chapter Three provides a review of the literature on illicit sexual behaviors to include extra-relationship affairs, urges to sexually expose one's self, observing someone sexually, excessive sexual thoughts, consuming of sexually explicit books and masturbation. Chapter Four presents the methodology and data. Chapter Five presents the analyses and a discussion of the findings. Chapter Six concludes with a summary of the research as well as a discussion of policy implications and recommendations for further research.

Chapter Two

Self-Control Theory

Gottfredson and Hirschi introduced a version of control theory in 1990 identified as Self-Control Theory. By asserting The General Theory of Crime, Gottfredson and Hirschi depart from the pure positivist approach to studying deviance, which emphasizes the role of external forces in deviance causation. As a general theory of deviance, self-control theory has a basis in the classical school with positivistic overtones. Classical theory states that there is an inherent desire in people to seek pleasure and avoid pain, such that the very nature of humans is hedonism (Bentham 1789). Based on this view of human nature individuals make choices about their behaviors. Thus, deviance can be seen as a rational choice made by weighing the costs and benefits of the act. According to Gottfredson and Hirschi (1990:5) this description of human nature applies to all behaviors, not just deviant acts. All actions are calculated and undertaken in accordance with Bentham's concept of hedonism to maximize self-determined pleasure and/or minimize pain (Bentham 1789; Mitchell 1918). For Gottfredson and Hirschi, the question was not "why do humans engage in crime and analogous acts," but rather "why don't all individuals engage in crime and analogous acts?"

Historically, the classical school focused on the deviant act of crime, as defined by law. Acts that were defined as being criminal meant those who engaged in them were prosecuted and labeled criminal. The positivist school took a different approach, focusing on the criminal and what forces beyond the individual's control made them engage in criminal behavior. Gottfredson and Hirschi (1990) delineate the crime(s) from criminality and then present an explanation of the interaction of these two elements as deviance.

They believe that deviance stems from an individual's inability to control their natural motivation for pleasure. Their theory harkens to earlier criminological research wherein the origins of adult offending were located in traits of the individual. However, they separate their theory from biological or genetic explanations in favor of socialization, specifically the failure to develop self-control as a primary element of socialization (Bowlby 1969; Glueck and Glueck 1950; McCord and McCord 1959).

Gottfredson and Hirschi begin by examining the nature and definition of crime. They define crime as "acts of force or fraud undertaken in the pursuit of self interest" (1990). The authors further assert that crime "requires little in the way of effort, planning, preparation, or skill" and is largely petty, typically incomplete, and usually of little lasting or substantial benefit to the offender" (1990:17, 21). Gottfredson and Hirschi claim that crime is highly predictable and there exists little specialization of crime type among those who violate the norms. Crime, as a form of deviance, is contingent on opportunity. When opportunity intersects with low self-control, crime is likely to occur (1990: 90).

The concept of self-control is implicitly tied to Gottfredson and Hirschi's definition of crime, since crime provides immediate and simple gratification of the individual's desires without requiring much planning or skill. These two concepts are so closely linked that critics contend this presents a tautology (Akers, 1991; Sampson, 1992). However, Gottfredson and Hirschi contend that individuals with low self-control are not necessarily criminals; meaning low self-control does not automatically produce criminality. Rather, criminality is an aspect of low self-control, where under certain conditions those with low self-control are more likely to commit crime than those with

high self-control. Such individuals are also more likely to engage in other forms of deviance, such as smoking, drinking, drug abuse, gambling, having children out of wedlock, and engaging in illicit sex as well as being involved in household fires, auto crashes, unwanted pregnancies and death at an earlier age (Robins 1996; Eysenck 1977; Gottfredson 1984). The assumption of human nature as hedonistic suggests that individuals have the ability to see the benefits of crime and calculate its advantages. However, what deters is the ability to see the costs of deviance or negative consequences. Individuals with low self-control generally fail to calculate the costs of deviance. Therefore, low self-control can predict propensity to engage in both crime and analogous acts. It is the concept of analogous acts this research is primarily concerned with investigating.

Self-control Theory is based on the assertion that a unidimensional personality trait called self-control is established early in childhood. The level of self-control is maintained or is stable over the life-course, and a lower level of self-control predisposes individuals to deviance. The theory emphasizes two aspects of behavior: stability and versatility. When we see the interaction of low self-control with opportunity, there is an increased likelihood of deviance, specifically crime or analogous acts. These four elements will be examined in greater detail in the following section.

Six elements comprise a low self-control personality trait. These elements of low self-control are impulsivity, preference for simple tasks, risk seeking, being more physical than mental, self-centeredness and anger.

First, individuals with high self-control are presumed to have the ability to delay gratification of their desires and conform to norms. Those with low self-control respond

differently to tangible environmental stimuli, with an impulsivity to act from a "here and now" orientation (1990:89). Simply stated, individuals with low self-control are impulsive. Those with higher self-control realize that crimes and analogous acts provide "few or meager long term benefits" and will avoid these activities (Gottfredson and Hirschi 1990:89).

Second, Gottfredson and Hirschi also assert that individuals with low self-control "lack diligence, tenacity or persistence in their course of action" (1990:89). That is individuals with lower levels of self-control favor shortcuts and are more likely to avoid complex tasks. They lack the diligence and perseverance needed to complete complicated activities, preferring instead simple tasks.

The third element of low self-control is risk-seeking. Engaging in acts that are exciting, adventuresome, exhilarating and even stimulating provides gratification to individuals with lower levels of self-control. Individuals with higher levels of self-control are more cautious about engaging in risky behaviors, and are less likely to be lured by the excitement pay off. Individuals with lower levels of self-control are thus more likely to pursue risky behaviors.

Self-control utilizes a fourth element identified as a preference for physical activities over mental activity. Those with lower levels of self-control will tend to be less mental, meaning knowledge oriented, less verbal, preferring to engage in acts of deviance that require "little skill or planning." Instead, those with low self-control have a tendency toward adventure, and physical activity. Those with higher levels of self-control tend to be more "cautious, cognitive and verbal" (Gottfredson and Hirschi 1990:89). In sum,

while individuals with low self-control lean towards physical tasks, those with high self-control tend to be more cognitive and verbal.

The fifth element of self-control according to Gottfredson and Hirschi (1990:89) is anger. That is "people with low self-control tend to have little tolerance for frustration..." or exhibit anger.

Finally, the sixth element is insensitivity to others. Gottfredson and Hirschi (1990:89) assert that "people with low self-control tend to be self-centered...insensitive to the suffering and needs of others." Gottfredson and Hirschi assert that these six elements form a unidimensional personality trait called low self-control. Research has demonstrated at least moderate support for this contention (Arneklev et al. 1993; Grasmick et al.1993).

Ineffective parenting

The caretaker's effect on self-control takes place at an early period in life, through adequate parenting. Adequate parenting is identified as creating self-control in children by someone who has affection for or an investment in the child. Assuming there is affection or investment with the child, the minimum conditions that "need to be present in order to teach the child self-control" are the ability for someone to monitor the child's behavior, to recognize deviant behavior when it occurs and to punish the deviant behavior (Gottfredson and Hirschi 1990:97).

Gottfredson and Hirschi (1990:96) recognize the existence of individual differences, which may affect early socialization, but argue that low self-control is the trait largely responsible for deviant behavior. They purport that all individuals are equally motivated to seek pleasure and avoid pain, but self-control mediates individual

calculations to make decisions (Gottfredson and Hirschi 1990:3-14; 256). Individuals with high self-control attach greater value to long-term benefits and calculate consequences, while those with low self-control value immediate benefits and are less likely to calculate or value long-term costs. Self-control is a result of socialization. Without effort it will not develop (Gottfredson and Hirschi 1990:95). Variation in self-control is established at a very young age through the process of socialization (Hirschi and Gottfredson 1994:2). Some research has provided support to Gottfredson and Hirschi's statement that self-control, such as risk taking, is established early in life (Winfree and Bernat 1998:551). Cochran et al. (1998:248) join Wood et al. (1993) and Polakowski (1994) in suggesting the origins of self-control are in parental attachment (Cochran et al. 1998: 251).

For effective socialization to occur there must first be an attachment or bond between the caretaker (parent, guardian or other) and the child consisting of genuine affection or concern for the child (Gottfredson and Hirschi 1990:97-8). The conditions necessary for effective child rearing are: monitoring of the child's behavior, recognizing the deviant behavior when it occurs and then correcting the behavior through punishment, specifically disapproval (Gottfredson and Hirschi 1990:97-9).

Through the process of socialization the child experiences delaying of gratification, being sensitive to the needs of others, being independent, and being willing to accept restraint on their activity. Thus, the child is less likely to use force or fraud to achieve his or her goals (Gottfredson and Hirschi 1990:97). A variety of things can occur to interfere with this process. Parents may not care (Patterson 1980:88-9; West and Farrington 1977), monitoring of youth is varied in degree (McCord 1979), punishment

varies (Currie 1985), or parental bad habits are passed from one generation to the next (West and Farrington 1977:107). Research supports the importance of caretaker (parental/guardian) behavior in the effective socialization of youth and the development of self-control. Polakowski (1994) examined and supported the central proposition of Gottfredson and Hirschi that parental behavior is a primary influence on the development of the child's self-control. Additionally, there is support for Gottfredson and Hirschi's assertion that parental management has an effect on self-control and self-control has an effect on deviance (Gibbs et al. 1998:61). However, parental management has been reported to have no direct effect on deviance, when controlling for self-control (Gibbs et al. 1998:61).

In families where parents care about their children, monitor and recognize deviant behavior and negatively sanction that behavior, self-control becomes a stable trait of the child. To some degree, school plays a part in the development of self-control; school is where the child is likely to develop a commitment to their own future, learn to care about parent and school boundaries, and develop a strong set of values conducive to managing hedonistic urges with an eye to long term consequences. In the absence of this early socialization by family and school, individual self-control will be low. Consequently, these individuals will be susceptible to momentary pleasures with little concern for consequences.

Versatility

Gottfredson and Hirschi argue that we can expect to see individuals commit a variety of norm violating acts, including but not limited to crime. Individuals with low self-control have difficulty in maintaining steady work and satisfactory relationships

regardless of their rate of offending. Low self-control contributes to an inability to consider long term consequences. Thus individuals with low self-control focus on the here and now for a quick pay-off, being driven by their hedonism (1990:86). Those with lower self-control are less likely to restrain their behavior. Therefore, Gottfredson and Hirschi turn the focus of control theory to self-control and its relationship with crime.

Some criminologists have attempted to explain crime by pursuing the idea of "criminal careers" (Blumstein and Morita 1980; Blumstein et al. 1988). The criminal career argument contends that offenders will have committed more of a particular type of offense in the past, and those who are older, should be more likely to commit the same type of offense in the future (Britt 1994:184).

Other research pursued the criminal career argument focusing on the versatility of "white-collar offenders" and investigating whether they are as prone to deviance as "common offenders" (Benson and Moore 1992:252). Findings demonstrate little evidence for specialization among the groups of offenders, rather there is considerable overlap between the two groups suggesting mixed results for the versatility hypothesis. (Benson and Moore 1992:261). Greenberg's (1991:28) analysis proposes that neither the Blumstein and Morita (1980) nor the Blumstein et al. (1988) findings fit with the features of their career criminal models.

Self-Control Theory, on the other hand, argues individuals engage in versatility rather than pursuing careers in specific crimes. In Gottfredson and Hirschi's words, "offenders commit a wide variety of criminal acts, with no strong inclination to pursue a specific criminal act or pattern of criminal acts to the exclusion of others" (1990:91). The key is that deviance is a quick fix or "short term gain" attractive to individuals with low

self-control (Hirschi and Gottfredson 1994:174). These individuals are oriented to acts that provide immediate gratification, require little planning, are pleasure seeking, and/or pain avoiding, and are simple or easy acts aimed at providing a quick fix (Gottfredson and Hirschi 1990:89-90).

Crime is not the only deviant response that can result from low self-control. There are a variety of analogous acts that are deviant. For example: accidents, motor vehicle accidents, driving under the influence, drug and alcohol abuse, rape, unemployment and marital discord are considered as analogous acts to crime that are deviant (Hirschi and Gottfredson, 1994). How the propensity to engage in deviance manifests depends on the situations and opportunities confronting potential offenders as they go through life. When we look at crime, it is easy to see a variety of offenses such as rape, drug trafficking, murder, arson, and a list of other offenses, which are also deviant. Further investigation reveals that rapists may also be arsonists, or murderers may also be traffic offenders or drug traffickers may also be robbers (Gottfredson and Hirschi 1990 92)..

To explore the issue of versatility, a measure of self-control was regressed on three separate indicators of legal but imprudent behaviors: smoking, drinking, gambling and a composite index (Arneklev et al. 1993). The researchers reported that self-control was significantly related to two of the three imprudent behaviors, with adult smoking being the exception (Arneklev et al. 1993:235). Using the same data, self-control was significantly related to imprudent behavior (driving under the influence). They did not examine whether the effect of self-control on criminal acts was equivalent to its effect on imprudent behaviors (Grasmick et al. 1993).

Another study examined self-control through direct observation of behavior (failure to wear a seat belt) and driving under the influence based on blood alcohol content (Keane et al. 1993). The study concluded there was an inverse relationship between self-control and both deviant behaviors (Keane et al. 1993:41-2).

Other research has provided additional support to the concept of versatility. Significant relationships were reported between fighting, theft, vandalism, substance abuse and imprudent behaviors (Wood, Pfefferbaum and Arneklev 1993). Nagin and Paternoster (1993:476) also studied a variety of offenses: drunk driving, larceny and male sexual assault. They reported a significant relationship between a lack of self-control and all three offenses (Nagin and Paternoster (1993:489).

As a unique type of fraudulent behavior, Cochran et al. (1998) studied self-control and academic dishonesty. Their analyses indicated a significant relationship between self-control and academic dishonesty (Cochran et al. 1998: 248). Other studies have examined the relationship between self-control and drug use. For example, Sorenson and Brownfield (1995:28) found moderate support for the ability of Gottfredson and Hirschi's theory to account for variation in drug use. Another study explored city specific patterns of self-reported substance abuse by eighth grade students (Winfree and Bernat 1998). Self-control theory provided modest support in explaining substance abuse by eighth grade students with the risk-taking element of self-control as the strongest and most consistent predictor of substance abuse (Winfree and Bernat 1998:551).

Sellers (1999) assessed the ability of self-control theory to explain courtship aggression, an issue raised by Miller and Burak (1993) in their criticism of Gottfredson and Hirschi's theory. Sellers (1999:396) construes that self-control theory modestly

predicts the use of violence in intimate relationships and may account for some of the correlates of dating violence.

Some research has focused on the relationship between self-control and both official and self-reported measures of crime. Self-control at ages 8 through 10 was found to have a relationship with involvement in minor acts of crime and (Polakowski 1994:72-3). Using the same data set as Polakowski (1994), Paternoster and Brame (1998) studied the strength of the relationship between self-control and self-reported involvement in criminal acts. By including strength of relationships between self-control and self-reported involvement in analogous acts, they examined the correlations between crime and analogous acts (Paternoster and Brame 1998:645). They concluded that self-control is significant in its effect on criminal activity, as well as analogous behaviors. In addition, they assert that the effect of self-control on criminal activity is comparable to the strength of its effect on analogous behaviors (Paternoster and Brame 1998:659). Other research has examined the relationship between self-control and self reported involvement in crime and a variety of analogous behaviors. This study suggested that the correlation between self-control and crime and the correlation between self-control and analogous behaviors are comparable (Evans et al.1997). Using an adult sample, the empirical ability of self-control theory to account for crime and analogous behaviors for different age groups was examined. The initial results supported the explanatory power of self-control on both crime and analogous behaviors (Burton et al. 1998).

In the view of Gottfredson and Hirschi, all deviance whether it is drug abuse, drinking, sexual behavior or criminal acts, is subsumed under The General Theory of

Deviance. Individuals who commit any one deviant act will tend to commit other deviant acts as well. Research has tended to support this contention.

Stability

Gottfredson and Hirschi (1990:124) also contend that there is no logical or empirical evidence to suggest any current sociological or criminological theory can adequately account for the correlates of deviance: age, race and gender. Therefore, Gottfredson and Hirschi (1990:124;126) propose an invariance effect meaning there is an age "effect everywhere at all times" capable of explaining the correlates of deviance.

Age and Self-Control

They begin by addressing the idea of aging-out of deviance. Aging-out is a term utilized to address a long standing phenomena addressed by Goring (1913) concerning the distribution of deviance by age (Gottfredson and Hirschi 1990:124;133). The deviance rate rises rapidly through the years of early adolescence, peaks sharply in late adolescence then declines continuously throughout life (Gottfredson and Hirschi 1990:124-26). Although the magnitude of the peak varies by gender and race, as well as for high frequency and low frequency offenders, it is an invariant effect (Gottfredson and Hirschi 1990:141;256).

In examining the individual levels of self-control, Gottfredson and Hirschi (1990:115) contend that self-control is stable over the lifecourse. From infancy to old age levels of self-control can account for participation in a variety of deviant acts by individuals in society. For example, in the process of aging individuals across society may simply burn out so that their overall rates of offending decline (Gottfredson and Hirschi 1990:115,108). Natural biological and physical controls play an increasingly

larger part and there is a tendency for the rate of deviant behavior to decline (Gottfredson and Hirschi 1990:137). Still, differences in levels of self-control continue to explain overall differences in deviance. While an individual's level of self-control remains stable over the lifecourse, levels of self-control vary between individuals and may be affected by natural processes. In the same light, individuals when compared one to another may be socialized differently; one is socialized to steal, another to be honest. Nonetheless, self-control influences the propensity of all individuals to deviate. It guides attachment to and involvement in all interpersonal relationships as well as interactions with social institutions (Gottfredson and Hirschi 1990:165).

The strength of association between age and deviance is a fact of considerable importance in self-control theory. According to Gottfredson and Hirschi differences between individuals in their propensity to offend persist over time, indicating maturational reform. Maturational reform implies nothing more than behavioral change over time (Gottfredson and Hirschi 1990:134). Greenberg (1991:33) contends that there is no desistance from deviance over the lifecourse, arguing that in fact the amount of deviance committed by a set of offenders will not diminish with age but will hold constant. Gottfredson and Hirschi (1990:131;133) take this argument further suggesting that there is no desistance in deviance and offering an explanation. For Gottfresdon and Hirschi (1990:131-33), both high and low rate offenders experience a decline in deviance, not a desistence, as they age, even though their relative difference in respective levels of self-control remains stable through life (Gottfredson and Hirschi 1990:131;133). They go to some lengths to explain this and conclude that it is simply "the inexorable aging of the organism" (Gottfredson and Hirschi 1990:141). Interestingly, some of the research has

ignored Gottfredson and Hirschi's age invariance thesis generally limiting their inclusion of age, gender and/or race only as control variables (Arneklev et al. 1993; Grasmick et al. 1993; Evans et al. 1997; Cochran et al. 1998; Sellers 1999).

Johnson et al. (1997) used multi-level analysis on overlapping cohorts of adolescents to investigate the assertions made by Gottfredson and Hirschi regarding the invariance of age. They learned that not all adolescents increase in deviance during adolescence. However, those who are relatively high in deviance, deviate increasingly as they age (Johnson et al. 1997:454) so that by about age 18 all cohorts are close to their expected peak levels of deviance (Johnson et al. 1997:460). Kruttschnitt et al. (2000:75-6) noted in their predictors of desistance among sex offenders that age has a strong negative effect on reoffending.

Research on age, self-control and offending found that low self-control was significantly related to both crime and imprudent behaviors, with younger adults reporting more deviance (Burton et al. 1999:50). By including a test of the generality of self control across three age groups (18 –30, 31-50, and 50 or older) researchers concluded age was significant and inversely related to both crime and analogous behaviors through age fifty (Burton et al. 1999:49-51).

The General Theory posits that natural and biological processes explain the decline of deviance with age (Gottfredson and Hirschi 1990:137). Additionally, as individuals age they experience a reduction in exposure to criminal opportunities. This aging-out appears to be true for all offenses from theft to burglary, drug offenses or violence. Gottfredson and Hirschi (1990:126; 128) contend that this is consistent across cultures as well as social groups, meaning the effect of age is invariant at all times and

places. Exceptions such as white-collar crime are nothing more than deviance where opportunity is heavily restricted by age (Gottfredson and Hirschi 1990:192).

An invariant age distribution is possible only if those people likely to commit deviance at an early age are more likely to commit deviance at a later age as well. This means vandalism for youthful offenders must be equivalent to drug abuse or rape. However, the age distribution tells us offenders who continue to offend change frequency in which they commit certain acts, meaning there is a versatility effect. This in turn tells us that we must differentiate between criminal acts and the individuals who commit those acts. This is fundamental to self-control theory, which posits that over time offenders commit a variety of offenses. Moreover, those offenses or deviant behaviors have two things in common. First, they provide benefits to those who engage in them. Second, drug use, illicit sex, driving without seatbelts or murder are all the products of a common underlying tendency, low self-control. However, as individuals age and continue to commit crimes, they become more likely to commit the same type of crime on successive offenses. Therefore, the best predictor of future behavior is past behaviors. There is support for this position. As in the case of gambling, there will be some crimes that are more attractive to aging offenders because they provide more profit and less skill for success (Cohen and Farrington 1998; Blumstein et al. 1988). However, this is not due to specialization. Instead, opportunity changes as individuals age. It becomes more difficult to jump fences, run fast, or perhaps shoot straight due to trifocals. Thus, opportunity or perceived opportunity changes and results in different types of deviance.

Finally, Tittle and Grasmick (1997) expend a great deal of effort to disprove the age-crime curve as proposed by Gottfredson and Hirschi (1990), with little success. They

conclude that their deviance measures basically conform to the curve suggested, that most of the correlates of crime in their data do not interact with age, and acknowledge that is it difficult to account for age-deviance associations (Tittle and Grasmick 1997: 309-42). Still, their data justify the conclusion that Hirschi and Gottfredson have significantly contributed to the understanding of age and deviance (Tittle and Grasmick 1997: 340-42).

It would seem that Gottfredson and Hirschi have offered a plausible and empirically sound explanation of the stability of offending over the life course. They assert that the relatively fixed self-control trait allows the offender to gain satisfaction from deviant behavior at all times in all places. Thus, the distinction between deviance and self-control is the device Gottfredson and Hirschi (1990:144) use to establish that deviance "everywhere declines with age while differences in (crime) deviance tendency across individuals remain relatively stable over the life course."

Gender and Self-Control

Like age, gender differences in deviance are invariant over both place and time with males being more likely than females to engage in deviance so easily committed that opportunity is not an issue, even for juveniles (Gottfredson and Hirschi 1990:145;147). Even where female opportunity is present, female involvement in deviance has not increased proportionally. Female violence remains significantly lower than that of males. Gottfredson and Hirschi (1990:147) contend that this is evidence of "a substantial self-control difference between the sexes" resulting from differences in child rearing for girls as compared to boys.

Felson and Gottfredson (1984) suggest that parents more closely supervise females than males so that differential supervision may have independent effects on the individual propensity for deviance. Gottfredson and Hirschi (1990:148) assert that effective child rearing techniques such as those previously described will produce self-control in individuals so that they will exhibit less deviance, even when supervised differently (Gottfredson and Hirschi 1990:148). The research of Johnson et al. (1997:461) lends empirical support to the assertion that risk factors, including low parental support and being male, affect differences in deviant propensity (Johnson et al. 1997:461).

Male and female differences in the use of force and fraud begin early in life, even before differences in opportunity are plausible, and persist throughout adulthood (Gottfredson and Hirschi 1990:146). Thus, differing levels of deviance may be due to other factors such as a lower propensity for risk-taking among girls than among boys (LaGrange and Silverman 1999:62). On the other hand, boys' impulsivity was an additional consistent and robust predictor of increased delinquency (LaGrange and Silverman 1999:62).

The relationship between gender, self-control and deviance does not appear to be entirely consistent. Gibbs and Giever (1995) found that self-control eliminated the gender differences in cutting classes but not for levels of drinking. Gender was found to be significant for intentions to drink and drive but not for intentions to commit theft (Nagin and Paternoster 1993). The study by Wood et al. (1993) of high school students accounted for gender differences in three imprudent behaviors, but overall self-control did not eliminate the gender differences for deviance. Another study reported no

significant differences between males and females in patterns of self-reported drug use (Sorenson and Brownfield 1995:24).

One study of driving under the influence included an evaluation of sub-samples of females and males. This research supported Gottfredson and Hirschi's theory. Variation among both males and females was related to the same risk-taking variables overall. However, some gender differences were noted. Male peak blood alcohol levels were reported in the 35-39 year old group, while for females it peaked in the 25-29 year age bracket (Keane et al. 1993:40). Gender is significantly related to adult self–reported offending, with males being more likely to report deviance. Nonetheless, low self control is significantly related to both male and female offending (Burton et al.1998:133; Burton et al.1999:50).

Other research has led to mixed results. For example, Longshore et al. (1996) reported less consistent results leading to a lengthy debate with Piquero and Rosay (1998) who utilized the same data with different conclusions. Along the same lines, Longshore et al. (1998:180) found male and female patterns for offending thus challenging the ability of the theory to explain female deviance. A number of studies excluded gender in their research (Brownfield and Sorenson 1993; Polakowski 1994; Bartusch et al. 1997; Paternoster and Brame 1998; Piquero and Tibbetts 1996).

Race/Ethnicity and Self-Control

Gottfredson and Hirschi also address race and ethnicity differences in propensity for deviance. They cite victimization data, official statistics and self report research, all of which suggest large and stable offending differences among racial and ethnic groups with

African Americans and Hispanics reporting higher rates of force and fraud than whites (Gottfredson and Hirschi (1990:149-53;226-27).

Gottfredson and Hirschi (1990:151-53) contend that other theories fail to explain these differences. They suggest that low-self control is more probable in the explanation of these stable differences, wherein racial differences in rates of offending are due to differential child rearing practices among racial/ethnic groups (Gottfredson and Hirschi 1990:153).

Other research supports significant differences in deviant behaviors among racial and ethnic groups. Lagrange and Silverman (1999:63) report in their sample the Aboriginal race showed an increase in violent behavior, especially among girls, while being Asian was associated with a decrease in drug offending especially among boys. Likewise, the overall self-reported substance abuse of Hispanics has been found to be higher than either others or Anglos (Winfree and Bernat 1998:546). Among sex offenders, non-white offenders are significantly more likely to reoffend that white offenders (Kruttschnitt et al. (2000:74).

Research supports that a difference between people in the likelihood that they will engage in deviance persists over time. Those with low self-control will continue over time to exhibit low self-control, with little variation over the lifecourse. Together low self-control and the life long process of socialization produce the conclusion that the potential offender pool declines as cohorts' age. Gender, race and ethnicity produce significant differences in the likelihood of engaging in deviance due to early socialization processes, wherein African American or Hispanic males are more likely to report having

engaged in deviance that others. In conclusion, research supports stability as proposed by self-control theory.

Measurement Controversies

Self-control theory has generated a great deal of interest in the criminological community, in its explanation of crime and criminality. One means of identifying individuals with low self-control is through their involvement in deviance. Behaviors indicating low self control are varied, ranging from "whining, pushing and shoving (as a child); smoking and drinking, excessive television watching and accident frequency (as a teenager); difficulties in interpersonal relations, employment instability, automobile accidents, drinking and smoking (as an adult)" (Hirschi and Gottfredson 1994:9); sex without courtship (Gottfredson and Hirschi 1990:89); and illicit sexual behaviors (Gottfredson and Hirschi 1990:90). However, not all researchers have accepted the assumptions and assertions of Gottfredson and Hirschi (Akers 1991; Barlow 1991). Instead, a number of researchers have chosen to test various assumptions of self-control theory (Arneklev et al. 1993; Cochran 1998; Gibbs et al. 1998; Grasmick et al. 1993; Polakowski 1994; Evans et al. 1997).

Although self-control appears to be lower among people who more frequently commit acts of deviance, studies report that self-control explained little of the variance in deviance (Grasmick et al. 1993; Keane et al. 1993; Polakowski 1994; Greenberg 1991). Several studies focused on acts that most people have many opportunities to commit: drunk driving, imprudence, or academic dishonesty (Keane et al. 1993; Arneklev et al. 1993; Cochran et al. 1998). Deviance, whether it be driving under the influence, imprudent behaviors, gambling or deviant sexual behaviors, can be seen as risky,

impulsive, hedonistic and short-term oriented where individuals fail to appreciate or care about the potential consequence of their actions.

Across studies, the determining factor for individuals choosing to engage in deviance was their level of self-control. Still, the trait of low self-control accounted for little of the variance alone. For example, even in cases where certainty of punishment was high, and individuals were encouraged not to engage in deviance they continued to do so (Keane et al.1993:42). However, when low self-control intersected with opportunity the explained variance increased across a range of behaviors considered deviant (Reed and Yeager 1996; Burton et al. 1998; Burton et al 1999; Sellers 1999; Gibbs et al. 1998; Tittle and Grasmick 1997; Cochran et al. 1998).

Other research has focused on the dimensionality of constructs (unidimensional or multi-dimensional self-control scale), best-fit model of analysis, temporal order (Grasmick et al. 1993; Polakowski 1994; Longshore et al. 1996; Longshore et al. 1998) and differing populations, self-reported incidents (Burton et al. 1998; Winfree and Bernat 1998; Evans et al. 1997; Nagin and Paternoster 1993; LaGrange and Silverman 1999), observed behaviors (Keane et al. 1993) and longitudinal studies (Polakowski 1994).

Still, the interaction of self-control with opportunity concerning acts of deviance is germane to this study. The General Theory asserts that it pertains to a wide variety of acts, not just those defined by law as criminal. Therefore, a lack of consistent support for interaction with deviance suggests a need to further investigate the interaction of opportunity as well as to continue to delineate traits of self-control more clearly. Continuing to test The General Theory across populations, space and time may provide

invaluable information about the theory as well as furthering our understanding of deviance.

Causal Order

Causal order has been raised as an issue of concern by several researchers (Grasmick et al. 1993; Greenberg 1985, 1995; Blumstein et al. 1986; Farrington 1986; Evans et al. 1997). The issue is which comes first - deviance or the contributing factors; or, are the effect perhaps reciprocal? Causes for crime have been explored by studying variables such as age, period or cohort effects, race, gender, education, and marital status. Some research supports reciprocal effects between self-control and negative social consequences (poor quality of relationships, associating with criminals, low-status jobs and living in a disorderly neighborhood) (Evans et al. 1997:493; Wright et al.1999:504). The implication is that these ordinary life events cause deviance. Nonetheless, life events cannot provide an explanation for the age crime distribution, suggesting that these events are not the causes of deviance (Gottfredson and Hirschi 1990:238). Deviance does not cause age, cohort or period effects, race, or gender (Gottfredson and Hirschi 1990:224).

Other researchers suggest that longitudinal research will help identify variables that create deviance (Greenberg 1985; Blumstein et al. 1986; Farrington 1986). In contrast, Gottfredson and Hirschi (1990:256-8) contend that longitudinal research is not better than cross sectional data in explaining deviance, despite the fact that Greenberg's (1991) longitudinal research provided early support for self-control theory and the age-crime relationship. Barnett et al. (1992) call into question the Greenberg analysis contending that criminal propensity and age remain in question due to his employment of divergent statistical models. The response of Gottfredson and Hirsch lies in their

assertion that causes of deviance are established early in childhood and remain relatively stable over the lifecourse. Therefore, longitudinal studies are of no more use than cross-sectional studies in identifying causes of deviance. If they were, it would seem likely that more longitudinal studies would focus on early childhood propensities and old age propensities in identifying causal variables of deviance (Gottfredson and Hirschi 1990:223-40).

Opportunity

According to self-control theory, we are all rational decision makers equally motivated to pursue pleasure or avoid pain over the course of our lives. However, as we age what we perceive as opportunities to engage in deviance may change. For example, at age 18 purse snatching in a crowded mall and running off with the goods, may be perceived as an opportunity. However, with age running off with a purse is no longer considered an opportunity, especially if one has a bad knee and is unable to run. Still, it is not just physical limitation that affects our abilities to perceive opportunities to engage in deviance.

Nagin and Paternoster (1993:470) assert there are individuals who are unresponsive to opportunity as an incentive to deviate, and there are individuals who do not have the ability to reason; yet, both engage in deviance. From this perspective, individuals may differ in their propensity to offend, and thus there are differing motivations for offending wherein opportunity differs from perceived opportunity (Nagin and Paternoster 1993:469). Constructing a hybrid survey instrument they combined the use of hypothetical scenarios providing respondents with both specific and detailed situations of deviance coupled with traditional survey questions aimed at investigating

the impact of perceived costs and benefits of situations on individuals engaging in deviant behavior. While their results support self-control theory, the magnitudes of the associations of rewards and costs with intentions are large (Nagin and Paternoster 1993; 485). They conclude that self-control plays a major role in explaining the variation of intentions to offend. Perceived risks and rewards play an important part as well. Sellers (1999) adopted this model to investigate intimate violence and concluded that while helpful in providing additional understanding about courtship aggression, a great deal of variance remains unexplained. Theoretically, both studies agree that opportunity and reward significantly affected the probability of deviance occurring, suggesting future work include measures of specific opportunity and reward but provide no clear recommendations for improving self-control measures.

Variation

Using their understanding of the guidelines from Gottfredson and Hirschi (1990:14-5), Grasmick and his colleagues generated a self-control scale using six personality characteristics (impulsiveness, risk-taking, temper, risk seeking, physical activity and simple task preference). They employed principle component factor analysis to assess the unidimensionality of the scale items and then combined them into a unidimensional scale representing the trait called self-control (Grasmick et al. 1993:9; Brownfield and Sorenson: 1993).

However, while opportunity was independently related to five categories of deviance, the interaction term for self-control and opportunity was related only to analogous acts. The explanatory power (variance) of the low self-control measure was

relatively weak suggestive of a need to explore additional variables to explain crime (Grasmick et al. 1993:25).

Using separate subscales of low self-control elements, Arneklev et al. (1993) discovered that the simple tasks and physical activity elements of self-control do not significantly affect imprudent behaviors. Furthermore, the element of risk was a stronger predictor of such behaviors than the low self-control scale. They report the need to examine the separate effects of the six self-control elements as well as the low self-control scale (Arneklev et al. 1993; Wood et al. 1993).

In a criminal sample of illicit drug users, Longshore et al. (1996) explored the construct validity of self-control using the items developed in the Grasmick scale, then revised the scale from a four point Likert scale to a five point Likert scale, and changed the wording of seven items "to detect any bias due to yea saying." In conclusion, they noted a need to move from a one-factor solution to a five-factor solution for "a somewhat better fit" (1996:218) in delineating and measuring self-control. Wood et al. (1993) support this approach in their research as well.

The challenge presented by LaGrange and Silverman (1999) is that a composite scale treats all the personality characteristics equally in reflecting measures of self-control. They argue these characteristics may vary from males to females or between delinquency and crime. Longshore et al. (1998:175) encountered this issue and suggested that perhaps the characteristics may not operate similarly for different subgroups.

Additional research has suggested the composite self-control scale may have little or no additional predictive power than some of its single elements such as risk seeking and impulsivity (Longshore et al. 1998), or impulsivity (Piquero and Rosay 1998).

Others conclude that the low self-control composite scale is only moderately associated with self-reported criminality and other deviance (Paternoster and Brame 1998:658; Longshore 1998:112; Sellers 1999:393; Arneklev et al. 1993).

Evans et al. (1997) found that a scale of 11 Likert-type self-reported items best measured self-control as related to crime and imprudent behaviors. The relationships persisted when they controlled for social factors such as years of education, marital status, and quality of family relationships. Still, the amount of variance explained by self-control was minimal (about 10 percent).

More recently, Piquero et al. (2000) conducted a study among students at a large east coast public university to test an analytic strategy of the Grasmick self-control scale. The results suggest that the scale is not operating in a consistent manner across all levels of the latent trait.

Differing populations

Having tested the effects of low self-control scale and reports of opportunity on self-reported involvement in acts of force and fraud using a random sample of adults, Grasmick et al. (1993) discovered that low self-control and opportunity along with an interaction between crime and opportunity had a significant effect upon force and fraud. Analyses showed that two theft crimes and analogous acts of force were more common among individuals with low self-control scores (Grasmick et al. 1993).

Other research used the Grasmick (1993) scale across a variety of populations in predicting the likelihood of the use of force and fraud (Piquero and Rosay 1998), imprudent behaviors (Arneklev et al. 1993), academic dishonesty (Cochran et al. 1998), and criminal careers (Greenberg 1991). Brownfield and Sorenson (1993) follow the

same method using an equivalent composite scale to predict self-reported and official delinquency.

Still other researchers utilized direct observations, rather than self-reported deviance, concluding low self-control explains only modestly the overall variance (Keane et al. 1993; Polakowski 1994; Greenberg 1991). Piquero et al. (2000) reported finding discrepancies across gender

Chapter Three

Sexual Deviance

Gottfredson and Hirschi (1990) argue that low self-control has many deviant manifestations, crime being only one. They identify "analogous behaviors" as non-criminal behaviors providing immediate gratification but having negative long-term consequences (Hirschi and Gottfredson 1994:16). Arneklev et al. (1993) referred to these as "imprudent behaviors" with negative long-term consequences. Sexual deviance may be viewed as one form of analogous behaviors resulting from the intersection of low self-control and opportunity (Hirschi and Gottfredson 1994:16). "It follows that people lacking self-control will also tend to pursue immediate pleasures that are not criminal: they will tend to....engage in illicit sex" (Gottfredson and Hirschi 1990:90).

Promiscuous sexual behaviors, school misbehavior, and job instability, like many types of deviance, require no special motivation (Hirschi and Gottfredson 1994:16). Instead, they simply require the pursuit of pleasure or the avoidance of pain with little if any consideration of the long term consequences. As a result, "these non-criminal events are correlated with crime..." (Gottfredson and Hirschi, 1990:42). Furthermore, low self-control has "social consequences" which shape the ability to form social bonds and to succeed in social institutions (Gottfredson and Hirschi 1990:154). Individuals with low-self control, therefore, may be less likely to establish and sustain long-term relationships at any level as a result of their low self-control traits.

The acts examined in this study may be considered relatively trivial by many, and some may object to them being used to test a general theory of crime and deviance. Some researchers might argue that only real or serious crimes such as those in the Uniform

Crime Reports are worthy of investigation. Other forms of deviance are often considered qualitatively distinct from serious crime and it is suggested that studying them may provide no important contributions to the understanding of crime or the General Theory. However, this study is important because it explores an additional dimension of deviant behavior, thus addressing Gottfredson and Hirschi's assertion of the generality of deviance.

In any event, the study of minor forms of sexual deviance is not incompatible with learning something about deviance. Gottfredson and Hirschi (1990) contend that all deviance stems from a common source. Because sexually illicit acts range from inconsequential to serious, they can be defined by the same characteristics. Western industrial society lets individuals decide when to begin sexual activity, what type of sexual activity to involve in, how to select sexual partners and choice in the number of sexual partners. The right to choose marks the transition from being a youth to becoming a mature person.

However, research has sought to explain participation in illicit sexual behaviors from a variety of other perspectives. Sexual behavior has been examined as perhaps being imbedded in the personality of the individual or as due to biology, with mixed results. Gagnon and Simon (1973) provided a typology for illicit sexual behaviors, identifying three categories: normal deviance, subcultural deviance and individual deviance. Normal deviance includes masturbation, oral sex and pre-marital intercourse. Subcultural deviance is associated with particular subcultures such as transsexuals. Individual deviance includes exhibitionism and incest. While this study is not concerned

with the classification process of illicit sexual behaviors, it provides for identification of sexual behaviors considered illicit according to societal norms.

Sexual Encounters Outside of Primary Relationships

Sprenkle and Weis (1978) note that we have proscriptve norms to identify with whom one should not engage in sexual activity. These proscriptive norms are supported by a collective societal belief that some sexual activity is immoral or immature (Bell et al. 1975; Neubeck 1969) and is an indicator of problems within the primary relationship (Bell et al. 1975; Johnson 1970). Additionally, Sprenkle and Weis (1978) contend that prescriptive norms exist suggesting that sex outside one's primary relationship be carried out in secrecy. The partner of the individual engaging in the extra-sexual activity is expected to react to the situation in a negative fashion. This is representative of the attitudes held in western society, specifically America, concerning relationship arrangements (Sprenkle and Weis 1978).

Hazan and Shaver (1987) offer that secure individuals have the ability to experience greater mutual intimacy and pleasure in sexual relationships, tending to avoid promiscuity. However, impulsive individuals tend to use sex to satisfy their needs for security and love (Hazan and Shaver 1987; Feeney et al. 1993) and have greater acceptance of casual sex (Feeney et al. 1993). Furthermore, these individuals are more likely to have a game-playing style of love, to demonstrate low commitment in romantic relationships, to use sex for fun rather than as an expression of intimacy, and to accept multiple relationships (Feeney and Noller 1990; Frey and Hojjat 1998; Levy and Davis 1988). Finally, Feeney et al. (1993:177) suggest that these individual were "possibly using sexual activity to avoid other forms of intimacy such as verbal disclosure."

Similarly, Simpson and Gangestad (1991) speculated that one possible motivation underlying the casual sexual activity is the lack of interest in or the capacity for becoming involved and close to partners.

Sex outside of a primary relationship has conclusively been shown to have long term negative consequences. It is reported as a result rather than a cause of discord in a relationship (Spanier and Margolis 1983), but sexual infidelity is the most commonly stated reason for breakups including divorces (Betzig 1989). Men generally exhibit less disapproval of sex outside of the primary relationship as compared to women (Oliver and Hyde 1993), perhaps because men are more likely to engage in sex outside of their primary relationship (Allgeier and Allgeier 1995; Goettsch 1994; Thompson 1983). However, a curvilinear relationship has been reported for women's sexual encounters outside of their primary relationships, with the likelihood highest among those age 40 to 50 years (Lauman et al 1994). Less is known about sexual encounters outside of primary relationships as related to race and ethnicity, although Black and Hispanic women have been reported to be more likely to have sexual encounters outside of their primary relationships than white women (Forste and Tanfer 1996).

Masturbation

Accounts of the "dangers" of masturbation have existed for centuries (Stolberg 2000; Hunt 1998; Davidson and Moore 1994; Kay 1992; Burg 1987). Over the last century masturbation has become positioned as ranging from normality to tolerable deviance. However, it is viewed as having inherent dangers including public nuisance (Laufer and Laufer 1989), autoerotic fatalities (Walsh et al 1977), penile injuries from using vacuum cleaners (Benson 1985), or injury from using appliances or inserting

objects into the urethra to enhance sexual sensation during masturbation (Tan and Chao 1983; Sivaloganthan 1981; Bacci and Porena 1986; Grumet 1985).

Evidence suggests that feelings of guilt, anger and frustration associated with masturbation interfere with physiological and psychological sexual satisfaction in general (Betchen 1991; Davidson and Darling 1986). Overall, males report using masturbation as a means for emotional distance and to address low self esteem (Betchen 1991). For example, a male is more likely to use masturbation as a weapon when he feels that it is too much trouble to arouse his partner or fears that he is likely to be rejected. By practicing infidelity in fantasy, he withholds sexual intercourse and distances emotionally, bolstering his self esteem in the fantasy world. This can then produce serious relationship discord due to sexual difficulties (Betchen, 1991).

Compared to women, men are more likely to engage in masturbatory activity and to so do with greater frequency (Laumann et al. 1994; Leitenberg et al. 1993; Oliver and Hyde 1993). However, both males and females report masturbation interferes with long-term interpersonal relationships (Betchen 1991; Davidson and Darling 1986; Stolberg 2000; Money 1999; Hunt 1998; Davidson and Moore 1994; Kay 1992; Burg 1987). When masturbation is coupled with appliances (dildos, vibrators, electricity, etc.) the ability to engage in interpersonal relationships, especially with a significant other becomes more difficult (Betchen 1991; Davidson and Darling 1986).

Sexually Explicit Materials

Arcand (1993) reports that sexually explicit materials inspire individuals to masturbate, as a poor substitute for sexual intercourse. Other studies report the

consumption of sexually material has been perceived as making men more masculine (Cowan et al. 1988; Dietz and Evans 1982; Palys 1986).

There has been concern over the possible antisocial effects of exposure to sexually explicit materials, since research suggests that exposure to sexually explicit materials encourages men to frame social interactions with women as sexual encounters, even when inappropriate (McKenzie-Mohr and Zanna 1990; Abbey 1982; Bem 1981).

A number of feminist and fundamentalist groups have argued there is a causal connection between sexually explicit material and sexually related violence (Smith 1999; Allen et al. 1995; Dworkin 1989; Brannigan and Goldenberg 1987; Fisher and Grenier 1994; Linz 1989; Malmuth and Check 1985; Mayerson and Taylor 1987; Lederer 1980). The failure of a sexually aggressive man to hear "no" and to understand that it means "no" is one problem that may be linked to the prevalence of sexually explicit material (Matlin 1987; Richardson and Taylor 1983).

Men generally are more physically aroused and have a greater affective response to sexually explicit materials than women (Kelly et al. 1997; Lopez and George 1995; Leiblum et al. 1993; Lottes et al. 1992; Padgett et al. 1989). Men are more likely to consume sexually explicit materials than women, and to use those materials as a means of fantasy and sexual arousal to orgasm wherein they may incorporate acts of aggression toward females (Kelly et al. 1997; Lopez and George 1995; Leiblum et al. 1993; Lottes et al. 1992; Padgett et al. 1989). Studies further report that consuming violent sexually explicit materials promotes aggression against women (Donnerstein et al. 1987; Malamuth and Donnerstein 1984; Zillman and Bryant 1989; Linz et al. 1987). Furthermore, consumption of violent sexually explicit materials may promote negative

attitudes toward women (Malamuth and Check 1981; Linz et al. 1988). However, when social restraints are lifted, non-violent sexual materials increase men's aggressive responses toward women as well (Donnerstein and Berkowitz 1981; Malamuth 1986; Malamuth et al. 1986; Malamuth et al. 1980).

Sexual Exposure

Individuals who sexually expose themselves are flashers and exhibitionists (Glaser and Gordon 1990; Mohr et al. 1964). Sexual exposure involves mostly males who suddenly start masturbating, without warning, before women or children who are strangers to them. Generally, these males are older, better educated, more affluent, usually married, and more often white. Female exhibitionism is more rare (Gebhard et al. 1965).

Exhibitionism may be related to other types of sexual deviance. Research suggests there is a connection between voyeurism, exhibitionism, touching, and rape (Yalom 1960; Grassberger 1964; Gebhard et al. 1965; Macdonald 1973). Furthermore, Lang et al. (1987) report persistent exhibitionists also engaged in transvestite activity as exhibitionism within a sexual context.

Cross-Dressing

Cross-dressing occurs in most societies and throughout history, and is incredibly complex (Bhurga and de Silva 1996). Initially cross-dressing was referred to as "Eonism" meaning transvestism (cross-dressing) as an "aesthetic aversion due to a pronounced desire to imitate and enter into the feelings of the opposite sex" (Ellis 1936). According to Hawkes (1995) psychoanalysts later explained this phenomenon as "a disturbance in the psychosexual mechanism due to influences traceable to early life and

involving a persistence of infantile traits into later life" and incorporated their findings into the DSM (Diagnostic and Statistical Manual of the American Psychiatric Association). For Kraft-Ebing (1899; 1975) and Blanchard (1991:236) cross dressing was a compulsive obsessive sexual act, undertaken for erotic sexual purposes such as infantilism, pregnancy, sexual intercourse or the fantasy of having a woman's body. In modern sexology, cross-dressing is viewed as a sexualized activity for both men and woman (Hawkes 1995:264).

Most cross-dressers are heterosexual in orientation, rather than homosexual. They are generally male, although some females cross dress with notable differences between the sexes as to why they engage in cross-dressing (Hirschfield 1910; Foucault 1979; Butler 1991; Simpson 1994; Hawkes 1995). For males, cross-dressing, sexual arousal and masturbation are a "behavioral triad" which is the hallmark of transvestism (Evans 1993:179). However, for females, cross-dressing offers the opportunity to share in the full rights of men. Women who engage in cross-dressing are often labeled dykes, lesbians or perverts even though they may be heterosexual, bisexual or even asexual (Faderman 1993:49; Bullough 1991).

Number of Sexual Partners

Among the teen population in general and college students in particular, there has been a fall in age of first intercourse, an increase in the proportion of unmarried youth with sexual experience and an increase in the number of premarital partners (Netting 1992:962; Maticka-Tyndale 1991; Chng and Moore 1994), with the hook-up being a recent trend.

A hook-up is a casual sexual encounter usually lasting only one night, between two strangers. It is spontaneous, and the participants may never see each other again (Rodberg 1999). This tendency to engage in uncommitted sexual behavior has been found to be more prominent in individuals who score higher on exhibitionism (Simpson and Gangestad 1991) and sensation seeking (Hernandez and DiClemente 1992; Seal and Agnostinelli 1994; Walsh 1991). In keeping with self-control theory, low impulse control has been found to be a central predictor of risky casual sexual behaviors and resistance to changing sexual practices.

Some researchers have suggested that a significant amount of variation in the number of sexual partners may be associated with normal individual differences (Eysenck 1976; Fisher et al. 1988; Sherwin 1988; Zuckerman 1979). However, the extent to which these account for variation in sexual behavior independent of biology or personality have rarely been studied (Udrey and Talbert 1988). Instead, researchers have often looked to biological and personality traits in an attempt to explain the variation in the number of sexual partners.

Age

A number of researchers have found evidence for a relationship between early and intense sexual activity and anti-social tendencies (Jessor et al. 1983; Rowe et al. 1989; Claridge, 1983; Barnes et al 1984; Macmillan and Kofoed 1984; Rushton 1985). Some research accounts for the number of sexual partners as part of a mating strategy that evolves with age (Gangestad and Simpson 1990; Buss and Schmitt 1993). The basic argument is that as age increases, opportunity increases. This in turn results in an

increase in the number of sexual experiences (Check and Guloien 1989; Bogaert and Fisher 1995:120).

Sexual Behavior and Self-Control

Imprudent and illicit sexual behaviors appear to offer fruitful new territory for the study of self-control. There is a connection between sexual behavior and aspects of low self-control identified by Gottfredson and Hirschi such as risk and sensation seeking. Research has shown that male and female thrill seekers hold more permissive sexual attitudes and have more experience with sexual behavior, including a higher number of sexual partners (Zuckerman 1979; Gangestad and Simpson 1990, Rushton 1985; Wilson 1994; Bishop and Lipsitz 1990; Cates 1991; Reinish et al. 1992; King et al 1988; Ku et al. 1992). Furthermore, as discussed above, low impulse control has been linked with risky casual sex.

Statement of the Problem

This dissertation tests various propositions from Gottfredson and Hirschi's (1990) A General Theory of Crime. The core of the analyses centers, on the authors' discussion of low self-control and its intersection with opportunity.

Hypotheses:

H1: Illicit sexual behaviors are positively correlated with criminal/delinquent behaviors.

H2: As self-control decreases, illicit sexual behavior increases.

H3: Holding self-control constant, as criminal opportunity increases criminal behavior increases. Holding self-control constant, as criminal opportunity increases, illicit sexual behaviors remains the same. In other words, opportunity is not germane to participation in illicit sexual behaviors.

H4: The relationships between self-control/opportunity and delinquency/illicit sexual behaviors will differ by race.

Chapter Four

Methodology

Sample

Data for this project were gathered in two survey periods conducted during the 1999-2000 academic year. Data used to test the theory discussed in the preceding chapters are drawn from a survey of 708 college students, age 18 and above, attending three southwestern universities, one rural, one commuter, and one Carnegie I research institution. Participation in the survey was entirely voluntary. Members of the target sample who did not participate in the study were not penalized, while voluntary participation provided no intrinsic reward. A listwise deletion of missing cases and a filtering of age outliers (under 18 years and over 25 years) resulted in an N of 668 for the analyses that follow.

Procedures

The data were obtained by utilizing an anonymous survey administered to volunteer respondents during university classes. The survey consisted of 264 questions measuring demographics, attitudes and behaviors. Specifically, the questions measured the following characteristics, attitudes and behaviors, demographics (age, race, parental income, marital status), age at first sexual activity, number of sexual partners, sexual behaviors, peer and parental attachment, parental influence, organizational participation, religious affiliation, alcohol use, other drug use, eating disorders, self-control, violence, criminal behavior, perceived opportunity to engage in criminal behavior, goal orientation, parental supervision, and locus of control.

This survey instrument was administered to students enrolled in Introductory Sociology courses, with the cooperation of the various instructors. These courses meet general education requirements at all three universities, increasing the diversity of the sample. Instructors willing to permit admission to their classes were requested not to attend class on the day of the survey in order to insure anonymity of students who participated or declined to participate in the study.

Potential respondents were asked to read the informed consent form. If students opted to participate they were directed to sign one of the informed consent forms and retain the second copy. If students opted not to participate they were asked not to sign the form, but to keep one copy. Surveys were passed out to all students in attendance, with instructions that only those having signed the informed consent were permitted to complete the survey. All others were given the opportunity to examine the survey without participation, but were to remain in the classroom. Students completing the survey were asked to respond to each item by marking the choice which best represented their experience or attitudes. Respondents were instructed if they felt uncomfortable or disturbed in any way by the questions being asked they could opt to stop and seek counseling services. No student requested counseling services.

All students were given the class period to complete or review the survey, after which they were asked to deposit the surveys in a stack at the front of the class before leaving the classroom. The research team members were not permitted to answer questions until all surveys were collected.

Measures

Independent Variables

Self-control

Self-control was measured using the 24 questions developed by Grasmick et al. (1993). The correlation matrix for self-control is presented in Table 1.

[Table 1 About Here]

a. Impulsivity Component:

The measure of Impulsivity as a trait of low self-control consists of four Likert type items answered on a four-point scale of: (1) strongly agree, (2) agree, (3) disagree or (4) strongly disagree. The items were:

I often act on the spur of the moment without stopping to think.

I don't devote much thought and effort to preparing for the future.

I often do whatever brings me pleasure here and now, even at the cost of some distant goal.

I'm more concerned with what happens to me in the short run than in the long run.

b. Simple Tasks Component.

Preference for simple tasks was measured through the use of four Likert type items answered on a four-point scale of: (1) strongly agree, (2) agree, (3) disagree or (4) strongly disagree. The items were:

I frequently try to avoid projects that I know will be difficult.

When things get complicated, I tend to quit or withdraw.

The things in life that are easiest to do bring me the most pleasure.

I dislike really hard tasks that stretch my abilities to the limit.

c. Risk Seeking Component.

Risk seeking also consisted of four Likert type items answered on a four-point scale of: (1) strongly agree, (2) agree, (3) disagree or (4) strongly disagree. The items were:

I like to test myself every now and then by doing something a little risky

Sometimes I will take a risk just for the fun of it.

I sometimes find it exciting to do things for which I might get in trouble.

Excitement and adventure are more important to me than security.

d. Physical Activities Component.

Physical activities were measured through the use of four Likert type items answered on a four-point scale of: (1) strongly agree, (2) agree, (3) disagree or (4) strongly disagree. The items are:

If I had a choice, I would always do something physical than mental.

I almost always feel better when I am on the move than when I am sitting and thinking.

I like to get out and do things more than I like to read or contemplate ideas.

I seem to have more energy and a greater need for activity than most other people at my age.

[Table 2 About Here]

e. Self-Centered Component.

The self-centeredness component of low self-control consisted of four Likert type items answered on a four-point scale of: (1) strongly agree, (2) agree, (3) disagree or (4) strongly disagree. The items were:

I try to look out for myself first, even if it means making things difficult for other people.

I'm not very sympathetic to other people when they are having problems.

If things upset people, it's their problem, not mine.

I will try to get things I want even when I know it's causing problems for other people.

f. Temper Component.

As the last component of low self-control, the temper component consisted of four Likert type items answered on a four-point scale of: (1) strongly agree, (2) agree, (3) disagree or (4) strongly disagree. The items were:

I lose my temper pretty easily.

Often when I am angry at people I feel more like hurting them than talking to them about why I am angry.

When I'm angry, other people better stay away from me.

When I have a serious disagreement with someone, it's usually hard for me to talk calmly about it without getting upset.

Items means, standard deviations, and factor loadings are reported in Table 2.

Recall that Gottfredson and Hirschi (1990) identified low self-control as a unidimensional trait comprised of the six subcomponents of impulsivity, preference for single tasks, risk seeking, preference for physical activity, self centeredness and temper. This research utilizes the 24 items, included in the 1994 survey proposed by Grasmick et al. (1993); see also Arneklev et al. 1993, Brownfield and Sorenson 1993) to represent low self-control. These items and their means and standard deviations are reported in Table 2. Grasmick et al. (1993) used principle components factor analysis to assess the multidimensionality of items then combined them into an unweighted single unidimensional scale representative of traits that represent low self-control. Grasmick et

al. (1993) concluded that a single-factor, unidimensional scales serves as the best indicator of low self-control. There has been much controversy regarding precisely what constitutes low self-control and whether it is predictive of deviant behavior. Gottfredson and Hirschi contend that low self-control is an underlying propensity that may be expressed in multidimensional ways being shaped by opportunity and situation. Therefore, the traits of the Grasmick et al (1993) scale are combined into a unidimensional scale and are representative of characteristics or by–products of low self-control. The presence of these traits are indicators of the presence of low self control in general. This research follows Grasmick et al's. (1993) strategy, and the factor loadings reported in Table 2 are the result of a one factor solution for all items. The first item in the risk seeking component, and the last two items of the physical activity component were eliminated because they did not load with the other scale items. Since the factor loadings essentially represent regression coefficients of the underlying trait of self-control, this suggests two things. First, these three items are not measuring the traits of self-control, as are the other items, among this population. Second, among those items that do load the variance between items is small suggesting low self-control is a function of all six traits. According to the theory, low self-control should explain relatively equal amounts of variance in each component.

[Table 3 About Here]

The next step was to test the reliability of the unidimensional scale. Consistent with results reported by Grasmick et al. (1993), reliability analysis indicates a standardized alpha of .8424. The correlation matrix and alpha's for each subscale are reported in Table 3. Thus, after a factor analysis, the measure of self-control used in this

study is an additive scale composed of the standardized variables of the Grasmick scale (1993), minus three items previously noted.

[Table 4 About Here]

[Table 5 About Here]

Opportunity

Gottfredson and Hirschi contend that with only low-self-control there is little likelihood of crime occurring without the intersection of opportunity, which provides increases the likelihood of a crime occurring. It should be noted that opportunity should be positively associated with criminal behaviors. However, several of the sexual behaviors do not require opportunity to engage in them. Thus, it may be that opportunity to engage in criminal behaviors may be negatively associated with or not associated with the measures of sexual deviance. This research again turned to the Grasmick scale and utilized three items to measure opportunity. Opportunity was measured using Likert type items answered on a five-point scale of: (1) Never, (2) Seldom, (3) Sometimes, (4) Often or (5) Always. The items were:

> How many opportunities have you had in the past two years to take something worth less than $20 that did not belong to you?
>
> How many opportunities have you had in the past two years to accomplish your goals by threatening to use force against another person?
>
> How many opportunities have you had in the past two years to get something you could not obtain otherwise by distorting the truth or falsely representing something?

Means, standard deviations, and factor loadings are reported in Table 4.

Opportunity as a scale provided a single solution factor analysis, using a principle component extraction method. Means, standard deviations, and factor loadings are

reported in Table 4. Thus, the measure of opportunity used in this study is created from standardizing the variables of the above three questions and combining them into an additive scale. The reliability analysis for opportunity indicates an alpha of .8034, presented in Table 5.

Dependent Variables

A series of factor analyses were run for crime/delinquent behavior and illicit sexual behavior to differentiate the factors associated with each set of questions. All scores were standardized prior to creating the scales.

[Table 6 About Here]

Crime (Delingstd)

Survey items associated with acts of force or fraud (as a measure of crime) consisted of sixteen items answered either (1) yes or (2) no. These items asked, during the past two years did you:

Break into a building to look for something to steal or to steal something?
Steal or try to seal a motor vehicle?
Hit or struck one of your parents?
Use a weapon to get something from a person?
Run away from home?
Hurt someone badly enough so they needed bandages or a doctor?
Damage property on purpose?
Steal something worth less than $50?
Steal something worth more than $50?
Cut school/class?
Get in trouble at school for fighting or violating rules?
Gamble illegally on a sporting event?
Get in a fight to gain respect from friends?
Get in a fight to gain respect from others (strangers)?
Get in a fight to protect yourself?
Get in a fight to protect others?

Means, standard deviations and factor loadings for crime/delinquent behaviors are listed in Table 6. The crime/delinquency scale was created after a factor analysis by

standardizing scores on the questions above then combining them into an additive scale. All items were included in the scale, using a forced single factor solution with no rotation, reliability analysis reported a standardized alpha of .7692.

Illicit Sexual Behavior

As measures of illicit sexual behavior a five-point Likert type scale was used to code responses of: (1) Never, (2) Seldom, (3) Sometimes, (4) Often, or (5) Always. The items were:

I have had affairs outside of my primary relationship.

I have the urge to sexually expose myself, cross dress, observe someone sexually or do sexual behaviors that could get me in trouble.

I worry that someone will find out about my sexual behavior or romantic relationships.

I read sexually explicit books.

I masturbate.

I think sexually explicit thoughts more than most people.

[Table 7 About Here]

The factor analysis for illicit sexual behavior indicated a two-factor solution, using the principle component extraction method: varimax with Kaiser normalization, at a value of .40 or greater. Table 7 provides the factor loadings for illicit sexual behaviors. This result indicated there were two distinct and identifiable groups of illicit sexual behaviors contained within the questions on illicit sexual behaviors. Once standardized, the items were used to create two scales.

[Table 8 About Here]

The first solution is identified as "sexdev1" and included the following questions:

I think sexual thoughts more than most people.

I read sexually explicit books.

I masturbate.

The second solution is identified as "sexdev2" and includes the questions:

I have had affairs outside of my primary relationship

I have the urge to sexually expose myself, cross-dress, observe someone sexually, or do sexual behaviors that could get me in trouble.

I worry that someone will find out about my sexual behavior or romantic relationships.

Reliability analysis for sexdev1 indicates a standardized alpha of .7643. The correlation matrix and alpha are reported in Table 8. Sexdev2 reliability analysis provides an alpha of .4978. The correlation matrix and alpha of Sexdev2 are provided in Table 9.

[Table 9 About Here]

Both solutions, sexdev1 and sexdev2, identify illicit sexual behaviors. Sexdev1 appears to measure illicit sexual behaviors of a lesser offense level wherein the behavior can be engaged in without the aid or support of another individual. Sexdev2 measures more serious illicit sexual behaviors requiring at least the presence of one or more others.

[Table 10 About Here]

Number of Sexual Partners

An additional measure of sexually illicit behavior was included. "Before college how many sexual partners would you say you have been with?" Responses to this question were treated as an interval level variable. 2.65 was the mean number of sexual partners for this sample.

Control Variables

The analyses included controls for gender, race, income and age. Gender was a dichotomous variable, coded 1 for males, and 2 for females. Males (N=287) comprised 43% of the total scale. Females (N=378) represented 57%.

Race was measured as a nominal level variable by including in the survey the question; "What race do you consider yourself?" Response categories were White, Black/African American, Hispanic, American Indian, Asian or Other.

Race was re-coded into a series of dichotomous variables; white, black and other races in order to utilize the category of race in later regressions. Whites comprise the majority of the sample with 73.7 percent, Blacks comprise 11 percent and other races comprise 14.5 percent of the total sample. Each variable represented a degree of freedom, when entered into a regression. The analyses were conducted separately by race.

Parental income was measured as an ordinal level variable. Subjects were asked to estimate their parent's/guardian's annual income. Response categories included: (1) less than $15,000, (2) $15,000 to $29,000, (3) $30,000 to $44,999, (4) $45,000 to $59,999 (5) 60,000 or more. Mean parental income was $37,777. The modal category was $60,000 or more per year (N=295).

In this study, age was measured as an interval level variable measured by the subject's response to, "What was your age (in years) on your last birthday?" The mean age was 19.5 years.

The analyses will examine the interaction between self-control and the opportunity to commit crime as well as the interaction between self-control and the opportunity to commit illicit sexual behaviors.

Before summarizing the major findings, it is appropriate to address the generalizability of these data. Given the sample sources, this researcher is aware of the sample limitations, which might make it somewhat unwise to make inferences about behaviors in general. Nevertheless, the investigation is designed to test Self-control theory, utilizing undergraduate students as a representative group of non-criminals in terms of their analogous acts. Therefore, this exploratory study can be of substantial importance in further understanding Self-control Theory as it relates to analogous behaviors.

Chapter Five

Data Analyses and Discussion

Plan of Analyses

The present research proposes that illicit sexual behavior is a correlate of deviance comparable to crime and delinquency. Furthermore, Gottfredson and Hirschi's (1990) self-control theory may explain the origins of such deviance. First, I will examine the correlations between crime/delinquency and the three measures of illicit sexual behaviors. The bivariate correlations among the variables are presented followed by a series of regressions. Specifically, the theoretical variables (*Delinqstd, Sexdev1, Sexdev2,* and *Number of Sexual Partners*) are regressed on self-control, and the demographic variables age, parental income, race and gender. The series of equations permits examination of the effect of level of self-control on illicit sexual behavior as well as on crime and delinquency. In addition, the analyses examine whether the anticipated effects are a result of age, gender, parental income and/or race. Next, opportunity is added to the preceding equations. Inclusion of opportunity allows determination of whether or not the anticipated effect of low self-control on illicit sexual behavior is mediated by opportunity.

Hypothesis 1

To test the hypothesis that the measures of illicit sexual behavior are strongly correlated with *Delinstd* (crime/delinquency), I conducted bivariate correlations between *Delinstd, Sexdev1, Sexdev2* and *Number of Sexual Partners*. The results are presented in Table 11.

[Table 11 About Here]

The only correlation coefficient that was not significant was the *Number of Sexual Partners* with *Sexdev1*. *Delinstd* is positively correlated with *Sexdev1*, r=.375, p≤ .001. *Delinstd* is also positively correlated with *Sexdev2*, r=.294, p≤ .001.

Correlations with the *Delinstd* scale are in the anticipated directions. All correlations are statistically significant (p≤.001) with the exception of *Number of Sexual Partners* with *Sexdev1*. Largest correlations are between *Sexdev1* and *Sexdev2* (r=.382) and *Sexdev1* and *Delinstd* (r=.375). The smallest significant correlation with *Delinstd* is the *Number of Sexual Partners* (r=.124). The *Number of Sexual Partners* is significantly correlated with *Sexdev2* (r=.156). *Sexdev1*, *Sexdev2* and *Delinstd* are modestly correlated and therefore support the hypothesis that illicit sexual behavior is a correlate of deviance comparable to crime and delinquency. Caution should be used however in making the same assertion in regard to the *Number of Sexual Partners*. Perhaps including the *Number of Sexual Partners* in conjunction with a broader spectrum of risk taking behaviors would produce stronger results overall.

These results provide empirical support for versatility, and thus support the argument of Gottfredson and Hirschi (1990) that individuals engage in a variety of criminal acts as well as non-criminal acts analogous to crime, including illicit sexual behaviors. Additionally, this research adds to the existing literature on deviance and indeed shows that those who engage in illicit sexual behaviors are also likely to engage in crime and delinquency.

Hypothesis 2

To test the hypothesis that lower self-control is related to higher levels of illicit sexual behavior and criminal/delinquent behavior, I conducted a series of regression

analyses. In the following subsections, I discuss the regression of the four dependent variables on the standardized Grasmick scale (self-control), controlling for gender, age and parental income.

[Table 12 About Here]

Crime/Delinquency (Delinstd)

A standard multiple regression was performed between *Delinstd* as the dependent variable and low self-control, age, gender, race and parental income as independent variables.

Regression coefficients are reported in Table 12.

Self-control ($\beta = ^{-}.306$, $p \leq .001$), gender ($\beta = ^{-}.207$, $p \leq .001$) and race as black ($\beta = .079$, $p \leq .05$) were significant in their association with *Delinstd*. As self-control decreased, the likelihood of criminal/delinquent behaviors occurring increased. Being male increased the likelihood of involvement in crime/delinquency as well. IN addition, being black was a predictor of the likelihood of involvement in crime and delinquency. The strongest measure of association was self-control (β -.306), followed by being male (β -.207). Neither age, parental income nor other race was significantly associated with the measure of crime/delinquency.

The measure of self-control had a negative and statistically significant effect on the likelihood of engaging in crime and delinquency. Those individuals exhibiting a lower level of self-control tended to show higher levels of involvement in crime/delinquency. This is in keeping with other research and provides support for the General Theory (Gottfredson and Hirschi 1990). Indeed, low self-control in this sample is associated with crime and delinquency.

Research studying the relationship between sex and crime/delinquency suggests that males are much more at risk than females (Barton and Figueria-McDonough 1985; Cernkovich and Giordano 1979; Hindelang 1971). Self-control theory implies that all crime differences are a function of differences in opportunity and/or self-control. Therefore, these differences should explain gender differences in crime/delinquency as well. Males and females are socialized differently and are thus afforded differential life opportunities. Zager (1994) suggests that the median levels for males and females may be different, although the process is the same for both. Future studies might explore self-control theory focusing on gender differences in sexual behaviors and whether socialization alone can account for these differences. However, the current findings suggest that the gender difference in criminal and delinquent behaviors is not entirely due to self-control and opportunity. Some other factor appears to be operating, such as peer group imitation or socialization (Akers 1997). Or, it may be that the measure of self-control in this study does not fully tap this construct.

The analyses provide strong support for the hypothesis. Self-control was found to make a statistically significant contribution to the explanation of involvement in crime and delinquency. Since crime and delinquency are manifestations of low self-control, it follows that those individuals exhibiting low self-control share other similar characteristics and perhaps engage in similar behaviors (Gottfredson and Hirschi 1990). For example, they share the inability to consider long-term negative consequences and are therefore more likely to engage in other acts of immediate gratification, which may not be criminal by definition. Therefore, it is logical to utilize self-control as a stable construct in explaining crime and delinquency as well as illicit sexual behaviors.

Illicit Sexual Behavior (Sexdev1)

Next, I performed a standard multiple regression using *Sexdev1* as the dependent variable and low self-control, age, gender and parental income as independent variables, to explore whether low self-control was also related to involvement in illicit sexual behaviors. *Sexdev1* includes the following behaviors: masturbation, thinking sexual thoughts and reading sexually explicit materials. Regression coefficients are reported in Table 12.

Analyses reveal that neither age, parental income nor race as black or other were significantly associated with *Sexdev1*. Self-control ($\beta = \text{-}.226$, $p \leq .001$) was significantly related to *Sexdev1* in a negative direction as was gender ($\beta = \text{-}.418$, $p \leq 001$). Parental income also had a significant in a negative association with *Sexdev1* ($\beta = \text{-}.077$, $p \leq .05$).

As with crime and delinquent behaviors, these findings indicate that self-control is a correlate of *Sexdev1*. As self-control decreases, the likelihood of participation in masturbation, thinking sexual thoughts and reading sexually explicit materials increases. Likewise, males are more likely to engage in *Sexdev1* behaviors as compared to females. In sum, these analyses support the hypothesis

Illicit Sexual Behavior (Sexdev2)

This multiple regression analyses explores whether low self-control is related to involvement in other illicit sexual behaviors. The dependent variable, *Sexdev2*, measured self-reported participation in having affairs outside of a primary relationship, having the urge to sexually expose oneself, cross dress, observe someone sexually or do sexual behaviors that could get one in trouble, and worrying that someone would find out about

ones sexual behavior or romantic relationships. Regression coefficients are reported in Table 12.

Self-control, age, gender, race and parental income were entered as independent variables. Age, race as both black and other, parental income and gender were not significantly associated with *Sexdev2*. Self-control ($\beta = -.205$, $p \leq .001$) remains significant, as in the *Sexdev1* regression equation. As self-control decreases the likelihood of participation in *Sexdev2* increases. Additionally, as parental income decreases the likelihood of participation in *Sexdev2* increases.

Gender, while significant in both previous regressions, fails to be significantly associated with *Sexdev2*. While I would have expected gender to remain significant, it is interesting to note that *Sexdev2* includes some behaviors that involve other individuals. This is not to be construed as *Sexdev2* behaviors are more serious in nature. Gottfredson and Hirschi (1990) contend that people with low self-control actually sort themselves into a variety of circumstances that results in a correlation with crime. Although we did not ascertain the sexual orientation of each respondent in this study it would be reasonable to assume that the overwhelming majority were heterosexual. Heterosexual individuals exhibiting low self-control would logically sort to a member of the opposite sex with which to engage in *Sexdev2* behaviors, thus explaining a lack of significant difference between males and females on *Sexdev2* behaviors.

Number of Sexual Partners

When the number or sexual partners was regressed on the independent variables of self control, age, gender, other race and parental income, only age ($\beta = .346$, $p \leq .001$) and race as black ($\beta = .153$, $p \leq .001$) were significant. Neither self-control, gender nor

parental income were significantly associated with the *Number of Sexual Partners.* Regression coefficients are reported in Table 12.

It is valid to argue that it may simply be that subjects misinterpreted this question, reporting the *Number of Sexual Partners* to date rather than the number prior to college. However, the lack of significant findings for self-control, gender and parental income suggests that the *Number of Sexual Partners* alone may not be sufficient as an analogous act to crime/delinquency.

Hypothesis 3

Holding self-control constant, I hypothesized that as criminal opportunity increased criminal/delinquent behavior would increase. Additionally, holding self-control constant, I hypothesized that as criminal opportunity increased, illicit sexual behaviors would remain the same. In other words, opportunity is not germane to participation in illicit sexual behaviors. Using multiple regressions, I regressed each of the dependent variables (*Delinstd, Sexdev1, Sexdev2 and Number of Sexual Partners*) on the independent variables (crime/delinquency, self control, opportunity, age, race, gender and parental income).

[Table 13 About Here]

Crime/Delinquency (Delinstd)

This regression will allow me to ascertain what effect, if any, opportunity has on the dependent variable of crime and delinquent behaviors. Opportunity ($\beta = .410$, $p \leq .001$) is significantly associated with crime and delinquent behaviors. Self-control ($\beta = -.263$, $p \leq .001$) is also significantly related to crime and delinquent behaviors. Gender ($\beta = -.124$, $p \leq .001$) has a significantly negative relationship crime/delinquent behaviors. Race as

black (β= .009, $p \leq .01$) is also significant in its relationship to crime and delinquency. This finding suggests that for those whose race is black there is an increased likelihood of participation in crime and delinquency. Age, parental income and other race fail to be significant. Regression coefficients are reported in Table 13.

Overall, as self-control decreases the likelihood of participation in crime and delinquency increases, even when controlling for opportunity. These analyses find that as opportunity increases so does the likelihood of involvement in crime and delinquent behaviors. According to self-control theory (Gottfredson and Hirschi 1990) the primary cause of crime and delinquency is low self-control. Therefore, individuals with low self-control are expected to have higher probabilities of committing crime and delinquency. More importantly, the additional factor influencing crime and delinquency is the social situation of the individual, which provides varying degrees of opportunity. This argument suggests that while the cause of crime and delinquency is always self-control, perhaps lifestyle and the related opportunities can affect the level of participation in crime and delinquency.

The continuing association of gender with crime and delinquent behaviors suggests that being male is a stable predictor of involvement in these behaviors. Many criminological studies have looked at gender and have found that males are more at risk of crime and delinquency then females (Rutter and Giller 1983, Wilson and Hernstein 1985, Braithwaite 1989, Gottfredson and Hirschi 1990).

The opportunity factor must also be tested for a relationship with illicit sexual behaviors to determine if or how opportunity is related to a range of illicit sexual behaviors.

Illicit Sexual Behavior (Sexdev1)

Next, I repeat the above analyses using masturbation, reading sexually explicit materials and thinking sexual thoughts as measures of illicit sexual behavior in place of crime/delinquency as the dependent variable. The hypothesis explores opportunity and its relationship, or lack thereof, to illicit sexual behaviors. Regression coefficients are reported in Table 13.

Age fails to be significant in this multiple regression, as does race. Self- control ($\beta = ^{-}.218$, $p \leq .001$), opportunity ($\beta = .181$, $p \leq .001$), gender ($\beta = ^{-}.388$, $p \leq .001$), and parental income ($\beta = ^{-}.074$, $p \leq .05$), are all significantly associated with this group of illicit sexual behaviors.

Self-control is negatively associated with masturbation, reading sexually explicit materials and thinking sexual thoughts, indicating that as self-control decreases involvement in these specific sexual behaviors are likely to increase. Males are most likely to engage in these behaviors. The significance of parental income on *Sexdev1* behaviors is of special interest. This suggests that, on average, as parental income decreases the likelihood of engaging in *Sexdev1* behaviors increases.

There could be two obvious explanations for this result; heteroscedasicity within the economic relationship or socialization. In the case of heteroscedasicity, it is possible that the relationship between *Sexdev1* and parental income is representative of a variety of respondents relying on parental income while others are more economically independent. The relationship is valid but not homoscedastic, and income may be negatively skewed. Additional investigation into the relationship between parental

income and *Sexdev1* behaviors is warranted to determine if this is a statistical anomaly or the presence of a social fact.

Another consideration is socialization differences among different economic groups. Gottfredson and Hirschi (1990) assert that parental income of itself would provide no direct significant relationship to levels of self-control. However, socialization is influenced by parental income suggesting parents with higher incomes socialize their children differently than those with lower incomes. Specifically, the socioeconomic position of the parents affect how they raise their children (Ellison et al. 1996). Parental income affects not only what the parents have to spend but also what they expect of their children. Surveys showed that lower income individuals in the United States favor obedience and conformity while higher income individuals foster good judgment and creativity in their children (NORC 1999). A third explanation may be that those in higher income brackets have more to lose (Coleman 2000). Thus, their behaviors are more likely to be restrained by fear of loss of social status, prestige, power and perhaps even wealth or income.

Holding constant self-control, age, gender, race and parental income, the findings support opportunity as being significant in a positive direction. Therefore, as opportunity increases I find increases in illicit sexual behavior. This finding on opportunity is of particular interest. However, before discussing this further, repeating the regression for the remaining group of illicit sexual behaviors as well as the *Number of Sexual Partners* is prudent.

Recall that *Sexdev1* behaviors include masturbation, reading sexually explicit materials and thinking sexual thoughts, none of which are conducive to long term

intimate relationships, yet all of which inspire simple and easy immediate gratification. Also, recall that opportunity speaks to frequency of activity. These illicit sexual behaviors are of a nature requiring no partner or even the presence of another, and are normatively addressed by simple measures of social control wherein public practices in these behaviors are discouraged. Gottfredson and Hirschi (1990) point out, social control is not synonymous with self-control. Social control is external control while self-control is an internal control. When self-control is sufficient in an individual, it restrains the individual. However, in those individuals lacking a sufficient level of self-control, neither self-control nor social control is sufficient to restrain them from engaging in illicit sexual behaviors, imprudent behaviors or even crime/delinquency. Self control then is the impetus from which individuals act, while opportunity accommodates the frequency of the actions taken.

Illicit Sexual Behavior (Sexdev2)

Recall that this group of illicit sexual behaviors (*Sexdev2*) includes behaviors that include others in some way; having affairs outside of the primary relationship, sexually exposing one's self, cross dressing, observing someone sexually or engaging in sexual behaviors that could get one in trouble, and worrying that someone will find out about a sexual behavior or romantic relationship. Again, I regressed *Sexdev2* on self control, opportunity, age, gender, race and parental income. Regression coefficients are reported in Table 13.

Self-control ($\beta = -.183$, $p \leq .001$) remained significant, as did opportunity ($\beta = .182$, $p \leq .05$). Neither age, parental income nor gender was significantly associated with these

illicit sexual behaviors (*Sexdev2*). Where race was black (β= .135, $p \leq .001$) and other as race (β= .107, $p \leq .01$) there is a significant association with sexdev2 behaviors.

As expected, the inverse relationship between self-control and *Sexdev2* remains, indicating as self-control decreases the likelihood of this second group of illicit sexual behaviors increases. For opportunity the relationship was a positive association, meaning that as opportunity increased the likelihood of the second group of illicit sexual behaviors increased. When race was black or other the likelihood of involvement in *Sexdev2* behaviors are increased.

Number of Sexual Partners

This regression seeks to investigate the *Number of Sexual Partners* in its relationship with the independent variables, including opportunity. Age (β = .361, $p \leq .001$) is found to be significant in its relationship with the *Number of Sexual Partners*. Findings suggest that as age increases the likelihood of the *Number of Sexual Partners* increases as well. As previously suggested, logic dictates that the longer individuals live the more likely they are to have had additional sexual partners. Being black (β = .159 $p \leq .001$) is significantly associated with the *Number of Sexual Partners*. This suggests blacks are more likely to have a *Number of Sexual Partners*. Moreover, self-control, opportunity, gender and other race all fail to be significant with the *Number of Sexual Partners*. However, beyond this finding the *Number of Sexual Partners* alone fails to predict anything unique in its association to self-control theory. Regression coefficients are reported in Table 13.

Overall, the findings for opportunity for both groups of illicit sexual behavior (*Sexdev1* and *Sexdev2*) require additional discussion. These specific findings fail to

support my hypothesis that by holding self-control constant, as criminal opportunity increases, illicit sexual behaviors would remain the same. However, these findings are a significant finding in the testing of self-control theory.

Recall that in the case of crime and delinquency, opportunity is represented by the convergence of a likely offender, suitable target and lack of capable guardian (Felson 1998). However, for illicit sexual behaviors these three variables are constantly converging in the course of everyday life, particularly on college campuses where there is a high numerical population in a relatively small space. Additionally, the limited age of this population suggests it is at the height of the age curve where we would expect to see a spike in illicit sexual behaviors, assuming that those with lower levels of self control even reached college.

It is my contention that illicit sexual behavior is ubiquitous, and needs no special opportunity to occur. Rather, in the case of illicit sexual behaviors, what we are seeing is the effect of lifestyle, wherein there is sorting or a "birds of a feather" phenomenon that Gottfredson and Hirschi (1990) suggest. Those with low self-control are not only drawn to each other but are also more influenced by those with whom they associate than are those with higher measures of self-control. This finding is significant in that it strengthens support for self-control theory as a general theory of deviance.

Opportunity and Self-Control (Interaction)

A new variable entitled *interaction* was created to represent the interactive effect of opportunity and self-control. Interaction was added to the preceding equations, and multiple regressions were run on the same dependent variables (*Delinstd, Sexdev1, Sexdev2* and *Number of Sexual Partners).* These multiple regressions allow me to

ascertain what effect, if any, the interaction of opportunity and self-control may have with the dependent variables (*Delinstd, Sexdev1, Sexdev2* and *Number of Sexual Partners*). Previously I noted that Gottfredson and Hirschi (1990) argue that the frequency of activity is accounted for by a lower level of self-control and a higher degree of opportunity as a result of social situation or lifestyle. If this is true, the correlates of these dependent measures with opportunity should be roughly the same according to Gottfredson and Hirschi (1990). Furthermore, the interaction variable would be expected to produce a significant effect on crime/delinquency. However, the interaction should produce no significant effect on the dependent variables of *Sexdev1*, *Sexdev2* and *Number of Sexual Partners* because the opportunity to engage in these behavior is ubiquitous.

[Table 14 About Here]

Crime/Delinquency (Delinstd)

A standard multiple regression was performed between *Delinstd* as the dependent variable and low self-control, opportunity, interaction, age, gender, race and parental income as independent variables. Self-control ($\beta = -.263$, $p \leq .001$) is significant and negatively associated with *Delinstd* , as is gender ($\beta = -.122$, $p \leq .001$). Opportunity ($\beta = .409$, $p \leq .001$) is also significant but is positively associated with *Delinstd.* In addition, race as black ($\beta = .102$, $p \leq .05$) is significantly associated with Delinstd. Interaction, parental income, other race and age are not significant. Regression coefficients are reported in Table 14.

Illicit Sexual Behavior (Sexdev1)

Another multiple regression was completed using *Sexdev1* as the dependent variable, and self control, opportunity, interaction, age, gender and parental income as

independent variables. Self-control (β= ˙.217, p≤ .001) is significantly associated with *Sexdev1*. Opportunity (β=.181, p<.001), gender (β= ˙.389, p<.001) and parental income (β= ˙.073, p≤.05) are significant in their association with *Sexdev1* also. As parental income decreases the likelihood of involvement in *SexDev1* behaviors increase. Lower measures of self-control are predictors of involvement in *SexDev1*, as is being male. Furthermore an increase in opportunity increases the likelihood of participation in *SexDev1*behaviors. Neither age, race nor interaction are significantly associated with *Sexdev1*. Regression coefficients are reported in Table 14.

Illicit Sexual Behavior (Sexdev2)

Regressing the independent variables (opportunity, self control, interaction, age, race, gender and parental income) on *Sexdev2*, findings indicate opportunity (β= .182, p≤ .001), self control (β= ˙.183, p≤ .001), black (β= .136, p≤ .001) and other race (β= .105, p≤ .01) are significant. Neither interaction, age, parental income nor gender is significantly associated with *Sexdev2*. Regression coefficients are reported in Table 14.

Number of Sexual Partners

Self-control, opportunity, gender, other race and parental income are not significantly associated with the *Number of Sexual Partners*. Age (β= .360, p≤.001) and black (β= .162, p≤.001) is significant in its association with the *Number of Sexual Partners*. This finding suggests as age increases the likelihood of the *Number of Sexual Partners* increases. Furthermore being black increases the likelihood of involvement with a number of sexual partners.

The interaction term fails to establish a significant relationship with any of the dependent variables (*crime/delinquency, Sexdev1, Sexdev2* and *Number of Sexual*

Partners). These analyses of the interaction on the dependent variables support the argument of Gottfredson and Hirschi (1990) that opportunity and self-control are separate explanatory variables wherein opportunity represents the necessary conditions for crime/delinquency to occur, as well as illicit sexual behaviors. As predicted the correlates of these dependent measures with opportunity are roughly the same and the interactive variable produced no significant effect on the dependent variables.

Crime/Delinquency as an Independent Variable (Displacement)

By moving crime/delinquency to the status of independent variable it is possible to regress the dependent variables (*Sexdev1*, *Sexdev2*, and *Number of Sexual Partners*) to ascertain whether crime/delinquency is significant in its association with the dependent variables. If so, this suggests that there is a displacement affect wherein involvement in crime/delinquency displaces activity in *Sexdev1*, *Sexdev2* or the *Number of Sexual Partners*.

[Table 15 About Here]

Illicit Sexual Behavior (*Sexdev1*)

With *Sexdev1* as the dependent variable, I hold constant self-control and opportunity, to explore the relationship of crime/delinquency with *Sexdev1*. Regression coefficients are reported in Table 15.

Age, parental income and race were not significant in their association with *Sexdev1*. Crime/delinquency ($\beta = .165$, $p \leq .001$) is significant in its association with *Sexdev1*. Gender ($\beta = -.363$, $p \leq .001$) and self-control ($\beta = -.174$, $p \leq .001$) remain significant and negative. These findings indicate that being male increases the likelihood of participation in *Sexdev1* behaviors. Furthermore as self-control decreases, the

likelihood of participation in *Sexdev1* increases. Opportunity ($\beta = .112$, $p \leq .01$) is significant as well, but its relationship is positive. As opportunity increases the likelihood of involvement in *Sexdev1* behaviors increases. Note that the probable strength of association for opportunity when crime/delinquency is added to the regression is lower than previously indicated. In regard to displacement, as crime and delinquency increases so does *Sexdev1*. Therefore, findings suggest there is no displacement effect. Had there been a displacement, while the relationship would have been significant it would have been an inverse relationship. Meaning as crime/delinquency increased, *Sexdev1* would have decreased. However, before making a sweeping assumption it is again prudent to run additional regressions for *Sexdev2* and the *Number of Sexual Partners*.

Illicit Sexual Behavior (*Sexdev2*)

By repeating the previous regression changing the dependent variable to *Sexdev2*, I am trying to establish if there is a consistent displacement affect for crime/delinquency across groups if illicit sexual behaviors.

Age, parental income, other race and gender are not significant. However, self-control ($\beta = -.135$, $p \leq .001$) is significant and negatively associated with *Sexdev2*. Opportunity ($\beta = .105$, $p \leq .05$), crime/delinquency ($\beta = .190$, $p \leq .001$), and black ($\beta = .115$, $p \leq .01$), are positive and significant. As self-control decreases, the likelihood of *Sexdev2* increases. However, as opportunity increases so does the likelihood of *Sexdev2* behaviors occurring. Crime and delinquency are likely predictors of involvement in *Sexdev*. However, there is no displacement effect.

Number of Sexual Partners

When the multiple regression is run with *Number of Sexual Partners* as the dependent variable; self control, opportunity parental income and gender fail to be significant. Age (β= .368, p$\leq$ .001) however is significant, as is being black (β= .147, p$\leq$ .001). As age increases the likelihood of the *Number of Sexual Partners* will increase as well. For blacks there is a likelihood of a number of sexual partners. Crime/delinquency (β= .440, p$\leq$ .001) is also significant in its association with the *Number of Sexual Partners.* Those who have been involved in crime/delinquency are likely to have a *Number of Sexual Partners.* The analyses are consistent in finding that there is no displacement effect.

Hypothesis 4: Self-Control and Race

This hypothesis proposes racial differences in the relationships between self-control/opportunity and crime-delinquency/illicit sexual behaviors. To begin to test this assumption, I start by running multiple regressions for each of the dependent variables with self-control, age, gender, and parental income. Each dependent variable has three regressions, one each for white, black and other races. It was necessary to combine Native American, Hispanic, Asian and other into a category simply labeled "Other" due to the small number of cases for each of these categories.

Crime/Delinquency (Delinstd)

The first regressions in this series include the independent variables of self-control, age, gender, and parental income on crime and delinquency. This model is run separately for whites, blacks and others. I am attempting to explore the hypothesis of racial differences in its relationship with self-control on crime/delinquency.

[Table 16 About Here]

Beginning with whites, there is no significant association between age, or parental income with crime/delinquency. Self-control (β= ˙.315, $p \leq .001$), however, is significant and negative in its association with crime and delinquent behaviors, as is gender (β= ˙ .210, $p \leq .001$) ($R^2 = .166$). Simply stated these analyses indicate that for those whose race is white, involvement in crime and delinquency in associated with low self-control. There is an inverse correlation between the two independent variables of gender and self-control on crime and delinquency. For whites, being male increases the likelihood of involvement in crime and delinquency. Additionally, for whites as self-control decreases the likelihood of involvement in crime and delinquency increases. Regression coefficients are reported in Table 16.

When the regression is repeated changing the race to black, age, self-control and parental income fail to be significant in their association with crime/delinquency. The only significant coefficient was for gender (B = -.328, $p \leq$, $R^2 = .048$). Remember, self-control theory argues that those with low levels of self-control are less likely to arrive at college, and for those who do arrive, completing is unlikely. Also, consider that self-control theory asserts that blacks are likely to be socialized differently so that we can expect different levels of self-control among this group, probably in a negative direction. This finding fails to support these arguments. Gottfredson and Hirschi (1990) contend that their theory explains crime/delinquency across all places and times, this finding suggests otherwise. This analysis reports that for blacks self-control fails to predict involvement in crime/delinquency. However, being male is related to higher involvement in crime/delinquency. It may be that this is a function of opportunity, which

we will examine below. On the other hand, there may be a socialization difference between races. Future researchers would do well to examine cultural influences on socialization processes across races, and test those factors on measures of self-control. In addition, we need to examine lifestyles as a mechanism for sorting like individuals.

The last analyses regressing crime and delinquency on other race reports no significance for age, gender, or parental income. Self control ($\beta = ^{-}.600$, $p \leq .001$) is significant in its association with crime and delinquency ($R^2 = .361$). These findings indicate that for other races besides white or black, as self-control decreases the likelihood of participation in crime and delinquency increases.

Recall that Gottfredson and Hirschi (1990) contend self control predicts crime/delinquency across all groups at all times. The analyses fail to support that postulate of self-control theory. Furthermore, self-control theory states that racial differences in levels of self-control are due to differences in socialization between racial groups and are not a result of race itself. This research suggests that we need to investigate the influence of culture on socialization and how that affects measures of self-control.

However, a word of caution should be noted. Although no significance was found for self-control with blacks, the findings do suggests there are differences by race in crime/delinquency involvement (LaFree et al. 1992; Petersilia 1985). Statistics on race and crime show that while blacks constitute 12 percent of the population they account for 30 percent of all arrests for Index crimes (Federal Bureau of Investigation 1994:235). Fifty percent of black urban males are arrested for an Index crime at least once during their lives, compared to fourteen percent of white males (Federal Bureau of Investigation

1994:235). The likelihood that any man will serve jail time or prison time is estimated to be eighteen percent for blacks and three percent for whites (Petersilia 1985). Moreover the leading cause of death among young black males is murder (Petersilia 1985). Statistically crime rates for Jews, Japanese Americans, and Chinese Americans are lower than rates for the total population just as crime rates for blacks and Hispanics are higher than rates for the total population (Conklin 1972). While blacks, in general, have shown a higher involvement in crime/delinquency as compared to Hispanics, Native Americans or Asian populations it is unwise to assume this is due simply to race where race is defined by ones skin color or other physical attributes.

I suggest Gottfredson and Hirschi's argument could more accurately explain this social phenomena; racial groups socialize their children. However, the mode of socialization may be culturally dependent. Another consideration is lifestyle. It is conceivable that different lifestyles promote a sorting together of individuals who are alike in measures of self-control. It may be that the measure of self-control used in this study is not adequate for all social groups. This finding is a significant contribution to the literature on both deviance and self-control theory.

In addition to socialization differences between racial groups, a growing concern is the issue of racial discrimination in the criminal justice system whereby those of color, particularly blacks, are targeted for discrimination. While Gottfresdon and Hirschi (1990) contend this is not an issue, there is a growing body of literature that suggests the over representation of blacks, in the criminal justice system can be explained by racial discrimination (Blumstein 1982, 1993; Langan 1985; Hawkins and Hardy 1989;

Crutchfield et al. 1994; Sharp et al. 2000). Thus, some of the reported differences may be due to discrimination rather than to behavioral differences.

As expected, there are racial differences between blacks and whites, and blacks and other races in their relationships between self-control and crime/delinquency. However, the analyses do not completely support self-control theory, and additional research is called for.

[Table 17 About Here]

Illicit Sexual Behavior (Sexdev1)

By regressing *Sexdev1* on the independent variables of race, age, gender, parental income and self-control, I explore the categories of race (white, black and other) to ascertain whether race affects participation in *Sexdev1*. Having established a correlation between crime/delinquency and illicit sexual behaviors earlier, I expect to find racial differences.

With race as white, age and parental income are not significant. Self-control (β= ˉ .221, $p \leq .001$) and gender (β= ˉ.429, $p \leq .001$) are significantly associated with masturbation, thinking sexual thoughts and reading sexually explicit materials. As measures of self control decrease, the likelihood of involvement in this group of illicit sexual behaviors increases (R^2 = .273). Regression coefficients are reported in Table 17.

When this regression analyses is repeated where race is black, self control (β= ˉ .227, $p \leq .051$), and gender (β= ˉ.381, $p \leq .01$) continue to be significant. Both gender and self-control are negatively associated with *Sexdev1*. Specifically, as self-control decreases, the likelihood of involvement in masturbation, thinking sexual thoughts and

reading sexually explicit materials increases. Additionally, being male is linked to higher reported participation in these behaviors.

When race is changed to other and the regression is repeated, neither age nor parental income is significant. Self control ($\beta = -.202$, $p \leq .05$), and gender ($\beta = -.426$, $p \leq .001$) are significantly associated with this grouping of illicit sexual behaviors where self-control decreases the likelihood of involvement increases ($R^2 = .284$).

Gottfredson and Hirschi (1990) assert that blacks are more likely to have higher rates of involvement in crime/delinquency and imply they will also have higher rates of involvement in analogous behaviors as well. However, they are clear that this is the result of socialization not race alone.

These findings do not support hypothesis four. Self-control is associated with illicit sexual behaviors (*Sexdev1*) for all races. Instead, the analyses provide support for self-control theory, suggesting that self-control is a predictor of these behaviors across different groups.

Illicit Sexual Behavior (Sexdev2)

In this regression, I change the dependent variable to *Sexdev2* and regress it on each race (white, black and other), age, gender, parental income and age. While there were racial differences for the two previous dependent variables, the question remains will racial differences persist over a range of illicit sexual behaviors, and will they be similar to crime/delinquency or *Sexdev1*.

[Table 18 About Here]

The initial regression sets *Sexdev2* as the dependent variable with age, gender, self control, parental income as the independent variables, with race as white. For whites, age,

gender and parental income fail to be significant in their association with *Sexdev2*, which is the second grouping of illicit sexual behaviors. Self-control ($\beta = -.233$, $p \leq .001$) is significant and is negative in its association with *Sexdev2* ($R^2 = .053$). This indicates that for those whose race is white, as self-control decreases the likelihood of participation in the second grouping of illicit sexual behaviors called *Sexdev2* increases. Regression coefficients are reported in Table 18.

Changing race to black and repeating the equation, I found no significance for any of the independent variables. For those whose race is black, neither self-control, gender, parental income nor age are significantly related to the likelihood of participation in affairs outside of a primary relationship, having the urge to sexually expose oneself, crossdress, observe someone sexually or do sexual behaviors that could get on in trouble and worrying that someone will find out about sexual behavior or romantic relationships increases.

Using *Sexdev2* as the dependent variable, I then changed race to other and repeated the previous regression. Age, gender and parental income were not significantly associated with *Sexdeve2*. Self-control ($\beta = -.271$, $p \leq .001$) was significant and negative ($R^2 = .055$). Therefore, for those whose race is other than black or white, as self control decreases the likelihood of involvement in this second group of illicit sexual behaviors increases.

The findings for *Sexdev2* are similar to those reported for crime/delinquency, where self-control fails to be significant in its ability to predict involvement in either group of behaviors for those whose race is black. While there is support for the

hypothesis on racial differences as they are related to *Sexdev2*, support for the General Theory is lacking for blacks.

[Table 19 About Here]

Number of Sexual Partners

The number of sexual partners as a dependent variable has failed in earlier analyses to provide much in the way of insight. However, I regressed the number of sexual partners by race (white, black and other) on age, gender, parental income and self-control. Regression coefficients are reported in Table 19.

Gender, and parental income fail to be significantly associated with the number of sexual partners. When race is white, age (β=.156, $p \leq .01$) and self-control (β= ˉ.176, $p \leq .001$) are significant in their association with the *Number of Sexual Partners*, although self-control is negatively associated with the *Number of Sexual Partners* (R^2 = .045). As age increases the likelihood of the number of sexual partners increases as well. However, for race as white, as self-control decreases the likelihood of the number of sexual partners increases.

When race is changed to black and the regression is replicated there is no significance reported for any of the independent variables. Self-control, gender, age and parental income are not significant.

The third regression changes race to other leaving the independent variables of race, age, gender, self-control and parental income and the dependent variable as number of sexual partners. Findings indicate that neither gender, parental income nor age are significantly associated with the number of sexual partners for those whose race is other than white or black. Self-control (β=.538, $p \leq .001$) is the only variable that remains

significant (R^2 = .276), suggesting that as self control decreases the likelihood of the *Number of Sexual Partners* increases. The findings do indicate that there are racial differences as predicted by Hypothesis 4. Specifically, self-control does not predict for blacks but does for whites and other races. Therefore additional investigation is needed.

Overall, these analyses suggest there are racial differences in the relationships between self-control and crime/delinquency and illicit sexual behaviors. However, it is important to further explore the possibility of racial differences with the addition of opportunity as an independent variable. I expect to find that opportunity is a significant predictor among all racial groups.

Self-control/Opportunity and Race

Crime/Delinquency (Delinstd)

With crime/delinquency as the dependent variable, opportunity was added as an additional independent variable. Three regressions were run for each of the three categories of race on each of the dependent variables.

[Table 20 About Here]

Where race is white, the regression indicates opportunity (β=.367, $p \leq .001$), self control (β= ˉ.279, $p \leq .001$), and gender (β= ˉ.118, $p \leq .01$) were all significant in their association with crime/delinquency (R^2 = .288). Age, parental income and interaction failed to be significantly related to crime/delinquency. Regression coefficients are reported in Table 20.

For race as white, opportunity was significant and positive in its association with crime/delinquency. As opportunity increased the likelihood of participation in crime/delinquency increased as well. On the other hand, for race as white, as self-control

decreased the likelihood of involvement in crime and delinquency increased. Being male, among the racial group white, continues to predict likelihood of involvement in crime and delinquency. In sum, lower levels of self-control as well as opportunity and being male are stable predictors of crime and delinquency for race as white. These findings are consistent with self-control theory.

When race was changed to black, and the regression was repeated neither age, parental income nor self-control were significant in their relationship with crime/delinquency. Gender (β= ˙.225, $p \leq .05$), and opportunity (β= .588, $p \leq .001$) were significant for race as black (R^2 = .396). For race as black, the presence of opportunity and being male are predictors of a likelihood of involvement in crime/delinquency. These findings are not consistent with self-control theory; however, they do support the hypothesis that there are racial differences in the relationships between self-control, opportunity and crime-delinquency.

Race was again changed, with other as race, and a regression run on *Delinstd* controlling for age, gender, parental income, self-control and opportunity. For race as other, self-control (β= ˙.485, $p \leq .001$), and opportunity (β= .371, $p \leq .001$) were significant (R^2 = .481). Age, gender and parental income were not significant. For race as other, as self-control decreases the likelihood of crime and delinquency increases increases. Being male is also a predictor of likelihood of involvement in *Sexdev1*.

Self-control theory asserts that, in all cases, self-control is the main factor associated with explaining differences in crime/delinquency and analogous behaviors, including illicit sexual behaviors. Opportunity predicts the frequency of these acts of deviance based on the social situation, and social situations vary according to lifestyle.

Returning to Gottfredson and Hirschi's (1990) contention that birds of a feather flock together, it is easy to see that individuals who engage in crime/delinquency as well as in illicit sexual behaviors are not so very different. Daily routines and lifestyles are based on choices that place them in locations where they may interact with each other. Self-control argues that the commonality between these birds of a feather that engage in deviance is low self control, where poor choices with an inability to count long term consequences, engage in risky, impulsive and immediately gratifying behaviors result in negative effects on lifestyles. Therefore, social situations (and opportunity) for those with higher levels of self-control should differ from those with lower levels of self-control. This rationale may well explain low self-control for whites and other races. However, self-control theory fails to explain why self-control is not significant for blacks while opportunity is significant in predicting crime/delinquency. Perhaps there is an interactive effect of self-control and opportunity that neither independent variable alone can account for.

In sum, these findings support the hypothesis that. racial differences do exist in the relationships between self-control/opportunity and crime/delinquency. In order to establish whether racial differences exist for self-control/opportunity and illicit sexual behaviors, additional regressions must be performed. This finding fails to completely support the assertions made by Gottfredson and Hirschi (1990) that races, specifically blacks, may be socialized differently resulting in lower levels of self control, which in turn affects participation in deviance.

Illicit Sexual Behavior (*Sexdev1*)

In this set of analyses *Sexdev1* is regressed on the independent variables of opportunity, self control, interact, age, gender parental income and race.

[Table 21 About Here]

For race as white, opportunity (β= 166, $p \leq .001$) remained significant as did self control (β= ¯.217, $p \leq .001$), and gender (β= ¯.392, $p \leq .001$). Age and parental income are not found to be significant in their association with *Sexdev1* (R^2 = .311). Regression coefficients are reported in Table 21. Being male, for whites, continues to predict involvement in *Sexdev1* behaviors. Furthermore, as self-control decreases, for whites, the likelihood of participation in *Sexdev1* behaviors increases. In the case of opportunity, as opportunity increases the likelihood of *Sexdev1* increases as well.

For s blacks, neither age, parental income nor opportunity are significant. Self control (β= ¯.290, $p \leq .05$), and gender (β= ¯.366, $p \leq .01$) are significant in their association with *Sexdev1* (R^2 = = .172). Being male, for race as black, is predictive of the likelihood of involvement in masturbation, thinking sexual thoughts and reading sexually explicit materials. Additionally, as self-control decreases the likelihood of participation in these behaviors increases for race as black.

When race was changed to other, the regression findings of *Sexdev1* on the independent variables changed. Gender (β= ¯.412, $p \leq .001$) and opportunity (β= .101, $p \leq .05$) were significant in their association with *Sexdev1* but age, parental income and self-control were not significant (R^2 = .401). This suggests that being male and increased opportunity are predictors of likelihood of involvement in *Sexdev1*.

While racial differences exist in their relationships between self-control/opportunity and *Sexdev1* it is premature to generalize that, these differences are stable across a variety of illicit sexual behaviors. Another series of regressions for *Sexdev2* and *Number of Sexual Partners* must be analyzed.

Illicit Sexual Behavior (*Sexdev2*)

Sexdev2 is regressed on opportunity, self-control, gender, age, parental income, interact and across all three categories of race.

[Table 22 About Here]

Neither age, gender, or parental income were significant in their association with *Sexdev2*. for whites. However, opportunity (β= .211, $p \leq .001$) is significant and positive in its association with *Sexdev2*, while self control (β= ˙.189, $p \leq .001$) is significant and negative in its association with *Sexdev2*, (R^2 = .080). Regression coefficients are reported in Table 22. In short, the lower self control the more likely the involvement in *Sexdev2* behaviors for race as white. As opportunity increases for whites so does the likelihood of *Sexdev2*.

Further analysis reveals that when *Sexdev2* is regressed for blacks, none of the independent variables (age, gender, parental income, self-control and opportunity) are significant. It is highly unlikely that the entire sample for race as black is heteroscadistic.

This study is unable to provide sufficient data due to the N of each group within the other race category to attempt to determine if these findings are suggestive that particular groups or group within the other race category are statistically significant. However, for race as other, self-control (β= ˙.325, $p \leq .01$) is significantly associated with

Sexdev2. As self-control decreases the likelihood of involvement in *Sexdev2* increases (R^2 = .098). Age, parental income, opportunity and gender are not significant.

It is noteworthy that the total variance accounted for in the *Sexdev2* equations is quite small, suggesting that self-control and the other variables in the model account for little of the variation. The largest squared correlation, at .080 for whites, is far lower than those for crime/delinquency, where the squared correlation for whites was .288.

Number of Sexual Partners

I next regressed the number of sexual partners on opportunity, self-control, gender, age, and parental income for whites. Findings indicate that only self-control (β= ˙.166, p≤.001) and age (B = .122) were significant. With race as white, gender, parental income and opportunity fail to be significant in their association to *Number of Sexual Partners.*

When race was changed to black and the *Number of Sexual Partners* was regressed on the independent variables, none were found to be significant. This analysis finds that for black, gender, age, parental income self-control and opportunity fail to predict the likelihood of the *Number of Sexual Partners.*

Changing race to other, only self control (β= ˙.549, p≤.001) remains significant in its association with the number of sexual partners (R^2 = =.267). Opportunity, gender, age and parental income are not significant. For race as other, self-control is a likely predictor of the number of sexual partners.

Self-control * Opportunity (interaction)

Earlier I proposed that it was possible that self-control and opportunity produced an interactive effect that was not accounted for by either of the two independent

variables. I created an interaction term by multiplying self-control with opportunity. I then repeated the regressions for each race on each dependent variable using age, gender, parental income, self-control, opportunity and interaction as the independent variables. The interactive regression coefficients are reported in Table 22 as a footnote.

The interaction term failed to be significant for all regressions except crime/delinquency where race was other. In this regression, age, gender, and parental income were not significant. However, self-control (β= ˙.486, $p \leq .001$), opportunity (β= .320, $p \leq .001$) and interaction (β= ˙.278, $p \leq .001$) were significant in their association with crime/delinquency (R^2 = .555). For race as other, as self control decreased the likelihood of crime/delinquency increased. Also, as opportunity increased, for race as other, the likelihood of crime/delinquency increased. Of specific interest is the interaction term for race as other. This suggests a synergistic affect between self-control and opportunity for race as other.

Hypothesis 4 proposed racial differences in the relationships between self-control/opportunity and crime-delinquency/illicit sexual behaviors. These analyses support this hypothesis. However, caution is advised in interpreting these findings. T-tests were performed between racial groups on self-control and opportunity, all of which fails to report any significance between racial groups. These differences in regression analyses cannot be accounted for in self-control theory by may be explained by cultural differences in socialization and/or lifestyle differences.

Chapter Six

Conclusion

This research has tested self-control theory. I have first examined the versatility argument (Gottfredson and Hirschi 1990) hypothesizing that illicit sexual behaviors are positively correlated with criminal/delinquent behaviors. Additionally, I have attempted to further the scope of the theory by examining illicit sexual behaviors as a type of behavior analogous to crime. Finally, I explored whether the relationships between self-control/opportunity and delinquency/illicit sexual behaviors will differ by race.

The factor analysis on illicit sexual behaviors suggest there are two types of illicit sexual behaviors within this study. Still, illicit sexual behaviors of both groups are positively correlated with crime/delinquent behaviors, as is the *number of sexual partners*. This supports hypothesis one, that illicit sexual behaviors are positively correlated with criminal/delinquent behaviors providing strong support for the argument that individuals tend to be versatile in their deviance. The General Theory predicts a positive correlation between crime/delinquency and analogous behaviors. Illicit sexual behavior is by definition an analogous behavior.

Regressions on self control, suggest that being male, having low self control, and a lower measure of parental income are predictive of crime/delinquency and illicit sexual behaviors but not for the number of sexual partners. This lends additional support to The General Theory by adding illicit sexual behaviors to empirically tested analogous behaviors.

When opportunity is added as an independent variable both self-control and opportunity are strong predictors of the likelihood of participation in crime/delinquency

or illicit sexual behaviors, but not the number of sexual partners. Another contribution of this research to self-control theory as well as research on deviance is the testing for a displacement effect. As participation in crime/delinquency increased, I hypothesized illicit sexual behaviors decreased. However, this did not occur. Instead, behaviors covaried positively. This research supports the assertion of Gottfredson and Hirschi that there is no displacement effect. In other words, as crime/delinquency illicit sexual behaviors decreases.

This research makes a significant research contribution by exploring opportunity and whether there was an interactive effect by combining self-control and opportunity. Analyses indicate there is no interactive effect, at least for this sample. Future research might explore the idea of ubiquitous behaviors where opportunity is always present.

The findings for the different races were also interesting. By dividing the sample into sub samples, I was able to explore the relationships between the variables and detect variations. Specifically, it was noteworthy that self-control was not a good indicator of deviance for the blacks in this sample. This is a significant finding since it suggests there may be lifestyle differences between races or perhaps cultural modes of socialization unaccounted for by self-control theory, and which have not been explored. It would be prudent to consider research that explores the relationship of race and measures of self-control seeking to predict measures of self-control that are predictive across all populations similarly.

This research has made several significant contributions to the literature on self-control theory as well as to the study of deviance. Admittedly, these findings are limited by the sample as to their generalizability. My interpretation of the results on race is a

rather significant finding and is problematic for self-control theory since the theory purports to explain all criminal behavior yet does not work equally well. Past research and theory, for example, suggests that the context in which the individual resides affects the availability of activities (Bursik and Grasmick 1992; Shaw and McKay 1942, Cloward and Ohlin 1960, Merton 1968). If there are cultural modes of socialization or lifestyle differences then clearly self-control theory is not a general theory as it is currently presented. However that does not negate the usefulness of self control theory. Rather, it suggests we may need to pursue additional research in an attempt to better understand the relationship between crime/delinquency and a variety of analogous behaviors as they relate to self-control and opportunity among different groups. These findings encourage the consideration of several issues. For example, is would be prudent to replicate this research using a true random sample to first ascertain if these findings are consistent? Next it is important to explore whether there are there are other measures of self-control that are more valid cross culturally? If lifestyle affects crime/delinquency and illicit sexual behaviors, we need to identify what those variables are and learn how they affect self-control as well as social control mechanisms. Of course, it may be that my findings in the analyses by race imply an artifact of the measure utilized. Certainly my findings strongly suggest the need for more research on this issue.

Additionally, I encourage social scientists to further explore how opportunity affects deviance. I would expect those with lower levels of self-control to have higher perceptions of opportunity than those with higher levels of self-control due to short sightedness. Finally, as Felson (1998) suggests, we should further our understanding of target hardening not only through environmental design but also through social control

mechanisms, including social programs aimed at increasing self-control and decreasing opportunity.

Policy Implications

For many years the medical profession has conducted research on male populations and generalized the same results to female populations. The analogy for crime and criminality are similar. The correlates of crime have been used to describe the criminal, without effectively addressing the root(s) of criminality. Likewise the correlates of deviance have been utilized to describe the deviant. This research supports the idea that males and females are not alike their propensity to engage in crime/delinquency or illicit sexual behaviors. Furthermore, self-control as currently measured is not predictive across all cultures. While the causes of deviant behaviors may well rest in low self-control, the solutions to change those behaviors may vary.

The divide between criminology and the criminal justice system suggests there is at some level, a failure to incorporate knowledge from both arenas. As Gottfredson and Hirschi (1990) suggest, deterrence, incapacitation, rehabilitation and retribution do not work. Perhaps it is time to invest in prevention programs, and hold constant the number of correctional facilities.

If in fact self-control is the root of deviant behaviors, as Gottfredson and Hirschi assert, we need to encourage programs aimed at improving parenting skills such that the basic guidelines for promoting self-control are mastered. For youth the development and funding of youth prevention programs aimed at promoting and supporting increased levels of self-control in our youth (toddlers to adolescence) are necessary. The heaviest emphasis for these program would be for youths from toddler to age six or seven.

For example, in the state of Oklahoma, public schools are nine-month programs with summers off for the majority of students K-12th grade. This school schedule evolved from an agrarian period where youths were needed on the farms to assist in farm work and harvest. We are no longer an agrarian society; rather we are an evolved technological society. Extending the school year and re-organizing semester academic schedules to include empirically grounded methods for developing increased measures of self-control is a prevention start. In addition, a change in school schedules to approximate parental work schedules, and changes in parental work schedules to better accommodate a family focused lifestyle would be advisable.

By asserting that self-control is a product of socialization instilled by our parents at a very young age, we are assuming that while there are varying measures of self control among individuals, that self-control is alike across populations. My findings suggest this may not be entirely valid. Thus, in the development of policies to produce higher self-control, racial differences may need to be addressed.

When I began this research, I hoped to provide empirical research testing some of the assertions of self-control theory on an analogous behavior not previously tested. In the process, I was fortunate to make several contributions to the body of research on self-control theory and to the field of criminology as well as raising questions for future research. In the end, the project provided some clear policy implications whereby this empirical research may be applied.

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Table 1: Correlation Matrix of Self-Control Items

	I1	I2	I3	I4	S1	S2	S3	S4	R1	R2	R3	R4	P1	P2	P3	P4	C1	C2	C3	C4	T1	T2	T3	T4
Impulsivity 1	1.000																							
Impulsivity 2	.300	1.000																						
Impulsivity 3	.320	.379	1.000																					
Impulsivity 4	.279	.474	.484	1.000																				
Simple Tasks 1	.184	.356	.370	.304	1.000																			
Simple Tasks 2	.135	.279	.296	.310	.521	1.000																		
Simple Tasks 3	.126	.210	.260	.283	.435	.320	1.000																	
Simple Tasks 4	.154	.236	.190	.246	.517	.450	.466	1.000																
Risk 1	.171	.116	.157	.053	-.069	-.087	-.045	-.131	1.000															
Risk 2	.297	.184	.240	.121	.014	-.040	-.011	-.062	.654	1.000														
Risk 3	.260	.332	.408	.327	.176	.146	.051	.046	.362	.538	1.000													
Risk 4	.273	.355	.342	.343	.154	.164	.164	.034	.263	.388	.527	1.000												
Physical Activity 1	.209	.204	.210	.200	.179	.059	.179	.118	.205	.281	.264	.344	1.000											
Physical Activity 2	.225	.238	.219	.141	.112	.031	.119	.096	.273	.281	.223	.263	.564	1.000										
Physical Activity 3	.182	.139	.165	.093	.166	-.020	.160	.083	.198	.255	.164	.240	.543	.594	1.000									
Physical Activity 4	.183	.084	.094	.091	-.088	-.142	.008	-.119	.243	.255	.136	.264	.405	.412	.416	1.000								
Self-Centered 1	.075	.119	.222	.253	.128	.142	.195	.182	.025	.076	.181	.103	.106	.114	.128	.137	1.000							
Self-Centered 2	.056	.170	.216	.216	.107	.084	.104	.092	-.034	.035	.142	.144	.060	.028	-.034	.039	.343	1.000						
Self-Centered 3	.007	.124	.199	.194	.123	.152	.169	.176	-.009	.035	.131	.150	.053	.028	-.031	.021	.327	.557	1.000					
Self-Centered 4	.129	.181	.266	.251	.191	.181	.141	.162	.004	.075	.240	.217	.091	.026	.017	.011	.490	.482	.507	1.000				
Temper 1	.161	.189	.188	.177	.164	.227	.086	.153	.016	.028	.155	.149	.082	.073	.019	.034	.171	.167	.173	.297	1.000			
Temper 2	.107	.206	.193	.160	.135	.137	.064	.103	.053	.117	.201	.171	.084	.077	.046	.078	.256	.281	.316	.326	.499	1.000		
Temper 3	.139	.117	.155	.173	.144	.166	.109	.103	.037	.097	.139	.142	.053	.069	.036	.061	.178	.236	.243	.252	.489	.609	1.000	
Temper 4	.101	.133	.204	.120	.201	.204	.134	.205	.033	.011	.088	.084	.111	.083	.083	.007	.238	.155	.194	.199	.470	.464	.504	1.000

Table 2: Low Self Control - Means, Standard Deviations, and Factor Loadings

Items	Mean	Std. Deviation	Factor Loadings
Impulsivity Component			
I often act on the spur of the moment without stopping to think.	2.45	.70	.451
I don't devote much thought and effort to preparing for the future.	3.17	.68	.574
I often do whatever brings me pleasure here and now, even at cost of some distant goal.	2.86	.69	.632
I'm more concerned with what happens to me in the short run than in the long run.	3.05	.64	.596
Simple Tasks Component			
I frequently try to avoid projects that I know will be difficult.	2.69	.68	.511
When things get complicated, I tend to quit or withdraw.	3.03	.64	.434
The things in life that are easiest to do bring me the most pleasure.	2.78	.66	.419
I dislike really hard tasks that stretch my abilities to the limit.	2.94	.66	.403
Risk Seeking Component			
I like to test myself every now and then by doing something a little risky	2.10	.67	----
Sometimes I will take a risk just for the fun of it.	2.26	.74	.409
I sometimes find it exciting to do things for which I might get in trouble.	2.64	.79	.574
Excitement and adventure are more important to me than security	3.02	.69	.571
Physical Activities Component			
If I had a choice, I would always do something physical than mental.	2.48	.79	.479
I almost always feel better when I am on the move than when I am sitting and thinking.	2.24	.76	.445
I like to get out and do things more than I like to read or contemplate ideas.	2.07	.76	----
I seem to have more energy and a greater need for activity than most other people at my age.	2.47	.76	----
Self-Centered Component			
I try to look out for myself first, even if it means making things difficult for other people.	2.88	.70	.459
I'm not very sympathetic to other people when they are having problems.	3.26	.71	.411
If things upset people, it's their problem, not mine.	3.21	.64	.431
I will try to get things I want even when I know it's causing problems for other people.	3.20	.65	.526
Temper Component			
I lose my temper pretty easily.	2.94	.83	.467
Often when I am angry at people I feel more like hurting them than talking to them about why I am angry.	3.07	.82	.512
When I'm angry, other people better stay away from me.	2.94	.82	.468
When I have a serious disagreement with someone, it's usually hard for me to talk calmly about it without getting upset.	2.68	.83	.448

All Likert Type Items are answered on a four-point scale of: (1) strongly agree, (2) agree, (3) disagree or (4) strongly disagree. Factor analysis extraction method: principle component analysis, forced one factor solution.

Table 3: Inter-Item Correlation Matrix - Self-Control Items by Subscale

	I1	I2	I3	I4	S1	S2	S3	S4	R1	R2	R3	R4	P1	P2	P3	P4C1	C2	C3	C4	T1	T2	T3	T4
Impulsivity 1	1.000																						
Impulsivity 2	.302	1.000																					
Impulsivity 3	.326	.385	1.000																				
Impulsivity 4	.276	.479	.479	1.000																			
Simple Tasks 1					1.000																		
Simple Tasks 2					.520	1.000																	
Simple Tasks 3					.428	.318	1.000																
Simple Tasks 4					.508	.446	.475	1.000															
Risk 1									1.000														
Risk 2									.654	1.000													
Risk 3									.360	.536	1.000												
Risk 4									.265	.383	.527	1.000											
Physical Activity 1													1.000										
Physical Activity 2													.570	1.000									
Physical Activity 3													.533	.584	1.000								
Physical Activity 4													.409	.412	.426	1.000							
Self-Centered 1																	1.000						
Self-Centered 2																	.327	1.000					
Self-Centered 3																	.326	.550	1.000				
Self-Centered 4																	.496	.476	.508	1.000			
Temper 1																				1.000			
Temper 2																				.501	1.000		
Temper 3																				.484	.612	1.000	
Temper 4																				.460	.472	.488	1.000

Cronbach Alpha's for impulsivity .7054, simple task .7654, risk .7690, physical activity .7929, self centeredness .7638, temper .8018

Table 4: Opportunity - Means, Standard Deviations and Factor Loadings

Items	Mean	Std. Deviation	Factor Loadings
How many opportunities have you had in the past two years to take something worth less than $20 that did not belong to you?	2.83	1.42	.850
How many opportunities have you had in the past two years to accomplish your goals by threatening to use force against another person?	1.90	1.13	.829
How many opportunities have you had in the past two years to get something you could not obtain otherwise by distorting the truth or falsely representing something?	2.58	1.30	.863

Likert type items answered on a five-point scale of: (1) Never, (2) Seldom, (3) Sometimes, (4) Often or (5) Always. Principle component analysis.

Table 5: Correlation Matrix - Opportunity Items

Items	Z155	Z156	Z157
Z155 How many opportunities have you had in the past two years to take something worth less than $20 that did not belong to you?	1.000		
Z156 How many opportunities have you had in the past two years to accomplish your goals by threatening to use force against another person?	.544	1.000	
Z157 How many opportunities have you had in the past two years to get something you could not obtain otherwise by distorting the truth or falsely representing something?	.614	.572	1.000

Cronbach's Alpha .8034

Table 6: Crime/Delinquency - Means, Standard Deviations, and Factor Loadings

Items	Mean	Std. Deviation	Factor Loadings
Break into a building to look for something to steal or to steal something?	1.97	.18	.325
Steal or try to seal a motor vehicle?	1.99	.01	.171
Hit or struck one of your parents?	1.98	.13	.125
Use a weapon to get something from a person?	1.99	.01	.007
Run away from home?	1.98	.12	.003
Hurt someone badly enough so they needed bandages or a doctor?	1.94	.23	.417
Damage property on purpose?	1.88	.32	.368
Steal something worth less than $50?	1.82	.39	.258
Steal something worth more than $50?	1.94	.24	.262
Cut school/class?	1.24	.43	.005
Get in trouble at school for fighting or violating rules?	1.91	.29	.197
Gamble illegally on a sporting event?	1.89	.31	.183
Get in a fight to gain respect from friends?	1.98	.14	.283
Get in a fight to gain respect from others (strangers)?	1.98	.13	.265
Get in a fight to protect yourself?	1.85	.35	.458
Get in a fight to protect others?	1.86	.35	.394

Extraction Method: Principle Component Analysis

Table 7: Illicit Sexual Behavior - Means, Standard Deviations, and Factor Loadings (2 components)

Items	Mean	Std. Deviation	Factored Component 1	Factored Component 2
I have had affairs outside of my primary relationship.	1.44	.82		.635
I have the urge to sexually expose myself, cross dress, observe someone sexually or do sexual behaviors that could get me in trouble.	1.22	.63		.564
I worry that someone will find out about my sexual behavior or romantic relationships.	1.47	.92		.841
I read sexually explicit books.	1.50	.88	.828	
I masturbate.	2.10	1.29	.816	
I think sexually explicit thoughts more than most people.	2.02	1.10	.763	

Factor Analysis Extraction Method: Principle Component Analysis
Factor Analysis Rotation Method: Varimax with Kaiser Normalization

Table 8: Correlation Matrix – Illicit Sex (SexDev1) Items

Items	Z168	Z169	Z167
Z168 I read sexually explicit books	1.000		
Z169 I masturbate	.521	1.000	
Z167 I think sexual thoughts more than most people	.521	.516	1.000

Cronbach's Alpha .7643

Table 9: Correlation Matrix – Illicit Sex (SexDev2) Items

Items	Z163	Z164	Z165
Z163 I have had affairs outside of my primary relationship.	1.000		
Z164 I have the urge to crossdress, observe someone sexually, or do sexual behaviors that could get me in trouble.	.196	1.000	
Z165 I worry that someone will find out about my sexual behavior or romantic relationships.	.255	.294	1.000

Cronbach's Alpha .4977

Table 10: Demographic variables:
Race, Gender, Age and Parental Income (percentage), Number of Sexual Partners (standard deviation)

Race	**White**	**Black**	**Other**	**Missing**	**Total**
	497	74	93	4	668
	(74.4)	(11.1)	(13.9)	(0.6)	(100)

Gender	**Male**	**Female**	**Missing**	**Total**
	287	378	3	668
	(43)	(57)	(> .05)	(100)

Age	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**Total**
	134	270	138	62	28	18	7	11	668
	(20.1)	(40.4)	(20.7)	(9.3)	(4.2)	(2.7)	(1.0)	(1.6)	(100)

Parental Income		
	Less than $15,000	44
		(6.6)
	$15,000 to 29,999	77
		(11.5)
	$30,000 to 44,999	124
		(18.6)
	$45,000 to 59,999	116
		(17.4)
	$60,000 or more	287
		(43)
	Missing Cases	20
		(3)

Number of Sexual Partners (before college)	Mean	2.65
		(7.25)

Table 11: Correlations of Theoretical Variables:
Delinqstd, sexdev1, sexdev2 and number of sexual partners.

	DelinStd	SexDev1	SexDev2	Number of Sexual Partners
DelinqStd	1.000			
SexDev1	.375***	1.000		
SexDev2	.294***	.382***	1.000	
Number of Sexual Partners	.124***	.080	.156***	1.000

*** Correlation is significant at the $p \leq 0.001$ level (2 tailed).

Table 12: Multivariate Regression – Crime/Delinquency and Illicit Sexual Behaviors (standardized coefficients in parenthesis)

	Delinstd	SexDev1	SexDev2	# Sexual Partners
Self Control	- .009***	- .005**	- .004***	- .003
	(- .306)	(- .226)	(- .205)	(- .042)
Age	- .003	- .004	.002	.690***
	(- .044)	(- .054)	(- .003)	(.346)
Gender	-1.216***	-2.131***	- .209	- .182
	(- .207)	(- .418)	(- .049)	(- .012)
Parental Income	- .005	- .135	- .006	- .142
	(- .024)	(- .069)	(- .035)	(- .025)
Black	.737*	- .108	.838	3.623***
	(.079)	(- .013)	(.122)	(.153)
Other	.148	.327	.652	.002
	(.017)	(.044)	(.107)	(.001)
R^2	.167	.267	.071	.139

* p≤ .05, **p≤.01, ***p≤.001

Table 13: Multivariate Regression – Crime/Delinquency and Illicit Sexual Behaviors (standardized coefficients in parenthesis)

	Delinstd	SexDev1	SexDev2	# Sexual Partners
Self Control	- .007***	- .005***	- .004***	- .003
	(- .263)	(- .218)	(- .183)	(- .034)
Opportunity	.474***	.183***	.147***	.158
	(.410)	(.181)	(.182)	(.051)
Age	- .001	.003	.000	.781***
	(- .017)	(.049)	(.006)	(.366)
Gender	- .731***	-1.998***	- .000	.150
	(- .124)	(- .388)	(- .000)	(.010)
Parental Income	- .004	- .146*	- .005	- .202
	(- .017)	(- .074)	(- .035)	(- .033)
Black	.925**	-.152	.890***	3.848***
	(.099)	(- .019)	(.135)	(.159)
Other	.286	.396	.634**	- .004
	(.034)	(.053)	(.107)	(.002)
R^2	.324	.309	.095	.152

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 14: Multivariate Regression – Crime/Delinquency and Illicit Sexual Behaviors (standardized coefficients in parenthesis)

	Delinstd	SexDev1	SexDev2	# Sexual Partners
Self Control	- .007***	- .005***	- .004***	- .003
	(- .263)	(- .217)	(.183)	(- .032)
Opportunity	.473***	.183***	.147***	.156
	(.409)	(.181)	(.182)	(.050)
Interaction	- .000	.003	-.000	-.002
(Opportunity * S/C)	(- .064)	(.027)	(- .029)	(- .081)
Age	- .002	.004	.000	.769***
	(- .021)	(.051)	(.004)	(.360)
Gender	- .717***	-2.004***	- .000	.206
	(- .122)	(- .389)	(- .001)	(.013)
Parental Income	- .004	- .144*	- .006	- .223
	(- .020)	(- .073)	(- .036)	(- .037)
Black	.954**	- .164	.900***	3.931***
	(.102)	(- .020)	(.136)	(.162)
Other	.245	.410	.620**	- .261
	(.029)	(.055)	(.105)	(- .012)
R^2	.327	.308	.094	.156

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 15: Multivariate Regression – Illicit Sexual Behaviors, Displacement (standardized coefficients in parenthesis)

	SexDev1	SexDev2	# Sexual Partners
Self Control	- .004***	- .003***	- .000
	(- .174)	(- .135)	(.008)
Opportunity	.113**	.009*	- .003
	(.112)	(.105)	(- .011)
Crime/Delinquency	.144***	.134***	.388**
	(.165)	(.190)	(.148)
Age	.004	.006	.785***
	(.054)	(.011)	(.368)
Gender	-1.863***	.010	.388
	(- .363)	(.023)	(.025)
Parental Income	- .133	- .006	- .179
	(- .067)	(- .036)	(- .030)
Black	- .268	.759**	3.559***
	(- .033)	(.115)	(.147)
Other	.388	.577	- .108
	(.052)	(.097)	(- .005)
R^2	.321	.119	.165

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 16: Multivariate Regression – Crime/Delinquency by Race (standardized coefficients in parenthesis)

	(white) Model 1	(black) Model 2	(other) Model 3
Self Control	- .009*** (- .315)	- .000 (- .005)	- .009*** (- .307)
Age	- .004 (- .020)	.010 (.314)	- .209 (- .108)
Gender	-1.198*** (- .210)	-2.257* (- .328)	- .685 (- .108)
Parental Income	- .138 (- .056)	- .002 (- .009)	- .315 (- .059)
R^2	.166	.048	.361

* p≤ .05, **p≤.01, ***p≤.001

Table 17 Multivariate Regression – SexDev1by Race
(standardized coefficients in parenthesis)

	(white) Model 1	(black) Model 2	(other) Model 3
Self Control	- .005***	- .006*	- .005*
	(- .221)	(- .277)	(- .202)
Age	.007	- .003	.180
	(.039)	(- .016)	(.106)
Gender	-2.108***	-1.929**	-2.533***
	(- .429)	(- .318)	(- .426)
Parental Income	- .156	- .143	- .188
	(- .074)	(- .084)	(- .087)
R^2	.273	.187	.284

* p≤ .05, **p≤.01, ***p≤.001

Table 18 Multivariate Regression – SexDev2 by Race
(standardized coefficients in parenthesis)

	(white) **Model 1**	(black) **Model 2**	(other) **Model 3**
Self Control	- .005***	- .001	- .007*
	(- .233)	(- .080)	(- .271)
Age	- .003	.009	- .191
	(- .026)	(052)	(- .115)
Gender	- .148	- .686	.219
	(- .039)	(- .157)	(.038)
Parental Income	- .005	- .001	- .330
	(- .032)	(- .010)	(- .158)
R^2	.053	-.033	.055

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 19: Multivariate Regression – Number or Sexual Partners by Race (standardized coefficients in parenthesis)

	(white) **Model 1**	(black) **Model 2**	(other) **Model 3**
Self Control	- .005*** (- .176)	.002 (- .060)	- .221*** (- .538)
Age	.312** (.156)	- .290 (- .087)	.188 (.065)
Gender	.397 (.068)	- .582 (- .062)	1.547 (.155)
Parental Income	- .145 (- .059)	- .000 (- .003)	- .515 (- .142)
R^2	.045	- .060	.276

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 20: Multivariate Regression – Crime/Delinquency by Race
(standardized coefficients in parenthesis)

	(white) Model 1	(black) Model 2	(other) Model 3 [a]
Self Control	- .008*** (- .279)	- .001 (- .048)	- .130*** (- .485)
Opportunity	.416*** (.367)	.742*** (.588)	.449*** (.371)
Age	- .001 (- .005)	.135 (.055)	- .120 (- .062)
Gender	- .673** (- .118)	-1.549* (- .225)	- .502 (- .079)
Parental Income	- .009 (- .038)	- .003 (- .013)	- .008 (- .035)
R^2	.288	.396	.481

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

[a] self-control * opportunity (interaction) race as other b= ˙.003, β= ˙.278 ($p \leq .001$), R^2 =.555

Table 21: Multivariate Regression – SexDev1 by Race
(standardized coefficients in parenthesis)

	(white) Model 1	(black) Model 2	(other) Model 3
Self Control	- .006***	- .006*	- .002
	(- .217)	(- .290)	(- .101)
Opportunity	.164***	.005	.371***
	(.166)	(.058)	(.325)
Age	.006	- .003	.342*
	(.036)	(- .017)	(.196)
Gender	-1.964***	-1.865**	-2.481***
	(- .392)	(- .366)	(- .421)
Parental Income	- .167	- .118*	- .188
	(- .077)	(- .069)	(- .089)
R^2	.311	.172	.401

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 22: Multivariate Regression – SexDev2 by Race
(standardized coefficients in parenthesis)

	(white) Model 1	(black) Model 2	(other) Model 3
Self Control	- .004*** (- .189)	- .001 (- .078)	- .007** (- .325)
Opportunity	.155*** (.211)	.000 (.010)	.109 (.104)
Age	- .002 (- .013)	.008 (.049)	-.239 (- .148)
Gender	.006 (.016)	- .570 (- .131)	.649 (.121)
Parental Income	- .006 (- .036)	- .001 (- .010)	- .212 (- .108)
R^2	.080	- .065	.098

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 23: Multivariate Regression – Number of Sexual Partners by Race (standardized coefficients in parenthesis)

	(white) Model 1	(black) Model 2	(other) Model 3
Self Control	- .005** (- .166)	- .003 (- .073)	- .227*** (- .549)
Opportunity	- .000 (- .003)	.371 (.218)	.003 (.014)
Age	.250* (.122)	- .288 (- .087)	.126 (.040)
Gender	.541 (.093)	- .110 (- .012)	1.659 (.159)
Parental Income	- .160 (- .064)	- .004 (- .013	- .446 (- .119)
R^2	.031	- .035	.267

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$