THE EFFECT OF SCHOOL DISCIPLINE ON STUDENTS' SOCIAL BONDS

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ABSTRACT

The criminalization of the school disciple process has led many researchers to question its effectiveness in decreasing delinquency in society. Some researchers have suggested that the exclusion of youths from school may actually have the unintended consequences of causing youth's criminality by removing them from the school. Aside from a youth's peers and family, the school is a crucial social institution to which individuals become enmeshed in adolescence. Youths learn prosocial values and norms in schools, and are oftentimes insulated from delinquent others. The purpose of this research is to explore the indirect effects of school disciple on youths' delinquency by examining their prosocial bonds to the school.

The complex nature of this research requires a multi-wave, secondary data source and several analytical techniques, including descriptive statistics, zero-order correlations, and multivariate linear regression. By utilizing data originally collected from the first two waves of the National Longitudinal Study of Adolescent Health (Add Health), these analyses isolate eighth grade students as the population of interest. After controlling for several background variables that are shown by previous research to influence youths' school social bonds and delinquency, the analyses did not find school disciplinary actions or school social bonds to be a significant predictor of delinquency. Despite these null findings, several other variables in the models did predict both school social bonds and delinquency.

Ultimately, this methodology seeks to accomplish three things: (1) bridge the gap between social control and school discipline literature (2) contribute to the delinquency research by demonstrating the factors that predict both social bonds to the school and delinquency (3) and inform policymakers about the effects that school discipline has on weakening the social controls of educational institution.

The faculty listed below, appointed by the Dean of the College of Arts and Sciences have examined a thesis titled "The Effect of School Discipline on Students' Social Bonds," presented by Samuel Joseph Alexander Scaggs, candidate for the Master of Science degree, and certify that in their opinion it is worthy of acceptance.

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CHAPTER ONE

INTRODUCTION

Though punishment connotes different meanings for people, one of the state's goals in imposing force is to maintain social order. Like columns bolstering the platform of society, social institutions represent important social control mechanisms to which people become tethered. Criminologist, Travis Hirschi, adamantly asserted that the genesis of the delinquency causal model is the individual's social bonds. Moreover, a deficit in social bonds resulted in the liberation of a delinquent, while tightly bound individuals hold their aberrant behavior at bay (Hirschi, 1969). According to the theory, the following four elements were indicative of an individual's social bonds to conventional society: attachment to prosocial others, commitment to conformity, involvement in conventional activities, and belief in the value or legitimacy of convention. Unfortunately, this model did not leave much room for speculation regarding other causal factors such as punishment. While the original theory explained conformity to conventional society, subsequent researchers have tested the validity of this theory in explaining conformity to single social institutions. Deserving of attention, though, is that various social institutions have differential impact on people depending on their age. The following study is primarily concerned with the educational institution.

The Application of Social Control Theory to the School

Since Hirschi's (1969) study of delinquent boys, subsequent researchers have concentrated on the school as an important mechanism of social control (Jenkins, 1997; Stewart, 2003). Of notable significance is the schools ability to control an individual's behavior regardless of other significant background factor's influences. In other words, while the school represents one of several social institutions to which youths become connected, its

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effect in decreasing crime is independent of the others. For instance, the school can have an independent inhibitory effect on delinquency regardless of the youth's family structure (Wade & Brannigan, 1998). As such, the school is an important arena for reducing delinquency by means of delinquency prevention programs (Gottfredson, 2001). Despite the positive findings of the school environment as a site for positive intervention, an individual only gains from such programs if they are actually present in the school. Indeed, those who are more likely to need delinquency intervention (i.e., those individual with apparent discipline issues) are often excluded from school via out-of-school suspension and expulsion.

Punishment and the Breakdown of Social Control in the Educational Institution

Unfortunately, the current school climate in America is ubiquitously characterized by disciplinary policies which remove students, who have violated rules, from the school. The opportunities to correct mistakes through teaching have been supplanted by school exclusion. Unfortunately, not every school district in the United States provides alternative school options for those students whom are removed from the school for an entire school year. The process of receiving school discipline may unintentionally impact how the students attach to the school and school agents, aspire to achieve academically, and perceive school rules and safety. Important social ties to the institution may become severed, and enable youths to commit more crime.

The Present Study

Based on the accumulation of previous research, the present study utilizes the first two waves of the Longitudinal Study of Adolescent Health in an attempt to fill the gap between school discipline and social control literature. Specifically, this research will determine if the school, as a social institution, has the ability to hold youths in check from

their delinquent predispositions. This research will also explore the effect(s) of school-based discipline on students' enmeshment in the educational institution. Near the end of the literature review, the specific research questions and hypotheses will be stated. Following the literature review, the methodology of the study will lay out the procedures and analytical techniques used in the current research endeavor. Importantly, the methodological limitations of the present research will be acknowledged as well.

The results section will illustrate and elucidate the findings of the current methodological inquiry. An investigation of this magnitude will require an explanation of the context, zero-order correlations between the variables, and multiple predictive models to examine the relationship between the independent and dependent variables. In order to better understand the various variables in the study, they will be contextualized via frequency distributions and percentages. The zero-order correlations will illustrate the unrestrained relationships between variables in the study. These zero-order relationships should be used to contrast the results of the (OLS) multivariate linear regression models. These multivariate linear regression models will simultaneously determine the relationship between the independent variables and the dependent variable and control for other independent variables. The findings, especially the results from the multivariate analyses, will allow the null hypotheses to be retained or rejected. In either scenario, the results will be mentioned briefly for each model, and then expounded in the Discussion chapter. This final chapter will interpret the results, acknowledge the limitations of the research, provide policy implications, and discuss the possibilities for future research.

CHAPTER TWO

LITERATURE REVIEW

During the1980s to the early 1990s, youth violence fueled the fires of political upheaval and educational reform. As juvenile crime rates climbed in the mid-1980s, public attitudes towards children changed dramatically. What were considered blameless children in need of the government's guardianship became known as juvenile "super-predators" (Bennett, DiIulio, & Walters, 1996). As a result of the clamor over rising juvenile crime rates, American schools joined the nation's "Get Tough" bandwagon by implementing disciplinary policies which touted deterrence and incapacitation. Under the umbrella of these disciplinary policies, school officials utilized suspensions and expulsions to address school misconduct. Under the Gun Free School Act (GFSA) of 1994, students were compelled to not carry firearms on school grounds under the threat of expulsion. Now, offenses punishable under school Zero Tolerance policies have expanded to include several other forms of misconduct.

The implementation has increased drastically on a local and national level since the passage of the GFSA of 1994. Specifically, Chicago schools experienced a 51 percent increase in suspensions and a 5000 percent increase in expulsions, increasing "from 21 in 1994 – '95 to 668 in 1997 – '98" (Michie, 2000, p. 24). In Connecticut's public schools, Gordon (2001) found that the suspension rate for kindergartners nearly doubled from 463 to 901 between the 2001-'02 to 2002- '03 school years. Currently, Verdugo and Glenn (2002) found that 90 percent of public school districts and 50 states in America have some form of a Zero Tolerance policy in their schools. Based on the National Center for Education Statistics in 2005, Devoe et al. (2004) found that in the "1.1 million disciplinary actions taken by schools in 1999-2000 school year, 83 percent involved a suspension of up to five or more

days" (as cited in Cornell, 2006, p. 8). Indeed, exclusionary discipline in schools is being used at much higher rates now than in the early 1990s.

Recently, school disciplinary policies have been met with public and political recoil as a result of the scant evidence bolstering their efficacy in reducing school misconduct and their negative, perhaps unintended, consequences for the students. While some researchers suggest that mass disciplinary policies simply do not have a deterrent effect (Chen, 2008; Schoonover, 2008; Verdugo & Glenn, 2002), other researchers assert that in-school and out-of-school suspensions do not dissuade students' future misconduct (Nichols, 2004). Researchers from various disciplines have also proposed that suspensions and expulsions disproportionally impact minorities (Kupchik, 2009). Moreover, some research has illustrated the link between students affected by these policies, negative educational outcomes, and subsequently, involvement in the criminal justice system. However, a neglected area in the current school disciplinary policy debate is the ramifications of suspensions and expulsions on school social bonds. Because the school is an important social institution that compensates for socialization deficits in the family institution, exclusionary school policies may be even more damning for youths (De Li, 1999). Assuming that students are socially bonded to the educational institution (i.e., the school), punishments of this magnitude are likely to have an adverse effect on the student's further enmeshment in the social institution, and subsequently, involvement in delinquency.

The following research is designed to accomplish three main objectives. The first objective is to bridge the gap between social control theory and school discipline literature. Second, the research seeks to test the indirect effect of suspensions on delinquency, through students' school social bonds, while controlling for various demographic variables. Finally,

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the research will allow for a longitudinal analysis of the effects of suspensions on school social bonds, thereby strengthening causal inference. In order to understand the necessity of this research, though, several areas must be explored more thoroughly in the following literature review. An important first step is examining the context and societal response to juvenile crime. Because the current objectives focus on the response to school misconduct, focusing on the school discipline literature base is a logical second step. The paramount significance of the school as an institution of social control and school discipline in maintaining social control will be examined in the third and fourth sections. In the next section, pertinent theories will be briefly summarized as a means to explain the best method of testing the effect of school discipline on the school's ability to impose social control. In the final section, the link between school discipline and social control research will be established, so as to bolster the necessity of the present study.

Juvenile Violence Context

From the mid-1980s to the early 1990s, several factors substantiated the complexities of the juvenile crime problem. One of the most important factors that impacted juvenile-related violence in urban settings was the overall evolving drug market (Blumstein, 1995; Cork, 1997; Reiss and Roth, 1993). Youths were simply carrying guns and joining gangs to protect themselves and their lucrative businesses. A notable caveat regarding the interpretation of statistical inclines is that the reported amount of juveniles involved in the commission of crimes, during any period, may be misleading. The reality is that 'kids' are more likely than adults to engage in crime while in groups (Cook & Laub, 1998, 2002; Zemring, 1981). Naturally, the incidence of arrests is going to appear larger for juveniles than for adults.

Strongly associated with drug market violence, firearms also played a substantial role in the increase of juvenile crimes. Zemring (2005) noted that while "juvenile homicides committed by all means other than guns remained relatively stable throughout the 1980s and the early 1990s…the rate of gun killings resulting in an arrest of an offender under 18 years of age more than tripled over a nine-year period" (p. 175). Others commented on the direct contribution of guns as a catalyst for increases in the commission of robberies and homicides in the mid-1980s (Cook & Laub, 1998). During this same period, offenders between the ages of 14 and 17 committed a larger proportion of homicides than adult offenders (Zemring, 1996). However, as the drug market changed in the early 1990s, crime plateaued and then decreased (Cook and Laub, 2002). While juvenile gun crimes did decline in the mid-1990s, a rash of school shootings refueled public apprehension regarding juveniles.

The media, political figures, and criminologists were instrumental in exacerbating the public's fear of juvenile crime and response to juvenile crime. First, the symbolic attitude towards juveniles changed for the worse as politicians and criminologists bred moral panics of a new breed of "superpredators". In reaction to the violence, crime, and 'immorality' of the 1980s, some researchers hypothesized that as the proportion of youth increased in the near future, Americans would witness an onslaught of violent juvenile criminals (Bennett, DeIulio, & Walters, 1996). Based on his interpretation of earlier research, DeIulio (1996) estimated that 270,000 additional "superpredators" would exist among the general population by the year 2010. Other colorful depictions of the forecasted advent of juvenile criminals included "a Teenage Time Bomb, "bloodbath" (Zoglin, 1996) and "tsunami" (Estrich, 1996). Much to the "Superpredator" theorists' chagrin, juvenile crime never increased as they predicted. Indeed, Zemring (1998) uncovered that the research supporting DeIulio's (1996)

diagnosis of youth violence was flawed in two crucial ways. First, DeIulio based his theoretical assumptions on Wolfgang, Figlio, and Sellin's (1972) research on Philadelphia boys, which would circumscribe his implications to a single population during a particular time period. Additionally, Zemring noted that DeIulio mistakenly assumed that the six percent chronic offender group of boys, as found in Wolfgang, Figlio, and Sellin's (1972) research, are analogous to a violent, predatory group of boys. Despite the generalizability issues and errors in the 'Superpredator' theorists' assumptions, public perceptions of the nation's youth were remarkably and negatively altered. It was only a matter of time before the public's ill-informed notions of juvenile violence would trickle into the school environment and impact public ideals for school safety and discipline.

When juvenile homicides were in decline in the 1990s, the media began sensationalizing the uncommon phenomenon of school shootings. The media portrayed the handful of school shooting cases in the 1990s as an epidemic. Pointing to the horrific, yet atypical events at Columbine High School, former senator John Ashcroft blamed the juvenile justice system's leniency for these "killers in the classroom" and "predators on the playground" (Drizin, 2001, p. 19). Despite the fact that the school-based homicides involving children (ages 5-19) remained relatively the same between 1992 and 2001 (DeVoe et al., 2003), a vibrant call to "get tougher" in these institutions was budding. A popular response to the growing public fear of juvenile crime and school shootings was the implementation of wide-spread disciplinary policies (i.e., Zero Tolerance Policies).

Previous Research on School Disciplinary Policies and Punishment

Much of what consumes 'air-time' on television talk shows and news stations are the sensationalized individual cases of extreme punishment. One example is the seventeen-year-

old boy in Chicago, IL who projected a paper clip across the school cafeteria and unintentionally pierced the skin of a cafeteria worker. For punishment, the teenager was expelled from school, arrested, and charged with a misdemeanor. Another example is the twelve-year-old boy in Woonsocket, RI who was suspended for bringing a toy gun to school. Subsequently, the principal in this case believed that the discipline action sent a clear message to the students. A student in Colorado Springs, CO was suspended for violating the school district's Zero Tolerance Policy because she brought organic lemon drops to school and attempted to share it with her friends. In 1997, a twelve-year-old student in San Diego was expelled for physically retaliating against classmates because of their taunts regarding his weight (Skiba & Peterson, 1999). Media publicized cases demonstrate the extremes of these policies, but they do not indicate the negative consequences for students as a collective. While previous research has sparsely explored the positive aspects of school disciplinary policies, an extensive body of research has examined the negative or unintended consequences of these policies.

School-to-Prison-Pipeline

In one area of school discipline research, the "School-to-Prison-Pipeline" is the phenomenon in which school disciplinary policies disproportionately impact certain students in order to push them out of the school setting (Kupchik, 2009; Nicholson-Crotty, Birchmier, & Valentine, 2009; Skiba, Nardo, & Peterson, 2002; Taylor & Foster, 1986). Researchers suggest that minorities are one group disparately targeted by the school discipline policies. By collecting data at the county-level, Nicholson-Crotty, Birchmier, and Valentine (2009) found that 95 percent of Black students, as opposed to 85 percent of White students, were issued out-of-school-suspensions for weapons misconduct. Alternative-disciplinary actions

were granted to White students more often than Black students. Also, African American students are subjectively singled out and punished for less serious offenses (Christle, Jolivette, & Nelson, 2005; Costenbader & Markson, 1998; Skiba et al., 2000). Moreover, there is no evidence to suggest that African American students even break more school rules or engage in violent behavior than Whites (Skiba & Sprague, 2008).

In addition to racial and ethnic minority students, other student characteristics put them at risk for being suspended or expelled. For instance, males are more likely than females to be suspended (Kirk, 2009; Skiba et al., 2000; Wallace, 2008; Wu et al., 1982). In their study, Krezmien, Leone, and Archilles (2006) found that suspensions are more likely to be issued to students with behavioral, emotional, and learning disabilities than students without these disabilities. Additionally, students who came from low socioeconomic status and households with an unemployed father received suspensions and expulsions at higher rates (Achilles, McLaughlin, & Croninger, 2007; Raffaele-Mendez, 2003; Skiba, Nardo, & Peterson, 2002; Wu et al., 1982).

Another claim is that zero tolerance policies are utilized to push certain underperforming students out of school as a result to meet standards demanded by No Child Left Behind (NCLB) policies. Simply, as pressure is applied to schools or school districts to meet rigid examination standards in order to avoid monetary sanctions, school officials will attempt to purge the school of underperformers through suspensions and expulsions. As researchers have shown, there is a clear link between underachievement and suspensions (Arcia, 2006). Specifically, Arcia (2006) found that presuspension reading achievement was negatively correlated with suspension rates. Additionally, the author established that those

students suspended at a higher frequency dropped out at higher rates than students with fewer suspensions.

Deterrent Effect

Another concern is that school disciplinary practices are supposed to prevent youth from committing crimes in school; however, they actually lack a deterrent effect, and may even increase crime (Raffaele-Mendez, 2003; Schoonover, 2008). One reason for the inadequate deterrent effect is that in some states, definitions and descriptions of the school's Zero Tolerance Policy were not included in the student codes of conduct. For instance, Schoonover (2008) found in his study of Florida student codes of conduct that out of 67 school districts, only "29 school districts included a definition of *Zero Tolerance*" (p. 83). Additionally, some of the districts did not explicitly state the zero tolerance policy against guns, knives, and drugs in their student codes of conduct. The issue with these rule exclusions is that students are not going to be deterred from breaking school rules if the rules are not explicitly posted.

Another issue is that administrators of school districts do not fully understand these policies, opening the possibility of biased discretion. For example, Dunbar and Villarruel (2002) found that when the administrators did not understand the disciplinary policies, the factors that influenced their discipline responses "included the age and grade of a student, whether a student was a first-time offender, whether the offense truly posed a threat to school safety, or whether there was a parent at home to provide support for the principal who made a discipline decision" (p. 101). Unsurprisingly, these researchers also found through a policy analysis that many of the administrators had a socially constructed view of African Americans and Latino students. The perception that more security and punishment is needed

to deter minority students because they are more likely to reside in crime stricken areas. The implication of this subjective interpretation is that students of color should be treated as criminals, thus increasing school security and imposing more severe forms of school discipline (Dunbar & Villarruel, 2002). Additionally, Skiba and Sprague (2008) found that other factors that influenced decision-making regarding disciplinary actions included "the quality of school governance, demographics, and staff attitudes" (p. 2). Despite the goals of Zero Tolerance Policies, research suggests that administrators arbitrarily enforce them.

Finally, some researchers (Nickerson & Martin, 2008) have found that Zero Tolerance Policies are associated with increases in academic disengagement and future disciplinary actions. A steadily increasing body of research has found that suspensions and expulsions are strongly correlated with a student dropping out of school. Nickerson and Martin (2008) examined four different approaches to addressing school violence and found that security/enforcement approaches were significantly related to school disorder and disruptions. Since one of the goals of such punishment is to deter students from engaging in future misconduct, research needs to discern whether these practices yield desirable or intended results.

Informal and Formal Social Control in the Educational Institution

The educational institution plays a fundamental role in regulating criminality by socializing students while they are away from their parents, protecting students from delinquent others, and instilling social control (Gottfredson, 2001; Hirschi, 1969; Sampson & Laub, 1993). While parents do socialize and exercise informal social control over their children while they are in the home, the nation's youth spend a large portion of their day in school. The adolescent's commitment to school may act as an insulator to delinquency

(Hirschi, 1969; Thornberry et al., 1991). The teachers in schools act as a secondary source of socialization, aside from the child's parents. The time that students spend in school may be sufficient to guard them against transactions with delinquent others (Gottfredson, 2001). Similar to the parents, schools take on the role of instilling informal social control over the students by inculcating moral norms and shaping the students' perceptions of crime and criminals. While the school is an important institution of social control in childhood and adolescence, the effects of poor attachment to the school results in unfavorable trajectories later in life. For instance, Sampson and Laub (1993) found that inadequate attachment to the school institution may indirectly impact later involvement in delinquency, through deleterious effects on employment.

Unfortunately, schools are increasingly becoming environments of punitiveness, as evidenced by the pervasiveness of metal detectors, surveillance cameras, school resource officers (SRO) and mandatory exclusionary policies in the current school climate. Beginning with the Gun-Free Schools Act of 1994, the federal government required that school districts posted mandatory Zero Tolerance Policies in their student codes of conduct. In the event that a student brought a gun to school, the policy mandated the automatic expulsion of that student. Later, these policies were expanded to include other offenses like possessing other weapons or drugs on school property, fighting in school, bullying other students, and engaging in chronic classroom disturbances (Schoonover, 2009). Notably, school suspensions are used more often to handle classroom disturbances. One of the goals of these policies was to create a safer environment in schools for the overall student body. Another goal of these mandatory policies was to deter those individuals who violated the rules and

inculcate the seriousness of their offense to other students, thus implicating specific and general deterrence.

School administrators and disciplinarians who seek to deter rule violators by suspensions or expulsions face several problems. First, informal social control becomes supplanted by formal social control under a mandatory discipline regime. In the scenario that a student breaks a school rule, the teacher does not have the ability to use the situation as teaching opportunity. Instead, they may believe that they are required to suspend the student, as mandated by the school policy. Therefore, adequate socialization, which controls delinquency, may be impeded by punishment. Another problem facing school staff is imposing punishment on a population in society which is not ostensibly prone to experiencing a deterrent effect. A key component of the classical school of thought is that people are rational beings that exercise free will. However, children are often impulsive and do not always consider the long-term consequences of their actions. Youthfulness is a mitigating attribute which has lessened the seriousness of punishment for adolescents in the past. Finally, overly harsh punishment may unintentionally damage the student's attachment to the school. While Sampson and Laub (1993) acknowledge that supervision, discipline, and attachment to the family are key ingredients to conforming behavior, discipline needs to be used in such way that the child is not abjured by its implementation. The authors assert that "stigmatizing punishment, by the family as well as the state, appears to backfire" (p. 122). Therefore, school disciplinarians and policy makers need to consider the reasons which make adolescents different than adults with respect to their culpability, the imposition of social control, and the effect(s) of punishment.

Punishment, Control, and Student Disengagement

Since the 18th century, philosophers, criminologists, and penologists have scrutinized the importance of a person's bond to society with respect to the imposition of punishment. As an opponent of the practices of torture and the death penalty, Cesare Beccaria emphasized controlled punishment not only to ensure protection from a despot state power, but also to keep people connected to conventional society. In his well-known book, *Of Crimes and Punishment*, Beccaria (1764) stated the following:

> All that extends beyond this, is abuse, not justice. Observe that by justice I understand nothing more than that bond which is necessary to keep the interest of individuals united, without which men would return to their original state of barbarity. All punishment which exceed the necessity of preserving this bond are in their nature unjust. (p. 3)

The utilitarian author understood that punishment in a just society should be exercised for the rectification of the individual and progress of society by maintaining communal ties. Unlike retributive philosophers like Plato or Kant, Beccaria's concerns were in the preservation of the future. Because human beings are intrinsically social, punishment should be wielded to foster interpersonal connections, not hinder them.

Another utilitarian and Classical theorist, Jeremy Bentham, examined the actual definition of sanction and explicated sanction systems or sources of sanctions. Bentham (1970) found that the word "sanction" was rooted from the Latin word *Sanctio*, which "was used to signify the *act of binding*, and, by common grammatical transition, *any thing which serves to bind a man*: to wit, to the observance of such or such a mode of conduct" (p. 34). In contemporary society, sanctions may function in the form of punishments or rewards. The systems which bind a person to society, the normative order, or others, include physical, religious, moral, and political sanctions. Physical sanctions are those consequences which

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naturally follow a deviant or criminal act. For instance, a person may physiologically not be able to handle excessive drinking over a long period of time, as exemplified by conditions like cirrhosis of the liver. To the extent that people believe in the afterlife and religious authority, Bentham suggested that religious sanctions, such as excommunication, can affect their behavior. Third, political sanctions originate in the state and guide public policy. These are laws and consequences that seek to increase the costs and decrease the benefits associated with crime. Potentially more important than political sanctions, moral sanctions involve the reactions of people surrounding the penalized individual. Some theorists (Hirschi, 1969; Kornhauser, 1978) assert that moral sanctions may have a more serious effect on crime than political sanctions; however, formalized sanctions, such as incarceration or arrest, are still paramount over considerations of informal sanctioning which seeks to strengthen social ties. Ultimately, though, Bentham believed that the criteria of effective deterrence of behavior include the certainty, celerity, and severity of punishment or sanctions.

Rather than asserting ideals for punishment, some researchers examined how punishment was utilized throughout history. Two centuries after the writings of Beccaria, Foucault (1977) elaborated on the methodical nature of punishment and modern systems of control. Citing Bentham's Panopticon, Foucault suggested that institutional control of power and knowledge extends beyond the confines of the prison wall into society. Like pieces of the same puzzle, Foucault asserted that various social institutions (i.e., prisons, schools, hospitals, etc.) operate under the same functions; to control and track people throughout their lives. Along these same lines, the author claimed that punishment functioned as the institutional deprivation of knowledge (Foucault, 1977). These previous propositions have direct implications for the state of punishing and monitoring juveniles in society; especially

in the school (Kupchick & Monohan, 2006). While the Foucaultian assumption that punishment in contemporary society deprives the individual of power is cogent, his premise of institutional control needs further speculation. Specifically, the imposition of suspension or expulsion may lead the student to disengage from the educational institution, thereby diminishing the school's control over their conduct. However, one possibility is that the 'tracking', as Foucault would suggest, is still ostensible through the transfer of control to other social institutions, namely the criminal justice institutions.

Moving beyond the philosophy and theories of contemporary societal punishment, several criminologists have examined the ideal goals of punishment and the effects of punishment on individual control and subsequent delinquency. De Li (1999) suggests that punishment *should* serve a dual purpose, which attempts "to prevent and control delinquency, but also to promote successes in areas that are most important to juveniles, including education, employment, and job status" (pp. 392-393). However, it is clear from the author's writings that he questions the efficacy in the application of formal social control (i.e., arrests) on juveniles. Others have also recognized the detriment of juveniles who become involved in the criminal justice system while in school (Nickerson & Martin, 2008; Sweeten, 2006). Indeed, findings in this area suggest that formal sanctions are positively correlated with future delinquency (De Li, 1999; Sweeten, 2006). Sweeten (2006) found that court involvement did increase the likelihood that juveniles dropped out of school. Drop outs, in turn, are positively associated with the individual's future delinquent behavior (Thornberry, Moore, & Christenson, 1985).

Theoretical Framework

Control Theories

Social Control Theory advances under the assumption that human beings are connected to conventional society or social institutions as puppets are strung to rods. When connected, they engage in conventional activities like going to school, obtaining a job, and contributing to society in meaningful ways. In the event that the wires are cut or weakened, the puppet returns to its constitutional state. Durkhiem (1897) explicates the consequences of weakened societal constraints:

> The more weakened the groups to which [the individual] belongs, the less he depends on them, the more he consequently depends on himself and recognizes no other rules of conduct than what are founded on his private interests. (as cited in Spaulding & Simpson, 1951, p. 209)

While motionlessness is the natural state of the puppet, criminality or delinquency is the natural state of the individual. Albeit this difference, the puppet, like the delinquent, is devoid of motivation. Its release from societal strings enables behaviors or states normally subdued. Therefore, enmeshment in conventional society or social institutions is an important source of conformity, which social control theorists (i.e., Hirschi, 1969; Nye, 1958; Reckless, 1967; Reiss, 1951) assert needs explanation.

Social Bond Theory

According to Hirschi (1969), Social Bond Theory's contention is that individuals have natural inclinations to commit crime. The reason that they do not commit crime is because they have an existent bond, high in strength, to conventional society. The author posited that the strength of an individual's attachment to others, commitment to conformity, involvement in conventional activities, and belief in the moral value of conventional society represented the extent to which that individual was socially linked to conventional society. The attachment component refers to the psychological or emotional link between the individual and their parents, school, and peers. Delinquent peers are merely consequents to

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the individual delinquent reaching out to comingle with similar others. Commitment refers to the rational choice component of the bond or the person's investments in prosocial activities. Involvement refers to the amount of time that the individual spends in conventional activities (e.g., playing sports, spending time in clubs, etc.). The belief component refers to an individual's adherence to the conventional value system and may include the extent to which they legitimize societal rules. When these social bond elements are weak or nonexistent, the individual may be free to engage in delinquent or criminal behavior (Hirschi, 1969). Subsequent tests of Hirschi's theory indicate that the school, like the family, is an important institution of socialization for which juveniles may form social bonds to conventional society (Wiatrowski, Griswald, & Roberts, 1981).

Beginning nearly three decades after Hirschi's Social Bond Theory, researchers conducted studies that exclusively measured the individuals' social bond to the school (Eith, 2005; Jenkins, 1997; Payne et al., 2003; Stewart, 2003). As such, social control could be measured through several indicators of the students' attachment, commitment, involvement, and belief in the school institution. Attachment is measured by the intimate connection that the student has with their parents, peers, and teachers. Commitment is indicative in the students' stake in conformity or aspirations. Involvement is measured by the students' participation in prosocial activities; however, considerable research (Krohn & Massey, 1980; Thornberry et al., 1991) suggests that the involvement element may fit well underneath the umbrella of the commitment component. Other researchers found that involvement did not reduce delinquency (Stewart, 2003). Stewart suggests that juveniles have ample time to engage in delinquency after school ends (See also Jenkins, 1997, Paternoster et al., 1983). Finally, belief is the students' value of the rules in the school.

Previous research on social bond theory has indicated that the theory best explains less serious forms of delinquency. First of all, tests of Social Bond Theory (Krohn & Massey, 1980) indicate that the theory is more predictive of less serious forms of delinquency including drug use (Burkett & White, 1974) and status offenses (Kelly & Pink, 1973). Additionally, the middle school years represents a critical period for initial experimentation with tobacco, alcohol, and illicit drugs (Johnston, Bachman, & O'Malley, 1986; see also Jenkins, 1997). Also, previous research validates an analysis of the effects of school social bonds on out-of-school delinquency indicators (Liska and Reed, 1985; Thornberry et al., 1991; Torstensson, 1990).

An important contention of control theorists (Hirschi, 1969; Kornhauser, 1978) is that all societal members share similar basic values; a premise which often pits them against cultural deviance theorists. In explaining the sources of delinquency in areas of the community (i.e., social disorganization), Kornhauser (1978) asserted that "it is not an ethnic or racial culture, a class culture, or a slum culture that harbors delinquent values; it is a community that cannot supply a structure through which common values can be realized and common problems solved" (p. 63). In this perspective, delinquency is the result of the absence of community or institutional controls rather than the culture of its inhabitants. In other words, an area may be socially disorganized regardless of the racial and/or ethnic makeup of the people who live in those areas. Other researchers (Cernkovich and Giordano, 1992) have also found support for Social Control Theory's contentions that there is no variance with respect to social bonds between racial and/or ethnic groups.

The conclusive effects of socioeconomic status (SES) on delinquency are ambiguous. On one hand, control theorists assert SES has a nonexistent to marginal effect on delinquency

(Hirschi, 1969; Kornhauser, 1978; Nye, 1958). By examining delinquent boys in California, Hirschi (1969) found that social class had no relation to delinquency. Also, after examining several separate studies, Kornhauser concluded that the relationship between individual socioeconomic status and delinquency is low to moderate. The authors posit that differences in social control, bonding elements in Hirschi's theory, explain differences in offending between boys from various social classes.

Generally, Social Control Theorists, like Hirschi, would narrowly suggest that a delinquent's poor attachment to parents increases the probability of their delinquency; however, several researchers have controlled for various family characteristics. Some theorists have looked at occupational status of the parent (Hirschi, 1969). With respect to family size, the more siblings that an individual has, the more likely they are to be delinquent. The implicit assumption here is that parental supervision is lacking in larger families than in smaller families, which promotes delinquency and relegates societal ties (Jenkins, 1997). Family structure can also affect an individual's social bonds (Aston & McLanahan, 1991; Burgess, 1979).

The importance of gender in explaining delinquency is another controversial area of social control research. Although Hirschi argues that his theory explains male and female delinquency, his original study on the causes of delinquency only incorporated boys, which impacts the generalizability of his conclusions. Not surprisingly, some researchers have found that social bonds for females appear to be different than those social bonds of males. While gender-specific theories of offending have suggested that boys and girls do differ with respect to social control (Hagan et al., 1987; Heimer & De Coster, 1999), other research supports the notion that social bonds for boys and girls are similar (Friedman & Rosenbaum,

1988; Hirschi, 1969). Although Heimer and De Coster (1999) were explaining control mechanisms which shape a child's violent definitions, they make an interesting point regarding the differences in social control between boys and girls. While parents will impose overt control (i.e., supervision and coercive control) with boys, girls' perceptions of violent definitions will be shaped through a more indirect means such as emotional bonding to the family.

Still, other researchers have found that there are no appreciable differences regarding boys' and girls' social bonds function similarly to hold their delinquent predispositions at bay (Alarid et al., 2000; Friedman & Rosenbaum, 1988; Hirschi, 1969; Jensen & Eve, 1976). In contrast to Heimer and De Costas assumptions about parents' differential treatment toward boys and girls, Canter (1982) asserted that there were no significant differences in the nature and degree of family bonds between boys and girls. One notable exception is that girls' commitment to the school was found to be a stronger predictor of their abstention from delinquency (Friedman & Rosenbaum, 1988).

Numerous scholars have argued that poor academic performance is correlated with delinquency, through their social bonds. First, students who initially perform poorly in school are likely to already be disengaged from the institution (Arcia, 2006). Elevated academic achievement tends also to be a prominent result of strong social bonds (Cernkovich & Giordano, 1992; Jenkins, 1997; Krohn & Massey, 1980; Liska & Reed, 1985). Eith (2010) found support in her multilevel analysis that GPA was positively related to school social bonds and negatively correlated with schools who issue out an above average amount of suspensions. While the control theorists proclaim that the causes of delinquency are the same for everyone, regardless of their race and/or ethnicity, gender, SES, and background, mixed

findings of their significance in explaining delinquency warrant their presence in future examinations.

While research has strongly supported Social Bond Theory's underlying theoretical propositions (Hindelang, 1973), several limitations have impeded its ability to explain delinquency. The first limitation, much to Hirschi's dismay, is that empirical findings (Matsueda and Anderson, 1998) have quashed the notion that associations with delinquent peers does not have some explanatory power for predicting an individual's delinquency. Another important limitation, as suggested by some criminologists, is that the components of the social bond may be interrelated, which assists in explaining the social bond relationship to delinquency (Thornberry, et al., 1991). The third limitation, which is imperative in the current study, is that Hirschi's recursive model for Social Bond Theory does "not allow for bidirectional causal influences either among the elements of the bond or between the elements and delinquency" (Thornberry et al., 1991, p. 8; see also Liska & Reed, 1985; Matsueda, 1989; Paternoster et al., 1983, Thornberry, 1987). These limitations provide justifications for a more developed social control theory.

Interactional Theory

While Interactional Theorists mirror Hirschi's argument regarding the effect of low social bonds on delinquency, they expound his original argument in several ways. First of all, these theorists suggest that while low social bonds predict delinquency, they may also be a product of delinquency. Therefore, a nonrecursive model is necessary to examine the relationship between social bonds and delinquency. Another positive aspect of Interactional Theory is that delinquency or criminality is not assumed to be stable over the life-course. Simply, the availability for linkages with social institutions change, as do the crucial social

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institutions to which people increase ties, throughout their lives. Finally, these theorists, unlike other control-based theorists, do not take for granted the genesis of social bonds; instead, they assert that structural variables (i.e., socioeconomic status, residential area, school climate, etc.) can explain variation in the social bonds.

Interactional Theory also emphasized the importance of peers in influencing delinquency. In contrast to control theories, Interactional Theory integrates the concepts from Differential Association Theories. Specifically, a general criticism of control theories is their assumption that an individual is delinquent before they associate with delinquent peers. However, some researchers (Matsueda & Anderson, 1998) have tested for the effects of delinquent peers on the individual's delinquent behavior. In their study of the National Youth Survey, Matsueda and Anderson (1998) tested control, learning, and interactional theories and found that delinquency and delinquent peers are reciprocally related. Overall, the implications of their research suggest that delinquent peer associations need to be considered in future tests of control theories.

Present Study

Bridging the Gap between Social Control Theory and School Discipline Research

While several researchers have examined the effects of widespread Zero Tolerance policies on students, none to date have looked at the link between research on school disciplinary practices and criminological control theories. Some research suggests that social bonds may be important mediating elements between a school's climate and delinquency. For example, Payne et al. (2002) found that a student's social bond to the school was a crucial mediating factor for the relationship between communal school organization and measures indicating student delinquency. The authors concluded that "by improving the

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relationship among school members, the collaboration and participation of these members, and the agreement on common goals and norms, schools could increase students' attachment to school, commitment to education, and belief in school rules and norms" (p. 773). The amalgam of positive communal school organization and strong student social bonds should yield less school disorder. In contrast to the effects of positive communal school organization, another researcher suggested that strict discipline in schools may create a hostile learning environment for students. Gottfredson (1986) established that a negative school environment where teachers frequently punished students in inconsistent and unscrupulous ways may cause more behavioral problems (see also Stewart, 2003).

Therefore, the present research seeks to test for the effects of school discipline (i.e., suspensions and expulsions) on delinquency and social bonds to the school institution. At face value, expulsions should sever the students' social bonds to the school if they are forcefully removed from the school; however, the impact of suspensions, independent of large scale disciplinary policies, is less clear from the literature. The goal of school discipline is simple; hold students accountable for their actions and maintain social control over the student populace. The reality is that these school-based punishments may produce the unintended consequence of weakening a person's social bonds to the school institution, and subsequently increase delinquency. On the other hand, suspensions, probably more so than expulsions, may increase the school's social control on the student, thereby decreasing their delinquency. Theoretically, as the student's social bonds to the school institution become weakened or broken, the student is free to engage in more delinquent and criminal acts.

While research demonstrates that suspensions and expulsions are utilized from middle school all the way through high school (Arcia, 2006), disciplinary practices tend to have a

more serious effect on middle school students' social bonds. Among elementary, middle, and high school students, only middle school students experienced a significant, negative relationship between an above average amount of students receiving suspensions and school social bonds (Eith, 2010). While suspensions are rarely issued in elementary schools, high schools gradually experience a natural reduction in social control as attendance becomes no longer lawfully mandatory. The middle school years represent a middle ground where suspensions are more frequently issued to the students, but the students are unable to legally exit from the school (Jenkins, 1997; Toby, 1980). Furthermore, the period during middle school and especially the transition between middle school and high school appears to be a critical stage in adolescence. Considering that a student may legally drop out of school when they are in the 11th grade or at the age of 16, testing students who are older than 16 may skew the results. Therefore, a longitudinal analysis which first examines students at the eighth grade level and then again a year later will allow for a more elaborate speculation regarding the effect of suspension or expulsion on the students' social bonds.

Further developing the relationship between suspension, expulsions, and student social bonds, a third gap in the research exists in the testing of the relationship between social bonds and delinquency. In other words, while student social bonds could be a mediating factor between suspensions and delinquency, delinquency further weakens student social bonds, making the process reciprocal (Eith, 2010). By providing a model consistent with Interactional Theory, the relationship between social bonds and delinquency can be further examined (Thornberry et al., 1991).

In sum, the present study is an analysis of the effects school discipline on school social control. First, the study will examine the effects of suspension and expulsion on eighth

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grade students' social bonds and delinquency as indicated by several items in the Adolescent Health (Add Health) dataset. Since the first two waves of the Add Health dataset are available, the second question is whether these disciplinary actions at the eighth grade level affect the students' social bonds to the school while in the ninth grade (the second wave). While controlling for several background variables, this longitudinal analysis will allow for a more adequate inquiry into the nature of the students' social bonds and delinquency before receiving the school discipline. In other words, the research will determine which of the following came first: low social bonds or harsh school discipline. Finally, the research will explore whether the ninth grade students' low social bonds predicts their delinquency. As a result of the findings from previous research and the objectives of the current study, several specific research hypotheses are implicated. The research hypotheses are as followed:

H1: Does receiving out-of-school suspension in the eighth grade predict lower school social bonds in the eighth grade?

H2: Does being expelled in the eighth grade predict lower school social bonds in the eighth grade?

H3: Does receiving out-of-school suspension in the eighth grade predict lower school social bonds in the ninth grade?

H4: Does being expelled in the eighth grade predict lower school social bonds in the ninth grade?

H5: Do students' low school social bonds in the eighth grade predict their delinquency at that same grade level?

H6: Do students' low school social bonds in the eighth grade predict their delinquency in the ninth grade?

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H7: Do students' low school social bonds in the ninth grade predict their delinquency at that same grade level?

In order to test these hypotheses, the next chapter will provide an in-depth explanation of the data and sample, operationalization, and analytical techniques.

CHAPTER THREE

METHODOLOGY

In order to examine the effect of school discipline on students' social bonds to the school and address specific research hypotheses, the present study will utilize data from a secondary source. While this instrument has been used in other social control research endeavors, the data source's ability to test the aforementioned phenomenon will be justified in the following methodology sections. Indicators for the social bond elements, school discipline, and delinquency will be conceptualized by using definitions adapted by researchers who have previously tested Social Bond Theory. After defining various concepts, items in the data source which act as independent, dependent, and control variables will be described. In order to address the research hypotheses, the next section will explain the present study's analytical techniques. Finally, the limitations of this research will be acknowledged.

Data and Sample

To test the research questions, I utilized data from the first and second waves (1994-1996) of the National Longitudinal Study of Adolescent Health ("Add Health"); a "program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill" (Harris et al., 2009). This research is funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development and 23 other federal agencies and foundations. The study contains both public-use and restricted access versions of the data from this study. Although the Add Health staff administered four waves of this study, the present study will only incorporate the first two waves. This study examines adolescents in

the United States in grades 7 to 12, ages 12 to 19. The Add Health researchers incorporated a sample of 80 high schools and 52 middle schools in their study. The selection of schools for the sample consisted of an unequal probability. The researchers attempted to ensure the representativeness of the sample to "US schools with respect to region of country, urbanicity, school size, school type, and ethnicity." As a result, they incorporated "systematic sampling methods and implicit stratification into the Add Health study design" (Harris, et al., 2009). The overall goal of this survey is to explore the various factors that affect adolescents' mental and physical health and behavior, while emphasizing the impact of the social environment. The first wave of this study included in-school, in-home, and parent data. The second wave provided follow-up interviews for the respondents interviewed in the first wave. The amount of Add Health data accessible to the public includes 6,504 cases and 5,800 variables.

The Add Health data set is advantageous to the current research purposes for a few reasons. First, previous research has shown that the Add Health data set provides adequate indicators for social bond elements (i.e., attachment, commitment, and belief) and minor forms of delinquency. Some researchers (Cretacci, 2003) have used the Add Health data set to test Social Bond Theory. For example, in his examination of the religious institution's control of adolescents' violent behavior, Cretacci (2003) found that the variables used by the original Add Health researchers were amenable to testing elements of adolescents' social bonds to conventional society. In contrast to Cretacci's goals of testing institutional social control mechanism of religion on adolescent violence, the present research is exploring the institutional social control that the educational institution imposes on adolescents. Researchers have also used the data set to examine minor forms of delinquency, including

drug use (Resnick et al., 1997), possession of weapons in school (Forrest et al., 2000), and delinquent peer associations (Haynie, 2001). Since researchers (Agnew, 1985; Krohn & Massey, 1980) have confirmed that Social Bond Theory is a better predictor of less serious forms of delinquency, these delinquency indicators will provide a more adequate test of the theory.

Another advantage of the data set is its ability to explore respondents' behavior across time and age groups. In his longitudinal study of Social Bond Theory, Agnew (1991) found that Hirschi (1969) overstated his theory's ability to explain delinquency over time. While previous authors, who used cross-sectional analyses, found that the theory was able to account for 25-50 percent of the variance, Agnew's (1991) regressional test of the theory was only able to account "from 1% to 2% of the variance in future delinquency" (p. 58). Therefore, a multi-wave analysis will ensure for a more conservative prediction of Social Control Theory's ability to explain delinquency.

The Add Health data set also includes students at various ages. One of Agnew's (1991) future recommendations was to test the theory's ability to explain younger adolescents' delinquency with Social Bond Theory. During early to middle adolescence, the school is likely to have a more meaningful impact on delinquency than a career or marriage. Since the Add Health data set includes students in grades from 7 to 12, the current research can follow a panel of students from middle school to high school. Specifically, the sample in the current study consists of a group of students examined first in the eighth grade and then again when they were in the ninth grade. The question representing this variable is "What grade are you in?" In the first wave (1994-1995), 992 respondents indicated that they were in the eighth grade. Of this sample, only 881 respondents indicated their biological sex in the

second wave, which signifies the attrition of 111 respondents (i.e., 11.2% of the original sample). Variables which the literature suggest predispose an individual to delinquency will be held constant. After controlling for these variables, the analysis will uncover the nature of the adolescents' school bonds from the second wave (1996) of the Add Health data set.

Independent Variables: School Discipline

Rather than treating school disciplinary actions as a consequence of low social bonds (Stewart, 2003), these actions will serve as independent variables. Several researchers (Eith, 2010; Stewart, 2003) and theorists have supported the inhibitory power of school discipline on the student's ability to develop prosocial bonds in the school environment. Formal school discipline can best be measured by items which indicate whether the student has been suspended or expelled from school. Instead of asking about mass in-school disciplinary policies, the questions in the Add Health survey (i.e., the In Home Questionnaire) asked the students about individual instances of school discipline. For instance, school discipline was measured with items "Have you ever received out-of-school suspension?" and "Have you been expelled from school?" Both of these responses are operationalized as "Yes" = 1 and "No" = 0.

According to the Add Health data set, 274 respondents indicated that they had been suspended and 47 indicated that they had been expelled. Of notable significance, 41 respondents who indicated that they had been expelled from their school also marked that they had been suspended as well. Thus, 227 respondents had only been suspended, 6 respondents received expulsions, 41 respondents indicated that they received multiple forms of disciplinary actions, and 233 respondents indicated that they had received at least one form of disciplinary action. Those students who were not suspended or expelled serve as a

control or reference group. Specifically, 710 students reported that they did not receive either form of school discipline. Overall, the following four groups of eighth graders were identified: those students who were suspended (n = 233); those students who were only expelled (n = 6); those students who received suspension and expulsion (n = 41); and the control group (n = 710). Only two respondents did not indicate whether they had received school discipline.

Independent and Dependent Variables: Social Control

Reiss (1951) defines social control as "the ability of social groups or institutions to make norms or rules effective" (p. 196). While Reiss's definition is pithy, the indication of effective social control for the individual needed to be expounded. In specifying elements of social control, Hirschi's (1969) Social Bond Theory included four elements to indicate social control: attachment, commitment, involvement, and belief. In an in-depth examination of the four elements, Krohn and Massey (1980) suggested that the elements commitment and involvement could be collapsed into a single element of commitment. The authors' rationale for this fusion of elements is that an individual is likely to be committed to an activity in which they spend an excess of time. Similarly, it is improbable that a person will spend a lot of time in a conventional activity to which they are not committed. In empirical evaluations, a student's involvement in school-related activities was found to be a relatively unimportant predictor of delinquency (Wiatrowski and Anderson, 1987). For these reasons, the following analysis will only incorporate "attachment", "commitment", and "belief". "Attachment" is measured through the students' connection to their school as a social institution, peers, and teachers. "Commitment" measures the students' participation in school-related conventional activities and academic aspirations. "Belief" measures the students' perceptions of legitimacy

in teachers, safety and learning within the school, and fate. In her multi-level analysis of students' social bonds to the school, Eith (2010) found that middle schools reporting an above average amount of disciplinary actions (i.e., suspension and expulsions) are associated with lower levels of student social bonding. As such, the three elements indicative of social control will be jointly analyzed when looking at the effect of school discipline.

Attachment

Attachment, as explicated by Hirschi (1969), is the individual's connection to various social institutions (i.e., parents, school, and peers). The author refers to this element as the "sociological counterpart to the superego or conscience" (Hirschi, 1969, p. 20). The individual's attachment to school or the educational institution is more readily affected by school disciplinary actions. Teachers' or school disciplinarians' decision to suspend or expel a student may have serious repercussions on the students' feelings toward the school or school agents. Eith (2010) suggested that school disciplinary actions aimed at making students feel safe may actually alienate students, thereby establishing a disconnect between the students and the teachers. As such, indicators will measure the students' feelings about the school and connectedness to the people at school. Attachment to school is a four-item index (i.e., indicating responses to two questions of questions. The first question posed is "Since school started this year, how often have you had trouble getting along with your teachers?" Since a higher number would have originally indicated lower attachment, this item was reverse coded as "Chronic" = 0 and "Never/seldom" = 1. The second question, "How strongly do you agree or disagree with each of the following statements?", includes the following three items: "I feel like I am a part of this school. I feel close to people at school. I

am happy to be at this school." All of these responses are operationalized as "Agree" = 1 and "Disagree" = 0.

Commitment

Commitment to conventional society represents the individual's "stake in conformity" (Hirschi, 1969). Researchers have asserted that commitment is the rational choice component of the social bond elements. For instance, an individual's choice to not attend school jeopardizes their success in school and future occupations. The students' adherence to the school rules, norms, and values is indicated by the individual's aspirations or values about the completion of school and performance while in school. Hirschi also defines commitment as including the "desire to achieve, conventional goals" (p. 162). The students' perceptions of reaching accomplishments through hard work should indicate this desire. In their evaluation of the delinquency-achievement relationship, Siennick and Staff (2008) found that school commitment will need to address effort and aspirations. Therefore, students' commitment to school is represented by three items indicating responses to the following questions: On a scale of 1 to 5, where 1 is low and 5 is high, how much do you want to go to college? On a scale from "No chance" to "It will happen" what do you think are the chances you will graduate from college? When you get what you want, it's usually because you worked hard for it. The first question's responses are operationalized as "Great Desire" = 1 and "Lower Desire" = 0. The responses to the second question are operationalized as "Great certainty" = 1 and "Lower certainty" = 0. The third question's responses are operationalized as "Yes" = 1 and "No" = 0.

Belief

While control theorists take greater heed to the existence rather than the definition of belief, the latter is elucidated in the following section. In his study, Hirschi (1969) asserts that belief in conventional society is indicated via a person's value of the law or legal codes. Because the school represents a single social institution rather than conventional society in its entirety, an omnipresent definition is unnecessary. Unfortunately, empirical support for the element of belief with respect to school social bonding is sparse (Cernkovish & Giordano, 1992; Eith, 2010). Nonetheless, some researchers (Eith, 2010; Jenkins, 1997; Stewart, 2003) have attempted to define this concept when applied to the school. Eith (2010) asserts that belief is the individual's acknowledgement of school norms and values. In addition, Jenkins (1997) suggested that belief measure the student's perceived legitimacy in school rules. Therefore, students' belief in the legitimacy and safety of school is a two-item index indicating responses to the following question: "How strongly do you agree or disagree with each of the following statements?" The specific responses to this question include "The teachers at this school treat students fairly" and "I feel safe in my school." Both of these responses are operationalized as "Yes" = 1 and "No" = 0.

Independent and Dependent Variable: Delinquency

While several criminologists have defined delinquency according to their own touted theories, the present analysis is an exploration of educational social control. Hirschi (1969) suggested that humans are innately amoral, and delinquency is a natural response to the absence of societal controls. However, this description does not provide insight about the specific act of delinquency. Fortunately, several researchers have incorporated property, violent, and drug-related acts as indicators for delinquency in their tests of Social Control Theory (Cretacci, 2003; Hirschi, 1969; Jenkins, 1997; Krohn & Massey, 1980; Stewart;

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2003). In her analysis of 754 middle school students in an urban-suburban community, Jenkins (1997) found that "hitting another student and damaging school property are the most frequently reported school crimes" (p. 349). In this study, the author tested the validity of social bonds to the school in predicting delinquency. In his study of delinquent boys, Hirschi (1969) also used the occurrence of physical fights and acts of vandalism as indicators for delinquency. This author also included theft (i.e., of objects worth less than and more than $50) in his analysis of social bonds to conventional society. In using the Add Health data set to investigate religious institutional control on adolescent violence, Cretacci (2003) created a Violence index to measure the incidence of physical fights, injuries, and weapon use. Cretacci concluded, however, that religious social control had little empirical support when applied to indicators for violence. While an entire index based exclusively on violence or vandalism ignores other common types of delinquency, the current study should include indicators for both types of minor delinquency in the overall index.

Considering the aforementioned findings, minor delinquency will be measured with five items from the in-home questionnaire. The following questions represent those questions selected for the present study: "During the past 30 days, on how many days did you carry a weapon—such as a gun, knife, or club—to school?" "In the past 12 months, how often did you deliberately damage property that didn't belong to you?" "How often did you take something from a store without paying for it?" "How often did you get into a serious physical fight? How often do you steal something worth less than $50?" Responses to the first question will be indicated with "Yes" = 1 and "No" = 0. Responses to the last four items will be recoded and indicated with "1 or more times" = 1 and "Not at all" = 0.

Control Variables

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Researchers have not directly tested the effect of school discipline on school social bonds. In order to determine differential effects of the school discipline on student social bonds, several variables need to be controlled for in the analysis. By controlling for these demographic variables, the research can also provide a more accurate account of social bond theory's salience in predicting delinquency. Thus, social control and school discipline literature should be considered in the selection of control variables for operationalization.

Sex

As a result of the disproportionate number of boys who are suspended and expelled in schools each year (Kirk, 2009; Skiba et al., 2000; Wallace, 2008; Wu et al., 1982), students' biological sex needs to be considered. Indeed, girls are less likely to engage in delinquency than boys (Canter, 1982; Hiemer & Matsueda, 1994; Hindlang, 1973) and boys are more likely than females to engage in drug use and violence (Bachman and Peralta, 2002; Hickman & Piquero, 2001). Differential school discipline between girls and boys is likely a consequence of boys' overall greater likelihood to participate in delinquency. Eith (2010) offers a valid point regarding adolescents' amenability to social control mechanisms in schools. Simply, girls and boys have developmental differences which result in girls maturing faster and negotiating school easier. While boys are more likely to seek autonomy and resist the institutional rules of school, girls are more likely to adapt and develop relationships with their teachers and peers (Eith, 2010; see also Gilligan, 1991). Cernkovich and Giordano (1992) found that school bonds were better predictors of male delinquency than female delinquency. Nonetheless, controlling for biological sex is crucial to understanding the effects of school punishment on the students' ability to remain attached to the educational institution. Sex is measured with a single item indicating a response to the

following question: What is your biological sex? This response is operationalized as "Female" = 1 and "Male" = 0. In the Add Health data set, males made up 47.9 percent (n = 475) of the sample and females made up the other 52.1 percent (n = 517) of the total number of eighth grade respondents in the first wave (n = 992). In the second wave, males represented 47.4 percent (n = 418) of the sample, while females made up 52.6 percent (n = 463) of the total number of respondents in the eighth grade (n = 881). These comparisons indicate 111 missing cases from first to second wave.

Race

Another important demographic variable is race and/or ethnicity. While researchers suggest that the overall school experience is different for white students than for minority students (Cernkovich & Giordano, 1992), research has documented blatant disparities in school discipline among students from different racial and/or ethnic backgrounds (Kupchik, 2009; Nicholson-Crotty, Birchmier, & Valentine, 2009; Skiba, Nardo, & Peterson, 2002; Taylor & Foster, 1986). Despite Cernkovich and Giordano's (1992) contention that whites' and African Americans' social bonds have similar predictive power regarding delinquency, differential disciplinary treatment is likely to have an adverse effect on minority students' perceptions of school rules, and subsequently, bond to the school (Jenkins, 1993). As such, race is measured with four independent items indicating a response to the following status items: "Race – White," "Race – African American," and "Race – Other." The specific questions, as they appear in the Add Health questionnaire, are "What is your race?" Each of these responses are operationalized as "Yes" = 1 and "No" = 0. In order to simplify the measurement of race, these three items were combined to represent a composite race variable where "White" = 1, "African American" = 2, "Other" = 3, and "Multiple races indicated" =

4. According to the sample respondents in the eighth grade, Whites represented 68.1 percent (n = 676), African Americans represented 24.8 percent (n = 246), and respondents indicating their race as "other" made up 5.2 percent (n = 52).

Socioeconomic Status

Despite the argument that individuals of differential socioeconomic status (SES) form social bonds in the same fashion, researchers have found that this variable needs to be controlled (Thornberry et al. 1991). One of several ways to indicate Socioeconomic status is by examining the financial background of students. A question of this nature can only be answered by the students' parents. By utilizing data from the of parent questionnaire portion of the Add Health dataset, this research can avoid erroneous perceptions of household incomes that normally be encountered if questioning the adolescents about their parents' financial information.

According to the parent questionnaire aspect of the Add Health study, socioeconomic status will be measured by the amount in thousands of dollars that the respondent's parents indicate as their average total household income before taxes. This variable will be dichotomized by the median household income before taxes. Specifically, the responses to this question will be represented as "Median household income and above" = 1 and "Below median household income" = 0

Mothers' Involvement in Students' Education

Family structure has been conceptualized in various ways to test an individual's social bonds. In some instances, researchers have controlled for whether the adolescent lives with a single or non-biological parent (Eith, 2010; Hirschi, 1969). With respect to a single-parent family structure, supervision and discipline decline as the parent spends more time

away from their children (Burgess, 1979). These single parents are also less involved in their children's school and social activities (Astone and McLanahan, 1991). However, other researchers (Emery, 1982; McCord, 1983) conclude that domestic tranquility and interpersonal relationships is a more important factor than the absence of parents in predicting a student's involvement in delinquency.

In addition to single-parent households, residing with non-biological parents has also been linked to delinquency. Hirschi (1969) found that children who resided with a step-father were less likely to attach to their step-parent. Simply, the author asserted that step-parents are less likely than biological parents to become involved in the children's lives. The child's feelings of resentment for neglect may be emulated to other authority figures (i.e., teachers or school disciplinarians). In the absence of efficacious parental attachment, children are more likely to engage in delinquency and receive discipline in school. Despite Hirschi's assertion, Jenkins (1997) did not find a significant relationship between stepparents and school crime after controlling for other background factors.

Despite these findings on family structure, parental involvement in the adolescents' education can also indicate whether an individual becomes delinquent. Some researchers (Burgess, 1979; Eith, 2010) indicated that this variable may affect an individual's engagement in delinquency independent of the family structure's influence. Theoretically, then, indicators for parental involvement would sufficiently supplant indicators for single parent or step parent households. Indeed, Jenkins (1997) found that parental involvement in their child's education in addition to other family structure items was an important predictor of delinquency. Therefore, parental involvement in school is measured with the following six-item index indicating a response. The question representing this variable is "which of the

things listed on this card have you done with your mother/adoptive mother/stepmother/foster mother/etc. in the past 4 weeks?" The items included in this question consisted of the following: "Talked about your school work or grades," "Worked on a project for school," and "Talked about other things you're doing in school. The responses to these items are operationalized as "Yes" = 1 and "No" = 0.

Parent's Education

Parents' educational attainment, which is an indicator of a parent's social status, may also affect a student's social bonds, and subsequently delinquency (Eith, 2010; Jenkins, 1995; West, 1982). West (1982) asserts that parents with higher educational levels are better able to assist their children with educational endeavors. These parents are also more likely to promote their children's future academic aspirations and success (Cohen, 1955; Eith, 2010; Myers, Milne, Baker, and Ginsburg, 1987). Parent education is measured with two items: "Educational level of residential mom" and "Educational level of residential dad." In the In-School Adolescent Index, the researchers posed 2 pairs of questions to address this variable. In order to gauge the respondent's residential parent, the first pair of questions included "Do you live with your biological mother, stepmother, foster mother, or adoptive mother?" and "Do you live with your biological father, stepfather, foster father, or adoptive father?" After the respondent indicated their residential parents, they answered the following question: "How far in school did he or she go?" Responses to the residential mother's and father's educational experience are operationalized as "College graduate" = 3, "Some college" = 2, "High school graduate or equivalent" = 1 and "Less than high school" = 0. The scores from the residential parents' educational backgrounds will be combined to form a scale ranging from 0 to 6.

Peers

      As one of the most controversial variables in criminological research, peers also need to be controlled. According to cultural theorists, an individual joins a peer group and learns delinquent values. Control theorists, in contrast, contend that the absence of the attachment to peer groups is the determinant of delinquency. Those students who are not attached to their peers are already at a disadvantage of becoming delinquent (Hindlang, 1973; Hirschi, 1969). They would argue that even an adolescent who attaches to delinquent peers is less likely to engage in delinquency than an adolescent who does not attach to any peers. Despite control theorists' existence over quality contentions, considerable empirical evidence suggests that delinquent peers are a strong predictor of an adolescent's delinquent behavior (Elliot, Ageton, & Canter, 1985; Matsueda & Heimer, 1987; Warr & Stafford, 1991). Therefore, indicators for both attachment/commitment to peers and delinquent peer association need to be operationalized for the present study. In his examination of the institutional social control mechanism of religion, Cretacci (2003) measured both of these variables using the Add Health data set. In following Cretacci's operationalization, peer attachment is measured by the following question: How much do you feel your friends care about you? This question is answered with the following responses: "A lot, plus more than a lot" = 1, "Less than a lot" = 0.

      Commitment to peers is measured by the following items: "Female friend 1 – talk on phone," "Female friend 1 – go to friend's house," "Female friend 1 – meet after school," "Female friend 1 – discuss a problem," "male friend 1 – talk on phone," "male friend 1 – go to friend's house," "male friend 1 – meet after school," and "male friend 1 – discuss a problem." The questions representing these variables, as indicated in the Adolescent In-

School Index, were posed to the respondents regarding his or her best friends: "you went to his [or her] house in the last seven days," "you met him [or her] after school to hang out or go somewhere in the last seven days," "you talked with him [or her] about a problem in the last seven days," and "you talked with him [or her] on the telephone in the last seven days." Committment to peers is simply measured with the responses "Yes" = 1 and "No" = 0. The scale for measuring the degree of peer commitment ranges from 0 to 8.

In his study, Cretacci also included indicators for the amount of delinquent peer association. Therefore, delinquent peer association is measured with a three-item index indicating a response to the following questions: "Of your three best friends, how many smoke at least one cigarette each day?" "Of your three best friends, how many drink alcohol at least once a month?" "Of your three best friends, how many use marijuana at least once a month?" The responses to these three questions are operationalized as "One or more" = 1 and "None" = 0. The scale which measures the degree of delinquent peer involvement ranges from 0 to 3.

Academic Standing

A student's academic standing, measured via grade point average, is related to both their social bonds (Eith, 2010; Learner & Kruger, 1997; Maddox & Prinz, 2003; Wiatroski et al., 1982) and likelihood of receiving formal discipline in school. Empirical evidence suggests GPA is positively correlated with school bonding and negatively correlated with schools that issue an above average amount of suspensions (Eith, 2010). Aside from using GPA as an indicator, a composite scale measuring the students' grades in four courses provide evidence of their academic achievement. Therefore, academic standing is measured with the following four-item index indicating a response to the following questions: What is

your most recent grade in English? What is your most recent grade in mathematics? What is your most recent grade in history/social sciences? What is your most recent grade in science? These responses are operationalized as "A and B" = 1 and "C or lower" = 0. The scale for current academic achievement will range from 0 to 4. The Add Health question which addressed this variable is "At the most recent grading period, what was your grade in each of the following subjects?" For further descriptions of the background variables, see Table 3.

Method of Data Analyses

Due to the nature of the research questions and dependent variables, the current study employs the use of multiple statistical analyses. As a primer for understanding the characteristics of the population of interest, descriptive statistics, including frequency distributions and variable percentages, will help comparatively illustrate the quantity of each variable in the study. In order to evaluate the predictive power of school discipline on delinquency and student social bonds, a zero-order correlation matrix and several multivariate linear regression models will be utilized. Whether the respondents indicated receiving school discipline incorporates two categorical variables: receiving out-of school suspension and being expelled. The respondents who indicate not receiving either form of discipline represents the reference group. The two dependent variables, delinquency and school social bonds, are scaled composite variables. Delinquency will be examined by constructing a delinquency scale consisting of the following five variables of minor delinquent behavior: damaging property, shoplifting, stealing property worth less than $50, carrying a weapon to school, and engaging in serious physical fights. The background variables sex, race, SES, and peer attachment are represented by single indicators or

combined items which do not require reliability tests. The reliability of the remaining background variables was tested via Cronbach's Alpha.

Testing the hypotheses will incorporate two analyses: zero-order correlations and ordinary least squares (OLS) multivariate linear regression. The first step is testing the correlations of the key variables of suspension, expulsion, and school social bonds in both waves. This analysis will uncover the relationships between two variables without controlling for the other variables. Additionally, this analysis does not allow for speculation for which of the two variables preceded the other. To elaborate on the Zero-order correlation, the multivariate linear regression models will unveil whether receiving out-of-school suspension or expulsion predicts an individual's delinquency or the deterioration of their school bonds by statistically controlling for the effects of several background variables. The capacity of the models to explain variance in the dependent variables will also be noted. Finally, multivariate linear regression will demonstrate the association and strength between the independent and dependent variables included in the model.

Methodological Limitations

Although much information can be gleaned from this secondary analysis, methodological limitations exist as result of the conceptualization, data source, and analysis technique.

Limited Indicators (Social Bond Elements)

One limitation of the study is the limited number of indicators in the Add Health dataset representing the entire dimensionality of school social bonds. While attachment included indicators for the respondents' connectedness to the school personnel and institution, commitment and belief could have included more indicators to better represent

the variables. First, the indicators for school commitment could have illustrated occupational aspiration, as well as educational aspirations. Second, school belief could have included indicators for perceptions of other school personnel like the principle or school resource officer. Legitimately, these other school authority figures could have an effect on the students' perceptions of the school rules. Debatably, the composition of multiple indicators representing each bond element would have strengthened the analysis.

Survey Limitations

Despite the value of the in-home and in-school questionnaire in the Add Health study, notable limitations arise when adolescents respond to survey. Unfortunately, these issues may distort the reality of the phenomenon of interest. One issue which results from survey analyses is the Hawthorne Effect. For instance, students respond in a manner consistent with their perceptions of the how interviewer or researchers wants them to respond. Aside from any inaccurate information being provided, missing data can also cause a problem. Missing cases can be attributed to attrition, or the depletion of respondents over time. Similarly, the respondents may abstain from answering some of the questions because of the environment in which the survey is administered. For instance, a respondent may be reluctant to answer a question about their use of illicit drugs in school if they are currently in school. Indeed, this question in both waves of the Add Health dataset contained a substantial amount of missing data. Either way, missing cases in survey results can pose a substantial problem and should be addressed.

Analytical Technique Issues

The analytical technique in the present study poses a few problems for interpreting the results. While Ordinary Least Squares (OLS) multivariate linear regression does indicate

the correlation between the independent and dependent variable after other exogenous variables are controlled, it does not inform the researcher about any spurious or indirect relationships which may exist in the analysis. A spurious relationship exists when a third variable not considered in the analysis predicts both the independent and dependent variable. Gottfredson and Hirshi (1990), for example, asserted that low-self control was predictive of both delinquency and social bonds to the school. Multivariate regression will also not uncover any indirect relationships which may exist. For instance, the variable of social status may not have a direct effect on delinquency; rather it may have an indirect, significant effect on delinquency through delinquent peer associations. Individuals who indicate in a survey that their annual household income is below poverty are also more likely to have delinquent peers. Furthermore, delinquent peers or delinquent definitions are predictive of an individual's delinquent behavior. The underlying point is that multivariate regression is adequate for examining the predictive power of a model of independent variables on one dependent variable; though, it will not unveil spurious or indirect relationships.

Maturation

Another important limitation that should be acknowledged is the psychological changes which respondents undergo between the eighth and the ninth grade. While research has suggested that school discipline may have a more serious impact on students' school social bonds in the eighth grade (Eith, 2010), researching a phenomenon during the transition from eighth to ninth grade may be problematic. Although the exact number is uncertain, many American schools utilize the ninth grade as a benchmark for the beginning of students' secondary education. Several changes occur during this transition which causes adolescents to feel less academically competent (Anderman & Midgley, 1997) and decline in academic

performance and self-esteem (Simmons & Blythe, 1987). Some researchers (Roeser, Eccles, & Freedman-Doan, 1999) have noted that with the added strains of family disruption, economic deprivation, and the onset of puberty, school transitions can engender a downward spiral for the student that will eventually culminate with their disengagement from school (see also Berk, 2006). When interpreting the results, the students' maturation should be considered.

CHAPTER FOUR

RESULTS

This chapter provides the descriptive statistics, zero-order correlations, and multivariate linear regression model findings from the sample across two waves. While the descriptive statistics contextualize the sample of eighth grade students in the first wave, the zero-order correlations and OLS multivariate linear regression models address the research questions. Out-of-school suspension, expulsion, and school social bonds are the three principal independent variables and school social bonds and delinquency represent the study's dependent variables. Notably, several background or exogenous variables are controlled in order to obtain a clearer picture of the independent variables' effects. Because of the richness of the Add Health dataset, both waves of the present study incorporate measures of school social bonds, school discipline, and delinquency. This consideration of prior school social bonds and delinquency will elucidate the time order of key variable relationships. The primary foci, though, are to determine if out-of-school suspension and expulsion predicts weakened school social bonds between the first and second waves (i.e., 1994/1995-1996) and if weakened school social bonds predicts delinquency in the second wave (i.e., 1996).

Descriptive Statistics

The following section presents descriptive information regarding the variables utilized in the current study and contextualizes their use in the multivariate models. Frequency distributions and percentages for the school discipline, school social bonds, and delinquency of the sample of 992 eighth grade respondents are included for both waves.

School discipline is represented by those individuals who indicated receiving out-of-school suspension or expulsion. Tables 4.01 and 4.02 illustrate the frequency distributions

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and percentages for out-of-school suspension and expulsion in both waves. In wave one, 274

(27.7 %) of the respondents indicated receiving out-of-school suspension, and only 47 (4.7

%) of the respondents indicated being expelled from their school. In the second wave, 310

(33.8 %) of the respondents indicated receiving out-of-school suspension, and 60 (6.9 %)

respondents indicated being expelled. With respect to the school discipline variables,

important steps were taken to address response errors in the data set. For instance, several

respondents indicated that they received school discipline in the first wave, but indicated that

they had not received a form of school discipline in the second wave. In addition to changed

responses, several instances of missing data existed in the second wave for those individuals

who indicated receiving school discipline in the first wave. The question in the survey was

worded "Have you ever received OSS/been expelled?" As such, the responses for the second

wave of OSS and expulsion were changed to "yes" for every case where the respondent

indicated that they were expelled or suspended in the first wave.

Table 4.01
Frequency Distributions for School Discipline (Wave 1)

Variable Name		Percent	N	Valid Percent
Out-of-school suspension				
Received out-of-	Yes	27.6 %	274	27.7 %
school suspension	No	72.2 %	716	72.3 %
Expulsion				
Expelled from	Yes	4.7 %	47	4.7 %
school	No	95.1 %	943	95.3 %

Table 4.02
Frequency Distributions for School Discipline (Wave 2)

Variable Name		Percent	N	Valid Percent
Out-of-school suspension				
Received out-of-	Yes	31.1 %	310	33.8 %
school suspension	No	61.3 %	608	66.2 %
Expulsion				
Expelled from	Yes	6.0 %	60	6.9 %
school	No	81.4 %	807	93.1 %

School social bonds are represented by a composite scale comprised of three smaller scales representing attachment, commitment, and belief. As such, the frequency distributions and percentages are provided for the individual element scales as well as for the composite school social bond scale. In wave one, table 4.03 tabulates the three elements for attachment, commitment, and belief. School attachment was represented by four items which indicated their connectedness to the institution and the people at the institution. First, 775 (78.4 %) of the respondents indicated that they felt like they were a part of their school. Second, 647 (65.2 %) of the respondents indicated that they were happy at their school. Third, 783 (79.9 %) people claimed that they never or seldom had trouble getting along with their teachers. Fourth, 703 (71.0 %) of the respondents indicated that they felt close to the people at school. Commitment implicates the students' future aspirations and perceptions of work ethic. Of the respondents who indicated their commitment to school, 754 (76.5 %) had a great desire to attend college, 332 (55.4 %) were certain that they would graduate from college, and 712 (72.1 %) believed that they could accomplish things through hard work. The last element,

belief, represented the students' perceptions of legitimacy in the institution. As such, the

respondents' belief about the fairness of teachers and the safety of the school were measured.

For example, 589 (59.6 %) of the respondents believed that teachers treated students fairly,

and 697 (70.5 %) of the respondents felt safe in their schools. These aforementioned

elements were combined into composite social bond scales in both waves with a degree of 0

to 9 (see table 4.04). For the school social bond scales, the Cronbach's Alpha reliability

analyses revealed Alphas of .620 in the first wave and .669 in the second wave. These values

for Cronbach's Alpha fall above the traditionally regarded benchmark value of .600

indicating a reliable scale.

Table 4.03
Frequency Distributions for School Social Bond Variables (Wave 1)

Variable Name		Percent	N	Valid Percent
WAVE 1				
School Attachment Scale				
Feel part of your school	Agree	78.1 %	775	78.4 %
	Disagree	21.6 %	214	21.6 %
Happy at your school	Agree	65.2 %	647	65.4 %
	Disagree	34.6 %	343	34.6 %
Trouble-getting along teachers	Never/Seldom	78.9 %	783	79.9 %
	Chronic	20.9 %	207	20.9 %
Feel close to people at school	Agree	70.9 %	703	71.0 %
	Disagree	28.9 %	287	29.0 %
School Commitment Scale				
Want to attend college	Great Desire	76.0 %	754	76.5 %
	Lower Desire	23.4 %	232	23.5 %
Will graduate from college	Great Certainty	33.5 %	332	55.4 %
	Lower Certainty	26.9 %	267	44.6 %
Accomplish through hard work	Yes	71.8 %	712	72.1 %
	No	27.8 %	276	27.9 %
School Belief Scale				
Teachers treat students fairly	Yes	59.4 %	589	59.6 %
	No	40.3 %	400	40.4 %
Feel safe in your school	Yes	70.3 %	697	70.5 %
	No	29.4 %	292	29.5 %

Table 4.04
Composite School Social Bond Scale (Wave 1)

Variable Name		Percent	N	Valid Percent
School Social Bonds	0	.3 %	3	.5 %
	1	1.0 %	10	1.7 %
	2	1.9 %	19	3.2 %
	3	2.3 %	23	3.9 %
	4	5.3 %	53	8.9 %
	5	8.0 %	79	13.3 %
	6	10.1 %	100	16.8 %
	7	11.6 %	115	19.3 %
	8	10.9 %	108	18.1 %
	9	8.7 %	86	14.4 %

$\bar{x}$: 6.32
SD: 2.017

Table 4.05 represents the frequencies and percentages for school social bond elements in the second wave. Of the respondents who indicated their school attachment, 630 (74.2 %) of the respondents agreed that they felt a part of their school, 586 (68.9 %) agreed that they felt happy at their school, 705 (82.9 %) never or seldom had trouble getting along with teachers, and 575 (67.7 %) felt close to people at school. Regarding the respondents' commitment to school, 636 (72.5 %) had great desire to attend college, 385 (43.9 %) had great certainty that they would graduate from college, and 665 (75.7 %) believed that they could accomplish things through hard work. Finally, 473 (55.7 %) of the respondents believed that teachers treated students fairly and 589 (69.3 %) of the respondents felt safe in their school. A Social Bond Scale was also constructed from the second wave of data (see table 4.06).

Table 4.05
Frequency Distributions for Social Bond Variables (Wave 2)

Variable Name		Percent	N	Valid Percent
WAVE 2 **School Attachment Scale**				
Feel part of your school	Agree	63.5 %	630	74.2 %
	Disagree	22.1 %	219	25.8 %
Happy at your school	Agree	59.1 %	586	68.9 %
	Disagree	26.6 %	264	31.1 %
Trouble-getting along teachers	Never/Seldom	71.1 %	705	82.9 %
	Chronic	14.6 %	145	17.1 %
Feel close to people at school	Agree	58.0 %	575	67.7 %
	Disagree	27.6 %	274	32.3 %
School Commitment Scale				
Want to attend college	Great Desire	64.1 %	636	72.5 %
	Lower Desire	24.3 %	241	27.5 %
Will graduate from college	Great Certainty	38.8 %	385	43.9 %
	Lower Certainty	49.6 %	492	56.1 %
Accomplish through hard work	Yes	67.0 %	665	75.7 %
	No	21.6 %	214	24.3 %
School Belief Scale				
Teachers treat students fairly	Yes	47.7 %	473	55.7 %
	No	37.9 %	376	44.3 %
Feel safe in your school	Yes	59.4 %	589	69.3 %
	No	26.3 %	261	30.7 %

Table 4.06
Composite School Social Bond Scale (Wave 2)

Variable Name		Percent	N	Valid Percent
School Social Bonds	0	.2 %	2	.2 %
	1	1.6 %	16	1.9 %
	2	3.7 %	37	4.4 %
	3	6.6 %	65	7.7 %
	4	7.9 %	78	9.2 %
	5	9.7 %	96	11.4 %
	6	13.4 %	133	15.8 %
	7	15.0 %	149	17.7 %
	8	15.1 %	150	17.8 %
	9	11.9 %	118	14.0 %

$\bar{x}$: 6.14
SD: 2.138

Aside from the school social bond scales, frequency distributions and percentages are also provided for the measures of minor forms of delinquency (see table 4.07). In the first wave, 96 (9.8 %) of the respondents admitted that they carried a weapon to school in the past 30 days. Additionally, 187 (19.1 %) of the overall sample indicated that they deliberately damaged property that did not belong to them at least once in the past 12 months. In a third delinquency measure, 235 (24.0%) of the respondents indicated that they shoplifted in the past 12 months. Fourth, 365 (37.3 %) of the respondents indicated that they were involved in a serious physical fight in the past 12 months. Finally, 194 (19.8 %) of the sample indicated that they stole something worth less than $50 at least once in the past 12 months. In the second wave, 72 (8.2 %) of the sample carried a weapon to school in the past 30 days. In the respondents' indicated delinquency involvement in the past 12 months, 134 (15.3 %) deliberately damaged property that did not belong to them, 180 (20.6 %) shoplifted at least once, 197 (22.5 %) engaged in a serious physical fight, and 142 (16.2 %) stole objects worth less than $50. In both waves, the same five questions were incorporated into a composite delinquency scale which ranged from 0 to 5. Greater values represent a greater degree of delinquency. The Cronbach's Alpha Reliability analysis on the first wave's delinquency scale revealed an Alpha of .692. Additionally, the delinquency scale for wave 2 revealed an Alpha of .654. These values for Cronbach's Alpha fall above the traditionally regarded benchmark value of .600 indicating a reliable scale.

Table 4.07
Frequency Distributions for Delinquency Variables

Variable Name		Percent	N	Valid Percent
WAVE 1				
Carry weapon to	Yes	9.7 %	96	9.8 %
school	No	89.2 %	885	90.2 %
Past year-how often	1 or more times	18.9 %	187	19.1 %
damage property	Not at all	79.6 %	790	80.9 %
Past year-how often	1 or more times	23.7 %	235	24.0 %
shoplift	Not at all	75.1 %	745	76.0 %
Past year, how often	1 or more times	36.8 %	365	37.3 %
serious physical fight	Not at all	61.8 %	613	62.7 %
Past year-how often	1 or more times	19.6 %	194	19.8 %
steal worth less than	Not at all	79.2 %	786	80.2 %
$50				

$\bar{x}$: 1.10
SD: 1.354

Table Continues

Table 4.07
Frequency Distributions for Delinquency Variables (Continued)

Variable Name		Percent	N	Valid Percent
WAVE 2				
Since Moli carry	Yes	7.3 %	72	8.2 %
weapon to school	No	81.1 %	805	91.8 %
Past year-how often	1 or more times	13.5 %	134	15.3 %
damage property	Not at all	74.7 %	741	84.7 %
Past year-how often	1 or more times	18.1 %	180	20.6 %
shoplift	Not at all	69.9 %	693	79.4 %
Past year, how often	1 or more times	19.9 %	197	22.5 %
serious physical fight	Not at all	68.3 %	678	77.5 %
Past year-how often	1 or more times	14.3 %	142	16.2 %
steal worth less than	Not at all	73.8 %	732	83.8 %
$50				

$\bar{x}$: .83
SD: 1.193

Additionally, table 4.08 incorporates frequency distributions and sample percentages for the background variables. These exogenous variables were only integrated from the first wave. Regarding biological sex, 475 (47.9 %) of the respondents indicated that they were male while 517 (52.1 %) indicated that they were female. Socioeconomic status was measured in the parent questionnaire with a dividing line at the median household income of $38,000. Of the respondents who reported their SES, 404 (51.0 %) indicated having a total household income equal to or greater than the median household income, while 388 (49.0 %) reported making less than the median household income. With respect to those respondents who indicated their race, 657 (66.2 %) chose White, 232 (23.4 %) selected African American, 42 (4.2 %) chose the other category, and 40 (4.0 %) selected multiple races.

Moving beyond demographic characteristics, the present research also explored parental education and involvement in their child's education. Regarding the respondents who reported their mothers' education level, 139 (15.3 %) indicated less than a high school education, 360 (39.7 %) indicated obtaining a high school diploma or equivalent, 155 (17.1 %) indicated attending some college courses, and 253 (27.9 %) indicated that they were college graduates. With respect to the respondents' indication of their father's educational attainment, 88 (13.1 %) had less than a high school diploma, 262 (38.9 %) had a high school diploma or equivalent, 100 (14.9 %) had some college experience, and 223 (33.1 %) were college graduates. The parents' combined educational level (i.e., both mother's and father's educational attainment) indicated an Alpha of .763. In addition to parental education level, the mother's involvement in their child's education was also examined. While a scale of both parents' involvement in the respondents' education would have been preferable, substantial missing cases existed for the fathers' involvement in their children's education. For instance,

more than 27 percent of the cases were missing. To have included these data on the father would have obscured the accuracy of results. Of the respondents that reported their mother's involvement in their education, 577 (61.0 %) claimed that their mother talked to them about grades, 149 (15.8 %) indicated that their mother worked with them on a school project, and 469 (49.6 %) indicated that their mother discussed with them other school subjects. The involvement of the respondent's mother in their education revealed an Alpha of .645. This value for Cronbach's Alpha falls above the traditionally regarded benchmark value of .600 indicating a reliable scale.

Whether by the mere existence, or quality of their relationship, the respondents' peers also need to be examined. First, the respondents were asked about their attachment and commitment to their peers. The purpose of the peer attachment and commitment scales is to differentiate between students who have "active" social lives and "inactive" social lives. Regarding peer attachment, 826 (83.7 %) of the respondents believed their friends cared about them a lot or more than a lot. While peer attachment gauges to what extent respondents feel connected to their peers, peer commitment examines the respondents' effort to spend time with their friends. Specifically, peer commitment was measured with eight items regarding commitment to friends of both sexes. In the sample, 593 (66.3 %) talked to a male friend on the phone while 637 (72.7 %) talked to a female friend on the phone. Of the respondents who indicated going to a friend's house, 338 (37.8 %) would go to a male friend's house, while 367 (41.9 %) would go to a female friend's house. In the sample, 400 (44.7 %) met a male friend after school, which was contrasted by 439 (50.1 %) of respondents who met a female friend after school. Finally, 387 (43.2 %) of the respondents discussed a problem with a male friend, while 493 (56.3 %) discussed a problem with a

female friend. The respondents' relationships with antisocial peers were measured through questions geared toward their delinquent peer associations. Of the respondents who attested to their peers' delinquency 358 (37.2 %) had one or more friends who smoked, 387 (40.6 %) had one or more than one friend who drank once or more than once per month, and 218 (22.8 %) had one or more friends who smoked pot at least once per month. Cronbach's Alpha reliability analyses revealed Alphas of .612 for the peer commitment scale and .715 for delinquent peer associations. This value for Cronbach's Alpha falls above the traditionally regarded benchmark value of .600 indicating a reliable scale.

The final background characteristic that was measured was the respondents' reported academic achievement. In the current study, academic achievement was measured through a composite scale including the respondents' grades in four classes: English, Math, History, and Science. In English, 648 (66.7 %) received an A or B, while 323 (33.3 %) received a C or lower. In Math, 615(62.9 %) received an A or B and 363 (37.1 %) received a C or lower. In History, 671 (69.5 %) received an A or B, while 295 (30.5 %) got a C or lower in the class. In Science, 645 (67.0 %) reported receiving an A or B and 317 (33.0 %) indicated that they received a C or lower. Academic achievement, which consisted of the respondents' current grades in these four classes, revealed an Alpha of .646. This value for Cronbach's Alpha falls above the traditionally regarded benchmark value of .600 indicating a reliable scale. Now that descriptive statistics have been provided for the variables in the study, the research hypotheses can be examined by first conducting zero-order correlations and multivariate predictive models.

Table 4.08
Frequency Distributions for Background Variables

Variable Name		Percent	N	Valid Percent
Sex				
What is your biological sex?	Male	47.9 %	475	47.9 %
	Female	52.1 %	517	52.1 %
Socioeconomic Status				
Total household income	Median household income and above	40.7 %	404	51.0 %
	Below median household income	39.1 %	388	49.0 %
Race				
What is your race?	White only	66.2 %	657	67.7 %
	African American only	23.4 %	232	23.9 %
				4.3 %
	Other race	4.2 %	42	4.1 %
	More than 1 race indicated	4.0 %	40	

Table 4.08
Frequency Distributions for Background Variables (Continued)

Variable Name		Percent	N	Valid Percent
Parental Education				
Residential mom –	Less than H.S.	14.0 %	139	15.3 %
Education level	H.S. or equivalent	36.3 %	360	39.7 %
	Some college	15.6 %	155	17.1 %
	College graduate	25.5 %	253	27.9 %
Residential dad –	Less than H.S.	8.9 %	88	13.1 %
education level	H.S. or equivalent	26.4 %	262	38.9 %
	Some college	10.1 %	100	14.9 %
	College graduate	22.5 %	223	33.1 %

$\bar{x}$: 3.33
SD: 1.194

Mother Involvement in Respondent's Education				
Residential mom –	Yes	58.2 %	577	61.0 %
talked school – grades	No	37.2 %	369	39.0 %
Residential mom –	Yes	15.0 %	149	15.8 %
worked school – project	No	80.3 %	797	84.2 %
Residential mom –	Yes	47.3 %	469	49.6 %
talked school – other	No	48.1 %	477	50.4 %

$\bar{x}$: 1.26
SD: 1.044

Table 4.08
Frequency Distributions for Background Variables (Continued)

Variable Name		Percent	N	Valid Percent
Peer Attachment				
Friends care about you	A lot, plus more	83.3 %	826	83.7 %
	Less than a lot	16.2 %	161	16.3 %
Peer Commitment				
Male friend – 1 – talk on phone	Yes	59.8 %	593	66.3 %
	No	30.4 %	302	33.7 %
Female friend – 1 – talk on phone	Yes	64.2 %	637	72.7 %
	No	24.1 %	239	27.3 %
Male friend – 1 – go to friend's house	Yes	34.1 %	338	37.8 %
	No	56.1 %	557	62.2 %
Female friend – 1 – go to friend's house	Yes	37.0 %	367	41.9 %
	No	51.3 %	509	58.1 %
Male friend – 1 – meet after school	Yes	40.3 %	400	44.7 %
	No	49.8 %	494	55.3 %
Female friend – 1 – meet after school	Yes	44.3 %	439	50.1 %
	No	44.1 %	437	49.9 %
Male friend – 1 – discuss a problem	Yes	39.0 %	387	43.2 %
	No	51.2 %	508	56.8 %
Female friend–1– discuss a problem	Yes	49.7 %	493	56.3 %
	No	38.6 %	383	43.7 %

$\bar{x}$: 4.13
SD: 2.014

Table 4.08
Frequency Distributions for Background Variables (Continued)

Variable Name		Percent	N	Valid Percent
Delinquent Peer Association				
How many friends smoke	One or more	36.1 %	358	37.2 %
	None	60.9 %	604	62.8 %
Three friends-drink more than one a month	One or more	39.0 %	387	40.6 %
	None	57.1 %	566	59.4 %
Three friends-smoke pot more than one a month	One or more	22.0 %	218	22.8 %
	None	74.3 %	737	77.2 %

$\bar{x}$: 1.00
SD: 1.115

Academic Achievement Scale				
Most recent grade-English	A or B	65.3 %	648	66.7 %
	C or lower	32.6 %	323	33.3 %
Most recent grade-Math	A or B	62.0 %	615	62.9 %
	C or lower	36.6 %	363	37.1 %
Most recent grade-History	A or B	67.6 %	671	69.5 %
	C or lower	29.7 %	295	30.5 %
Most recent grade-Science	A or B	65.0 %	645	67.0 %
	C or lower	32.0 %	317	33.0 %

$\bar{x}$: 2.69
SD: 1.308

Bivariate correlations are immensely helpful for detecting unfettered relationships between variables. As the name "zero-order" implies, these analyses cannot inform such matters as temporal ordering thereby limiting the study's ability to infer causation. The research will uncover statistically significant relationships between the variables in the study at the .05 and .01 level. These significant relationships which convene or exceed the $p<0.05$ are identified with a "*", while "**" identifies significant relationships at the $p<0.01$ level in the tables. In other words, any relationship that is significant at these levels is unlikely to have occurred by chance alone.

Focal Variables

The primary focal variables in the study with which the research hypotheses are concerned will be examined. After the correlations of these key variables (i.e., out-of-school suspension, expulsion, school social bonds, and delinquency) are discussed, other variables' relationships will be mentioned. Table 4.09 tabulates these zero-order correlation findings. The first area of concern is school discipline measures for both waves.

Out-Of-School Suspension

In both waves, all of the correlations involving out-of-school suspension were significant at the $p<.01$ level. Receiving out-of-school suspension is negatively correlated with school social bonds in wave one (-.263**) and wave two (-.255**). In other words, a student who received out-of-school suspension in eighth grade was more likely to have lower school social bonds in both waves one and two. Additionally, having received out-of-school suspension is positively correlated with delinquency in wave one (.313**) and wave two (.195**). So, a student who received an out-of-school suspension in the eighth grade was

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more likely to have engaged in delinquency in both waves one and two. Having received out-of-school suspension in the eighth grade is also associated with sex (-.226**), race, (.137**), academic achievement (-.337**), SES (-.200**), parents' education (-.234**), peer attachment (-.107**), and delinquent peer associations (.266**). In other words, having received an out-of-school suspension in the eighth grade was associated with being a male, minority student with a lower socioeconomic status and academic achievement. In addition, these youths who receive out-of-school suspension are more likely to have less peer attachment, more delinquent peer associations, and parents with lower academic attainment. The strength of the relationships between receiving out-of-school suspension in the first wave and other variables was moderate.

Receiving an out-of-school suspension in the second wave is negatively correlated with school social bonds in wave one (-.257**) and wave two (-.266**). In other words, a student who receives an out-of-school suspension in the ninth grade is more likely to have lower school social bonds in both waves one and two. Much like the first wave, having received out-of-school suspension is positively correlated with delinquency in wave one (.305**) and wave two (.199**). So, those students who received out-of-school suspension are more likely to engage in delinquency. Having received out-of-school suspension in the second wave is also correlated with sex (-.288**), race (.146**) academic achievement (-.359**), SES (-.219**), parents' education (-.266**), peer attachment (-.081*), and delinquent peer association (.306**). In other words, those students who receive out-of-school suspension in the second wave are characterized as being male, minority, and from a lower socioeconomic status. These students are also more likely to have lower academic achievement and peer attachment, and more delinquent peer associations. Finally, these

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students are more likely to have parents with lower educational attainment. The strength of the relationships between receiving out-of-school suspension in the second wave and other variables was moderate.

Expulsion

The other school discipline variable, expulsion, did not have as many statistically significant relationships as seen in the analysis of out-of-school suspension variable. This finding may have been due to the low level of occurrences of this variable (i.e., expulsion), for both waves. Being expelled in the first wave was significantly correlated with school social bonds in the second wave (-.090**) only. Albeit the weak strength of the relationship, those students who are expelled are more likely to have lower school social bonds. Expulsion's relationship with delinquency, however, was significant in both waves one (.184**) and two (.103**). A student who is expelled in the eighth grade is more likely to engage in delinquency in the first and second waves. Expulsion was also associated with sex (-.119**), race (.066*), academic achievement (-.104*), SES (-.116**), parent's education (-.129**), and delinquent peer association (.126**). Those students who were expelled were more likely to be minority males from a lower socioeconomic status. In addition, their academic achievement and parents' educational attainment was more likely to be lower, while their delinquent peer associations were more likely to be greater. The strength of the relationships between expulsion in the first wave and other variables was weak overall.

Being expelled in the second wave was negatively correlated at the p<.05 level with school social bonds in the second wave (-.096**). A student who is expelled in the ninth grade is more likely to report lower school social bonds. Expulsion was also a correlate of delinquency in wave one (.200**) and wave two (.136**). In other words, a student who is

expelled is more likely to engage in delinquency in both waves. The other variables that expulsion was significantly correlated with were sex (-.094**), race (.078*), academic achievement (-.148**), SES (-.156**), parents' educational attainment (-.149**), and delinquent peer associations (.141**). Thus, students who are expelled in the ninth grade are more likely to be male minorities from a lower socioeconomic status. They are more likely to have lower academic achievement and greater delinquent peer associations. These students' parents are more likely to have lower educational attainment. In the present study, expulsion seemingly has predominately nonsignificant relationships and weaker correlations with most of the variables. Again, this issue may be due to the variable's lower amount of occurrences.

School Social Bonds

Another focal variable is the individuals' social bonds to the school. Since the relationships between school social bonds and school discipline have already been mentioned, only correlations with delinquency and other variables will be discussed here. School social bonds in the first wave were negatively correlated with delinquency for wave one (-.282**) and wave two (-.194**). In other words, students in the eighth grade with higher school social bonds were less likely to engage in delinquency in both waves one and two. School social bonds were also correlated with academic achievement (.319**), SES (.155**), mother's school involvement (.098*), parents' education (.190**), peer attachment (.260**), and delinquent peer association (-.283**). Those students with greater school social bonds were more likely to have higher socioeconomic status, academic achievement, and attachment to their peers, but lower delinquent peer associations. Additionally, these students were more likely to have parents with higher educational attainment and mothers who were more involved with their education. Unexpectedly, peer commitment was not found to be a

statistically significant correlate of school social bonds. Again, the strength of the relationships between school social bonds in the first wave and the other variables was weak, at best.

School social bonds in the second wave were negatively correlated with delinquency in wave one (-.246**) and wave two (-.226**). Students in the ninth grade with higher school social bonds were less likely to engage in delinquency in both waves one and two. School social bonds were also associated with academic achievement (.339**), SES (.132**), parents' education (.186**), peer attachment (.157**), and delinquent peer associations (-.273**). In other words, students in the ninth grade with high school social bonds were characterized as having higher academic achievement, parents with higher educational attainment, greater attachment to their peers, and higher socioeconomic status. These students, though, were less likely to have delinquent peer associations. Similarly to the first wave, peer commitment was not a statistically significant correlate of school social bonds. The strength of the relationships between school social bonds in the second wave and other variables was moderate.

Delinquency

Delinquency was associated with other variables besides suspension, expulsion, and school social bonds. In the first wave, delinquency was correlated with sex (-.191**), academic achievement (-.241**), peer commitment (.099**), and delinquent peer associations (.342**). In other words, those male students in the eighth grade who have lower academic achievement, but have greater commitment to their peers and delinquent peer associations are more likely to engage in delinquency. Delinquency in the second wave was only correlated with sex (-.132**), academic achievement (-.130**), and delinquent peer

associations (.253**). Therefore, those male respondents in the ninth grade who have lower

academic achievement, yet higher delinquent peer associations are more likely to engage in

delinquency.

Table 4.09

Zero-order Correlation Matrix

Var.	A = Sex	B = Race	C = Acad. Achieve	D = SES	E = Mother's Involv.	F = Parent's Educ.	G = Peer Attach.	H = Peer Commit.	I = Del. Peer Assoc.
A	1								
B	.015	1							
C	.182**	-.025	1						
D	.058	-.195**	.148**	1					
E	.009	.048	.016	.050	1				
F	.066	-.051	.321**	.426**	.078	1			
G	.110**	-.153**	.017	.164**	.012	.113**	1		
H	.148**	-.017*	-.019	.089*	.081*	-.009	.090*	1	
I	.015	-.074*	-.254**	-.140**	-.048	-.175**	.004	.159**	1
J	-.191**	.030	-.241**	-.044	-.008	-.071	-.059	.099**	.342**
K	-.132**	.004	-.130**	-.022	.006	-.010	.003	.064	.253**
L	.062	.046	.319**	.155**	.098*	.190**	.260**	-.016	-.283**
M	.043	-.024	.339**	.132**	.053	.186**	.157**	-.026	-.273**
N	-.226**	.137**	-.337**	-.200**	.014	-.234**	-.107**	.029	.266**
O	-.228**	.146**	-.359**	-.219**	.028	-.266**	-.081*	.029	.306**
P	-.119**	.066*	-.104**	-.116**	-.004	-.129**	-.004	.064	.126**
Q	-.094**	.078*	-.148**	-.156**	.006	-.149**	-.010	.062	.141**

* = p < .05

** = p < .01

*** = p < .001

Table Continues

Table 4.09

Zero-order Correlation Matrix (Continued)

Var.	J = Del. Wave 1	K = Del. Wave 2	L = SB Wave 1	M = SB Wave 2	N = Susp. Wave 1	O = Susp. Wave 2	P = Exp. Wave 1	Q = Exp. Wave 2
A								
B								
C								
D								
E								
F								
G								
H								
I								
J	1							
K	.520**	1						
L	-.282**	-.194**	1					
M	-.246**	-.226**	.534**	1				
N	.313**	.195**	-.263**	-.255**	1			
O	.305**	.199**	-.257**	-.266**	.916**	1		
P	.184**	.103**	-.036	-.090**	.297**	.284**	1	
Q	.200**	.136**	-.029	-.096**	.328**	.358**	.878**	1

* = p < .05

** = p < .01

*** = p < .001

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Multivariate Models

While zero-order correlations are adequate for determining if a relationship exists between two variables, multivariate models are needed to control for several variables at the same time, which may impact the dependent variable of interest. The current research employs Ordinary Least Squares (OLS) Linear Regression in order to control for the various background variables and determine whether weakened social bonds and delinquency can be predicted by suspension and expulsion. This method will determine if weakened school social bonds predict delinquency. Four models have been constructed to address the research questions (see Tables 4.10, 4.11, 4.12, and 4.13). For each model, two explanatory statistics are presented: F and R Square. The F denotes the amount of between-group variance remaining after the within group variance is considered. The R square and adjusted R square describe the proportion of explained variation in each of the models. In other words, this statistic displays the ability of the model to predict the dependent variable.

Aside from the model statistics, five explanatory statistics are displayed for each of the variables within the models. The statistic indicated in the table as "B" represents the unstandardized beta coefficient. This statistic displays the direction of a relationship between the independent and dependent variables, and represents the actual value of the independent variable's coefficient in the linear regression equation. Another statistic signified in the models is the "SE" or the coefficients' units of standard error. This statistic establishes a confidence interval for the assumed parameter, so as to demonstrate the stability of the estimate, relative to the unstandardized coefficient. Notably, collinearity of the independent variables was examined (see Table 4.09), and a few of the variables exceeded 0.6. Specifically, the across-wave correlations of both OSS and expulsion exceeded 0.8.

However, the intent of the current research is not to determine whether OSS and/or expulsion in wave one predicts the incidence of OSS and/or expulsion in the second wave. Since suspension and expulsion in the first wave and second waves were not utilized in the multivariate analyses, the risk of multicollinearity or over-explaining the relationships between any independent pairs in the model is reduced. Another important variable statistic is the standardized beta coefficient, which is identified in the model as "Std. Coefficient". This statistic allows for the determination for which independent variable, in a pool of independent variables, has the strongest relationship with the dependent variable. Additionally, the standardized coefficient allows for a comparison of the revealed relationships between independent variables and the dependent variable. The next variable statistic is the "t", or the amount of standard error from the model mean. Finally, the relative significance level, which is indicated by "significance" in the tables, represents the threshold at which the correlates are considered significant. Significant variables surpassing the $p < 0.05$, $p < 0.01$, $p < 0.001$ level are identified with a "*," "**," and "***" in the tables.

Model Predicting School Social Bonds in Wave 1

Table 4.10 presents the results of the OLS regression model predicting school social bonds in the first wave. The F score for this model was 8.102 and the model explained 25.8 % of the variance in the dependent variable. Within the model, five variables were found to be statistically significant after controlling for all other variables in the model. Academic achievement and peer attachment exceeded the $p < 0.001$ threshold, while SES, delinquent peer association, and expulsion from school in wave one exceeded the $p < 0.05$ threshold. First, academic achievement was positively correlated ($b = .287$; $p = .001$) with school social bonds in wave one. This finding illustrates that as academic achievement increases, so does

school social bonds. Peer attachment ($b = .235$; p = .001) was another positive correlate of school social bonds in the first wave. As students are more attached to their peers, they are also more socially bonded to the school. SES ($b = .151$; p = .05) and expulsion from school in the first wave ($b = .138$; p = .05) had positive, but weak relationships with school social bonds in the first wave. As the individuals' self-reported SES and expulsion increases, their social bonds to the school also increase. Delinquent peer associations and school social bonds were negatively correlated ($b = -.132$; p = .05). Thus, as respondent report having more delinquent peer associations, their ties to the school are weaker.

Importantly, several of the findings support the literature. Academic achievement is one of the most important correlates of school social bonds. Arguably, academic achievement could have been used as a proxy for the actual school attachment element. Wiatrowski et al.'s (1981) research supported the inclusion of school performance in measuring school attachment. Wiatrowski et al.'s attachment components appeared similar to Hirschi's (1969) four social bond elements; one of which is "attachment to conventional society". For example, Wiatrowski et al. (1981) included school performance, academic aspirations, involvement in school activities, and satisfaction and ties to the school. Each of these components mirrors proxies for Hirschi's bond elements. Siennick and Staff (2008) suggested that academic achievement, a proxy for effort, represents a student's commitment to school. However, other researchers (Sampson and Laub, 1993) examined delinquency by testing for the separate effects of school bonding elements and academic achievement. With this being said, academic achievement was examined aside from school attachment as an important control factor in the present study. This decision to separate school achievement from the attachment proxies and its implications for the analysis will be discussed more

thoroughly in the next chapter. Still, the relationship between academic achievement and school attachment and commitment appear to be upheld by previous research (Hirschi, 1969; Jenkins, 1997; Stewart, 2003; Wiatrowski et al., 1981).

The positive correlation between peer attachment and connectedness to conventional social institutions has also been supported by the research (Hirschi, 1969). First, Hirschi (1969) asserted that those people who were attached to their peers would conform to conventional society (see also Akers, 1997). The author specifically indicated in his Social Bond theory that "the more one respects or admires one's friends, the less likely one is to commit delinquent acts" (p. 152). Though, the present study expounds Hirschi's (1969) contention by demonstrating that an individual's attachment to one's friends predicts a greater attachment to the school. As adolescents reach the ages 8 to 14, their connectedness and relationships with peers become especially important comparatively to other social institutions (Berndt, 1986). The next section will elaborate on the quality of peer relationships in predicting an individual's ties to the school.

The present research's finding of a negative correlation between delinquent peer associations and school social bonding is also supported by the literature. Despite Hirschi's (1969) assertion that individuals only have to be bonded to peers to represent their connection to conventional society, the results do illustrate that delinquent peer definitions, values, and norms do affect how individuals connect with the school. Considering youths spend time with their peers in school, this finding makes complete sense. Thus, any positive definitions impressed by school personnel seem to be in competition with other delinquent definitions found in the school. In the end, peers could have greater influence on whether students developed a prosocial bond to the school.

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An interesting finding that has received mixed support by previous control theory research is the positive correlation between socioeconomic status and school social bonds. According to control theorists (Hirschi, 1969; Kornhauser, 1978), socioeconomic status should have no or a minimal bearing on the degree to which adolescents develop prosocial bonds to conventional society. While Sampson and Laub (1993) found that family structural variables did affect an individual's delinquency, SES was not a significant indicator of social bonds. Nonetheless, the present study found that those youths in the eighth grade who come from higher income families report greater positive ties to the school.

As a final note, the correlation between expulsion and school social bonds existed in an unexpected direction. As more people report being expelled from the school, prosocial bonds to the school increase. The challenge in interpreting this result is discerning whether expulsion is a legitimate social control method for school authorities, or if the proxy for expulsion in the present study was an adequate measure of school discipline. If the waves in the Add Health dataset are only a year apart, a student that is expelled in the first wave may be unlikely to be present to report their delinquency in an in-school questionnaire in the second wave. This assumption, of course, depends on the specific time frame for which an individual is expelled. Additionally, this unexpected relationship may very well be related to the low incidence of expulsion. Aside from the positive correlation of expulsion with school social bonds, null findings of OSS on school social bonds were also uncovered from the results. As both of these findings contradict previous research (Eith, 2010), a more in-depth explanation of expulsion and OSS will be provided in the Discussion section.

Table 4.10

OLS Regression Predicting School Social Bonds Wave 1

Variables	B	Standard Error	Std. Coefficient	t	Significance
Sex	-.218	.235	-.056	-.925	.356
Race	.104	.199	.030	.520	.603
Academic Achievement	.467	.104	.287	4.486	0.000***
SES	.627	.248	.151	2.530	.012*
Mother's Involvement	.113	.104	.062	1.086	.279
Parent's Education	-.019	.067	-.018	-.280	.780
Peer Attachment	1.641	.401	.235	4.095	0.000***
Peer Commitment	-.052	.056	-.054	-.936	.350
Delinquent Peer Association	-.235	.113	-.132	-2.086	.038*
Delinquency (Wave 1)	-.144	.089	-.101	-1.619	.107
Received Out-of-school Suspension (Wave 1)	-.579	.348	-.107	-1.665	.097
Expelled from School (Wave 1)	2.124	.906	.138	2.345	.020*

R Square: .294

Adjusted R Square: .258

F: 8.102

Model Predicting Delinquency in Wave 1

Table 4.11 presents the results of the OLS regression model predicting delinquency in the first wave. The F score for this model was 5.783 and the model explained 19 % of the variance in the dependent variable. Within the model, two variables were found to be statistically significant after controlling for the other independent variables. In this model, only sex and delinquent peer associations were statistically significant predictors (i.e., at the $p<.001$ level) of delinquency after controlling for the other independent variables. In predicting delinquency in the first wave, sex was a negative correlate ($b = -.231$; $p = .001$) and delinquent peer associations was a positive correlate ($b = .279$; $p = .001$). Regarding sex, those respondents who indicated that they were male were associated with a larger amount of self-reported delinquency. Also, the greater the amount of an individual's self-reported delinquent peer associations, the more likely they would report engaging in delinquency. Both of these findings are consistent with previous delinquency research.

First, the positive correlation between respondents indicated as male and self-reported delinquency is consistent with the delinquency literature. Previous researchers have found that boys are more likely to be delinquent by engaging in violence or drug use (Bachman & Peralta, 2002; Hickman & Paquero, 2001; Mazerolle, et. al., 2002). Furthermore, research has supported greater male delinquency in the school environment (Pestello, 1989). Even though the current research did not specifically examine instances of delinquency in the school, the delinquency scale could have captured delinquent acts in the school. Thorne (1993) offers the explanation that girls may be more adaptive to school social control methods (i.e., restrictive supervision, school discipline, etc.).

In addition to biological sex, delinquent peer associations were another significant finding in the research. Specifically, many previous researchers have found that delinquent peer association is a strong and consistent predictor of an individual's delinquency (Elliot, Ageton, and Canter, 1985; Matsueda & Heimer, 1987; Warr & Stafford, 1991). Researchers have also unveiled the collusion of these biological sex and delinquent peer associations in predicting delinquency. Compared to girls, boys are more likely to have delinquent peer association than girls, which subsequently increases their propensity to engage in delinquency (Erikson et al., 2000). Despite the significant findings on sex and delinquent peer associations, none of the key variables (i.e., OSS, expulsion, and school social bonds) were found to be statistically significant.

Table 4.11

OLS Regression Predicting Delinquency Wave 1

Variables	B	Standard Error	Standard Coefficient	t	Significance
Sex	-.632	.168	-.231	-3.767	0.000***
Race	-.214	.145	-.088	-1.475	.141
Academic Achievement	.018	.080	.016	.231	.817
SES	.125	.184	.043	.678	.498
Mother's Involvement	.099	.076	.077	1.302	.194
Parent's Education	-.033	.049	-.044	-.679	.498
Peer Attachment	.017	.304	.003	.055	.956
Peer Commitment	.070	.041	.103	1.721	.087
Delinquent Peer Association	.348	.080	.279	4.333	0.000***
Received Out-of-school Suspension (Wave 1)	.338	.255	.089	1.324	.187
Expelled from School (Wave 1)	.791	.670	.073	1.181	.239
School Social Bonds (Wave 1)	-.077	.048	-.110	-1.619	.107

R Square: .229
Adjusted R Square: .190
F: 5.783

Model Predicting School Social Bonds in Wave 2

Table 4.12 presents the results of the OLS regression model predicting school social bonds in the second wave. The F score for this model was 9.757 and the model explained 24.1 % of the variance in the dependent variable. Within the model, three variables were found to be statistically significant after controlling for the remaining independent variables. Academic achievement exceeded the $p<0.001$ threshold, while delinquent peer associations exceeded the $p<.01$ level. Peer attachment also surpassed the $p<0.05$ threshold. Academic achievement ($b = .376$; $p = .001$) and peer attachment ($b = .158$; $p = .001$) were positively correlated with school social bonds in the second wave. In other words, the greater the respondents indicated having higher academic achievement and a greater attachment to peers, the more likely they were to be socially bonded to the school in the second wave. Delinquent peer associations were negatively correlated ($b = -.143$; $p = .01$) with school social bonds in the second wave. Thus, the more that the respondent associated with delinquent peers, the less likely they were to be socially bonded to the school. The other key variables were not statistically significant and the findings of support for the research questions were mixed. Despite the null findings, the results from this model demonstrate the importance of academic achievement, peer attachment, and delinquent peer associations in predicting the individual's school social bonds. In contributing to prior literature, these findings suggest that these variables can be stable predictors of prosocial school bonds across a period of one year.

Table 4.12

OLS Regression Predicting School Social Bonds Wave 2

Variables	B	Standard Error	Standard Coefficient	t	Significance
Sex	-.140	.198	-.035	-.708	.479
Race	.128	.160	.039	.798	.425
Academic Achievement	.643	.091	.376	7.064	.000***
SES	.385	.223	.089	1.732	.084
Mother's Involvement	.110	.091	.057	1.212	.226
Parent's Education	-.053	.060	-.048	-.881	.379
Peer Attachment	1.058	.321	.158	3.296	.001**
Peer Commitment	.001	.048	.001	.015	.988
Delinquent Peer Association	-.272	.098	-.143	-2.775	.006**
Received Out-of-school Suspension (Wave 1)	.544	.559	.094	.973	.331
Expelled from School (Wave 1)	-1.959	1.895	-.159	-1.034	.302
Received Out-of-school Suspension (Wave 2)	-.947	.517	-.180	-1.831	.068
Expelled from School (Wave 2)	1.856	1.790	.158	1.037	.300

R Square: .268

Adjusted R Square: .241

F: 9.757

Model Predicting Delinquency in Wave 2

Table 4.13 presents the results of the OLS regression model predicting delinquency in the second wave. The F score for this model was 2.193 and the model explained 5.6 % of the variance in the dependent variable. Within the model, only one variable was statistically significant after holding the other independent variables constant. Sex exceeded the $p<0.01$ threshold, and it was a negative correlate (b = -.192) of delinquency in the second wave. In a coding structure that assigns males equal to zero and females equal to one, this finding simply indicates that those respondents who indicate that they are male are more likely to engage in delinquency. This finding was consistent for predicting delinquency in both waves, while controlling for the same background variables. These results are consistent with previous delinquency research (Bachman & Peralta, 2002; Hickman & Paquero, 2001; Mazerolle, et. al., 2002) simply because males are more likely than females to engage in delinquency and biological sex is "unlikely" to change across time. The caveat of this interpretation is that many delinquents, male and female, will desist from criminality anyway once adult roles become available (Sampson & Laub, 1993). The current research only examines two waves of research from eighth to ninth grade, for which the most relevant social institutions to the respondents are the school, family, and peer-networks.

Table 4.13

OLS Regression Predicting Delinquency Wave 2

Variables	B	Standard Error	Std. Coefficient	t	Significance
Sex	-.459	.160	-.192	-2.874	.004**
Race	-.012	.143	-.006	-.086	.932
Academic Achievement	.005	.080	.005	.068	.946
SES	.005	.080	.005	.068	.946
Mother's Involvement	.133	.076	.119	1.759	.080
Parent's Education	.019	.048	.029	.392	.696
Peer Attachment	.139	.307	.032	.453	.651
Peer Commitment	.037	.040	.063	.922	.357
Delinquent Peer Association	.103	.080	.093	1.283	.201
School Social Bonds (Wave 1)	-.048	.054	-.075	-.898	.370
School Social Bonds (Wave 2)	-.094	.051	-.158	-1.863	.064

R Square: .102

Adjusted R Square: .056

F: 2.193

CHAPTER FIVE

DISCUSSION

While the previous chapter documented several important findings, these results are only as important as their implications for theory, policy, and future research. In this chapter, the results will be interpreted and elaborated as to illuminate significant relationships in the analyses, unexpected findings, and shortcomings with the present research. The correlations within the zero-order and OLS multivariate regression models will be considered as these analyses directly illustrate the influence that controlling for exogenous variables can pose to seemingly significant relationships. Finally, implications for theory, research, and policy will be provided.

Interpretations

Predictors of School Social Bonds in the Eighth Grade

Prior to the control of other background variables, receiving out-of-school suspension was a statistically significant correlate of several variables. For instance, having received out-of-school suspension in the eighth grade was positively correlated with race, delinquent peer associations, and delinquency in the eighth and ninth grades. Additionally, receiving out-of-school suspension was negatively correlated with school social bonds in the eighth and ninth grades, biological sex (male = 0; female = 1), academic achievement, socioeconomic status, parents' education, and peer attachment.

Being expelled was also correlated with several variables in the bivariate analysis. First, having been expelled and socioeconomic status were positively correlated with race (White = 0), delinquent peer association, and delinquency in the eighth grade. In addition, having been expelled in the eighth grade was negatively correlated with biological sex (male = 0; female = 1), academic achievement, socioeconomic status, parents' education, and

school social bonds in the ninth grade. Once the background variables were held constant, only academic achievement, socioeconomic status, peer attachment, delinquent peer associations, and expulsions were significant predictors of school social bonds in the eighth grade.

The correlation of being expelled with school social bonds, however, was in an unexpected direction. The results indicated that the more likely an individual will be expelled, the greater their social bonds to the school. Prior to controlling for the background characteristics, being expelled was not a significant correlate of school social bonds. These findings could be explained in a few ways. First, these findings could be the result of a small reporting of expulsion. Or it may be that how the student perceives the fairness of the discipline is more important than the incident of discipline. Finally, the findings could indicate that the students' school social bonds were legitimately strengthened after receiving expulsion. The experience of being expelled could be an adequate formal control method to keep students tied with the institution.

While being expelled was a significant predictor of school social bonds in the eighth grade, receiving out-of-school suspension was not a significant predictor. While this result is an unexpected outcome, the relationship between receiving out-of-school suspension and school social bonds is more complex than originally considered. Several factors may have individually or collectively engendered the null findings. Again, the students' perceptions of that punishment may be more crucial than the specific act of discipline. A student may have received out-of-school suspension, but felt that the punishment was fair and deserved. In this case, the student's attachment to the school and belief in the fairness of the school rules would not have been negatively affected.

Another factor is that other variables may mediate the effect of school discipline and school social bonds. Although research supports a direct link from school discipline to school social bonds (Jenkins, 1997), school disciplinary practices may also indirectly predict how well the respondents are bonded to the school. For instance, peer attachment or delinquent peer associations may have acted as mediating factors. Unfortunately, the analytical technique employed in this research did not detect any indirect relationships.

Predictors of Delinquency in the Eighth Grade

Theoretically, if an individual's social bonds to conventional society are weakened, they should be more likely to engage in delinquency. The findings, however, do not support this conclusion. Prior to controlling for the background variables, school social bonds in the eighth grade were significantly correlated with several variables. While school social bonds were positively correlated with academic achievement, socioeconomic status, mother's involvement in child's education, parents' education, and peer attachment, they were negatively correlated with delinquent peer associations and self-reported eighth grade delinquency.

After controlling for the background variables, only biological sex and delinquent peer associations were statistically significant correlates of delinquency in the eighth grade. In other words, males and peers of delinquent individuals were more likely to engage in delinquency. The main variables, school social bonds, out-of-school suspension, and expulsion, were not significantly correlated with self-reported delinquency in the eighth grade. These findings indicate that school disciplinary actions in school are not significantly correlated with delinquency. Nonetheless, the significant variables in the model deserve attention.

First, biological sex was a significant predictor of delinquency, indicating that boys are more likely to engage in delinquency. Examining the male-delinquency link has been the focus of many research studies (Canter, 1982; Cloward and Ohlin, 1960; Cohen; 1955; Elliot and Voss, 1974; Hirschi, 1969). While many prominent studies have neglected to explain why girls engage in delinquency (Cloward and Ohlin, 1960; Cohen; 1955; Elliot and Voss, 1974; Hirschi, 1969), some research has included both sexes in their explanations (Canter, 1982). Canter (1982) found that sex differences existed between boys and girls with respect to their family social bonds. In other words, boys were less likely to be bonded to their family, and subsequently, more likely to engage in delinquency than females. As such, the family, as well as the school, may inhibit male delinquency.

According to the results, delinquent peer associations also play an important role in self-reported delinquent behavior. Yet, attachment to peers was not significantly predictive of delinquency in this model. These findings indicate that delinquent definitions, rather than bonds to peers matters more in predicting delinquency. Ultimately, the findings from this model warrant two broad conclusions. First, the educational institution is not the only inhibitory source of control during this point in adolescence. Second, delinquent definitions may be more important in predicting an individual's delinquency than peer or school social bonds.

Predictors of School Social Bonds in the Ninth Grade

Prior to controlling for other exogenous variable in the model, several variables were correlated with school social bonds in the ninth grade. While academic achievement, socioeconomic status, parents' education, peer attachment were positively correlated with school social bonds, delinquent peer associations and self-reported ninth grade delinquency

were negatively correlated. After holding the background variables constant, academic achievement, peer attachment, and delinquent peer associations were significant correlates of ties to the school during the ninth grade. While academic achievement and peer attachment were positive correlates, delinquent peer associations were negative correlates of school social bonds. Unfortunately, being expelled and receiving out-of-school suspension in the eighth and ninth grades did not predict school social bonds in the ninth grade after controlling for other background variables. As previously explained, the relationship between expulsion and school social bonds across grade levels could be hampered by the effects of intermediate variables or the relatively small amount of cases for this school discipline variable.

The findings indicate that strong academic success and attachment to one's peers in the eighth grade appears to strengthen a student's ties to the school in the ninth grade. Delinquent peer associations in the eighth grade, however, may weaken the students' social bonds to the school in the ninth grade, as well as in the eighth grade. These findings become especially important considering that this transition oftentimes represents a changeover from middle school to high school. As previously mentioned, this transition between school environments is amalgamated with several other life stressors like family strain, poverty, and the onset of puberty to eventually lead to their disengagement from school (Roeser, Eccles, & Freedman-Doan, 1999; see also Berk, 2006). Simmons and Blythe's (1987) research even documented a natural decline in the students' academic performance between school environment transitions. Nonetheless, the present study's findings report that those students who have higher academic achievement in the eighth grade are more likely to be socially bonded to the school in eighth and ninth grades. In addition to academic achievement,

whether an adolescent is attached to their peers in the eighth grade affects whether they will continue to be socially bonded to the school in the ninth grade. The results also suggested that an individual's delinquent peer associations or delinquent definitions in the eighth grade have a lasting and weakening effect on their ties to the school. Overall, these results report the factors that are indicative of stronger and weaker ties to the educational institution from the eighth to the ninth grade.

Predictors of Delinquency in the Ninth Grade

In the bivariate analysis, several variables were correlated with delinquency in the ninth grade. Negative correlates of delinquency included biological sex, academic achievement, and school social bonds in the ninth grade. The only positive correlation was between delinquent peer associations and delinquency. Once all of the variables were held constant, though, only biological sex was significantly correlated with delinquency in the ninth grade. In other words, the results show that respondents who indicate that they are male are more likely to engage in delinquency in the eighth and ninth grades. School social bonds in the eighth and ninth grades were not predictive of delinquency in the ninth grade. Notably, this model only explained 5 percent of the variance in the dependent variable. Perhaps, better or more replete variables and measures from another dataset are needed to examine delinquency. Future research should incorporate more variables in the model or replicate the study with another data source in order to provide a more complete explanation of the dependent variable.

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Implications

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Although this study did not find support for the research hypotheses, future research and policy implications are still relevant. These implications may assist other researchers in

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expanding the present study or aid policymakers in developing effective delinquency-prevention programs. While school discipline could not be implicated for an increase or decrease in school social bonds or delinquency, several background variables were associated with greater ties to the school and lower self-reported delinquency.

Future Analyses

The findings in the present study open several avenues for subsequent research projects. First, the present study would be benefitted by the inclusion of more waves in the study. While this study did include data from two points in time, only a year passed between waves one and two. It could be that noticeable changes in a student's school social bonds take longer than a year to observe. Future research could capitalize on this limitation by including those subsequent waves. In the same vein, research might also examine the inhibitory effect of adult social bonds (i.e., marriage, career, military, etc.) on desistence and persistence in criminality. Therefore, as the respondents' reach adulthood, more variables should be included in the research.

Second, more research is needed to develop the school-to-prison pipeline phenomenon. While the present study measured school social bonds in the eighth and ninth grade, future researchers may want to look at the effect of school discipline on school social bonds at other grade levels. Perhaps school disciplinary actions may be more detrimental or beneficial to students in other grades levels. Second, deterrence research involving school disciplinary actions or mass school disciplinary policies might be beneficial for evaluating the effectiveness of the punishment in schools. This research could examine how the certainty, severity, and celerity of these disciplinary actions may individually or jointly affect school misconduct or crime. Another area of research may explore potential labeling effects

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associated with school disciplinary methods. For instance, students who receive out-of-school suspension or expulsion may be more likely to feel stigmatized from their punishment, and react negatively to their new status. While the dependent variable may be school misconduct or crime measures, they can also be nonattendance or drop rates. Future research may also explore the effects of school discipline on later life outcomes or adult social bonds.

As one of the only significant variables that predicted school social bonds in the study, academic achievement is another broad research area which deserves further exploration. In the present study, the students' academic success was associated with stronger social bonds to the school in both waves. Future research should continue to explore potential scenarios where academic achievement may be an insulator against delinquency. In situations where the students are removed from the school environment, alternative school programs should be made accessible. Future research might examine the availability of these programs and schools in all school districts across the nation. Moreover, the quality of these programs needs to be scrutinized so as to determine what criteria must be met for at-risk students to successfully obtain a high school diploma or equivalent.

Future research on school social bonds should include measures for family social bonds. While school and peers are important social institutions in youths' lives, the family or home environment may also directly or indirectly influence an individual's delinquency. While the present study did control for maternal involvement in the child's education and parents' educational attainment, the child's attachment, commitment, and belief in the family unit should also be incorporated in prospective research projects. Indeed, an adolescent's social bonds to the three aforementioned social institutions may have a cumulative

restraining effect on delinquency. In addition, subsequent research should examine the impact that the father's involvement in their child's education may have on delinquency. Unfortunately, the present study excluded information on father involvement in the respondents' education because of substantial missing cases in the Add Health dataset. Other datasets may provide more complete information about this variable.

Utilizing more sophisticated analytical techniques should be another avenue for subsequent research. In the current study, only individual level indicators were used to examine the indirect effect of school discipline on delinquency. The explanatory power of any of the models in the study did not exceed 26 percent, which means that other variables may be integrated into the model. In utilizing hierarchical linear modeling (HLM), researchers can examine individual-level information and school- or community-level data. Examples of school-level data include the overall disciplinary climate (Eith, 2010; see also Gottfredson, 2001), student transience, or school size. Since some researchers suggest that a school is the product of the outside community, community-level variables, like poverty or residential heterogeneity, may also affect school social bonds and delinquency.

Although the current research hypotheses could not be supported, the reality may be that various variables mediate the relationship between school discipline, school social bonds, and delinquency. It may be that once a student receives out-of-school suspension or expulsion, they may be more likely to interact with male delinquent peers. The delinquent definitions or norms that youths encounter from their antisocial peers may be in opposition to school norms and values. As such, the student's ties to the school are weakened. Or after a student is suspended or expelled from school, they might find more difficult to catch up

academically with their peers. This process may ultimately lead to students dropping out of schools, and subsequently engaging in delinquency.

Much like the findings from previous tests of criminological theory (Matsueda and Anderson, 1998), differential association theory and control theory measures of peer relationships were both supported by this study. Future research, however, might explore the genesis of delinquent peer associations and weak social bonds to peers in predicting delinquency. In other words, does this process happen simultaneously with both indicators (i.e., attachment to antisocial peers), or does one variable precede the other?

Policy

The research uncovered some positive findings, which can be translated into policy recommendations. First, this research found that academic achievement and peers are linked with students' ties to the school. School-based programs which emphasize these areas may assist in strengthening the youths' ties to the school. The findings on delinquent peer associations encourage policymakers and researchers to develop more effective methods of separating problematic students from their peers without removing them from the school environment. While the present study's findings show that expulsion is associated with increased school ties, more research should be conducted to determine the effectiveness of implementing in- and out-of-school suspensions, expulsions, and mass zero-tolerance policies.

In addition to conducting future tests on the efficacy of school disciplinary practices and policies, more resources should be allocated towards school-based delinquency prevention programs which have been shown to effectively promote school social bonds and reduce delinquency. In her meta-analysis of delinquency prevention programs, Gottfredson

(2001) reported several programs that have been shown to improve students' social bonds, prosocial relationships, and problem behavior. The author found that in Personal Growth Class, youths' positive social bonds were followed by a subsidence in drug use. Additionally, evaluations on the Seattle Social Development Project consistently display respondents' improvements in attachment and commitment to school. Citing Project PREP, the author asserted "behavioral interventions that track and provide consequences for academic performance both increase academic performance and reduce problem behavior" (p. 268). While examining a program targeting elementary school students, Coie and Krehbiel (1984) found that rigorous academic skills training improved both academic competence and peer acceptance, and reduced conduct problems. While evaluations of these programs should be replicated, Gottfredson's (2001) findings suggest that school-based programs may effectively reduce delinquency or problem behaviors and increase ties to the school.

Conclusion

In an effort to shed light on what many academics are calling the school-to-prison pipeline, this research sought to examine the effect of school discipline on the educational institution's ability to control problematic behavior. According to school discipline research findings, the majority of schools across the nation implement disciplinary policies that remove students from the school. In other words, out-of-school suspensions and expulsions may intentionally or unintentionally become a catalyst for the students' exit from school. Criminology's Social Control Theory suggests that the educational institution, like the family, is able to restrain youths' delinquent predispositions. In the event that ties to the school are weakened, they are free to engage in delinquency.

After utilizing descriptive statistics, zero-order correlations, and Ordinary Least Squares multivariate linear regression to explore data in the Add Health data source, this longitudinal analysis was able to address these issues. First, the analysis was able to determine that school discipline does not lower a student's social bonds to the schools. Though, a rather unexpected finding was that being expelled was significantly correlated with increased school social bonds. In regards to the second research question, the analysis did not find support that out-of-school suspension or expulsion affects school social bonds in the ninth grade. Finally, the research did not find support that school social bonds at both waves predict delinquency in both the eighth and ninth grade.

The results in the present study provide marginal support for social control theory's contentions. Namely, male youths with delinquent peers were the only predictors for delinquency in the same grade level. Males were the only consistent predictor of delinquency into the ninth grade. Interestingly, those variables which significantly strengthened school social bonds (i.e., academic achievement, SES, peer attachment, and delinquent peer associations), were not predictors of delinquency. Overall, the research hypotheses could not be supported by the analyses and the trajectory from receiving school discipline to delinquency is intricately linked to the influence of other exogenous variables aside from school social bonds. Recommendations for future research were offered so as to improve the present study and evaluate alternative explanations of the phenomenon. Even though the research did not find negative effects of school discipline after controlling for other background variables, delinquency prevention programs could still be implemented to effectively promote school social bonds and academic achievement, and reduce delinquency.

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VITA

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