ABSTRACT

Title of Document:	IS THE INFLUENCE OF UNSUPERVISED TIME WITH PEERS ON DELINQUENCY CONDITIONED BY THE DEVIANCE OF ONE'S PEERS?
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Drawing on applications of opportunity theory to juvenile delinquency, this study examines the relationship between time expenditure and delinquency. This research relies on self-report data from the Maryland After School Opportunity Fund Program (MASOFP) with a sample of 817 adolescents. The conclusions of this study are: (1) Supervised time without peers is not conducive to delinquency, while supervised time with peers is conducive to delinquency. (2) Unsupervised time with and without peers is conducive to delinquency. (3) Unsupervised time with peers is most conducive to delinquency. (4) The relationship between unsupervised time with peers and each category of delinquency (property, violent, and substance use) is similar. (5) The relationship between unsupervised time with peers and each violent delinquency offense is similar. (6) The relationship between unsupervised time with peers and delinquency is not conditioned by the deviance of one's peers.

IS THE INFLUENCE OF UNSUPERVISED TIME WITH PEERS ON
DELINQUENCY CONDITIONED BY THE DEVIANCE OF ONE'S PEERS?

By

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Chapter 1: Introduction

Research shows juveniles are experiencing an increasing amount of unsupervised time (Felson and Gottfredson, 1984; Newman, Fox, Flynn and Christeson, 2000; Warr, 2002). More specifically, Felson and Gottfredson (1984) concluded that during the twentieth century, youth in younger cohorts are spending more time in activities with adolescents without adult supervision compared to older cohorts. Similarly, Warr (2002) argued peers are playing a greater role in the socialization of youth in recent decades. Some researchers are particularly concerned with the lack of adult supervision during after-school hours, since there is a gap between children's school schedules and parents' work schedules (Sickmund, Snyder and Poe-Yamagata; 1997; Snyder and Sickmund, 1999; Snyder, Sickmund and Poe-Yamagata, 1996). A common theme throughout the criminology literature is that unsupervised time creates opportunities for juveniles to engage in delinquent behavior (Warr, 2005). For example, Gottfredson, Gottfredson and Weisman (2001) found unsupervised youth were more likely to participate in delinquency at all times than supervised youth.

While Warr (2005) and Gottfredson et al. (2001) found unsupervised time was conducive to delinquency, some research suggests unsupervised time may not lead to delinquent behavior in all circumstances (Haynie and Osgood, in press; Osgood and Anderson, 2004; Osgood, Wilson, O'Malley, Bachman and Johnston, 1996; Warr, 2005). More specifically, since juvenile delinquency is primarily group behavior, Warr (2005) argued unsupervised time spent in the company of peers is particularly problematic. Further, Osgood et al. (1996) found unstructured activities with peers in

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the absence of an authority figure were most conducive to delinquency. Notably, Osgood et al. (1996) concluded unsupervised time spent in the company of peers did not lead to delinquent behavior if the activities included a structured agenda and unsupervised time spent without peers generally did not encourage delinquent behavior. Osgood and Anderson (2004) and Haynie and Osgood (in press) also found unstructured socializing in the absence of an authority figure was significantly related to delinquency. Therefore, research indicates unsupervised time does not lead to delinquent behavior under all circumstances, and is more problematic when peers are present and in the absence of a structured agenda (Haynie and Osgood, in press; Osgood and Anderson, 2004; Osgood, et al., 1996; Warr, 2005).

Further, the relationship between unsupervised time and delinquency may not be the same for all offense types. In particular, research suggests the effect of unsupervised time on delinquency may be stronger for property crime and substance use than for violent crime (Gottfredson and Soulé, 2005; Jacob and Lefgren, 2003; Soulé, Gottfredson and Bauer, 2005). Specifically, Soulé et al. (2005) found violent delinquency, primarily driven by the measure for simple assault, was most prominent during the school day, however, property crime and substance use were most prominent during the weekend. Since it remains unknown whether the level of adult supervision is greater during the school day than during the after-school and weekend hours, an argument could be made in either direction. However, here, it is assumed that levels of supervision are higher during the school day than during the after-school or weekend hours. Thus, Soulé et al.'s (2005) findings suggest the relationship between unsupervised time and violent delinquency may not be as strong

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as the relationship between unsupervised time and both property delinquency and substance use, since violent delinquency is most prominent during the school day, when the level of supervision is assumed to be higher, and property crime and substance use are most prominent during the weekend, when the level of supervision is assumed to be lower.

This study draws on routine activities theory (Cohen and Felson, 1979) and applications of routine activities to juvenile delinquency (Haynie and Osgood, in press; Osgood and Anderson, 2004; Osgood et al., 1996, Riley, 1987) to examine the relationship between time expenditure and delinquency. More specifically, this research examines whether different forms of time expenditure (supervised time with peers, supervised time without peers, unsupervised time with peers, and unsupervised time without peers) are conducive to delinquency. Notably, this study evaluates the relationship between direct adult supervision, or whether an adult is actually present, on delinquency. Further, this research compares the strength of the relationship between unsupervised time with peers and delinquency and unsupervised time without peers and delinquency.

As Warr (2002) argued, unsupervised time is particularly problematic in terms of delinquency. However, the relationship between unsupervised time with peers and delinquency may be stronger for some offenses than others. This study examines this relationship for property delinquency, violent delinquency, substance use, and specific violent delinquency offenses. In addition, this study integrates aspects of routine activities theory (Cohen and Felson, 1979), as well as differential association (Sutherland, 1947) and social learning theories (Akers, 1998; Burgess and Akers,

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1966; Jeffrey, 1965) theories, to examine the impact of peers on the relationship between time expenditure and delinquency. Finally, whether the relationship between unsupervised time with peers and delinquency is conditioned by the deviance of one's peers is examined.

The following chapter presents a review of previous research on the relationship between unsupervised time and delinquency. In addition, this chapter describes routine activities theory and applications of this theory to juvenile delinquency. The role of peers in delinquency from a theoretical perspective is also discussed. Finally, Chapter 2 lists the hypotheses of this study. Chapter 3 covers the research methodology, including the data, sample, measures, and plan for analysis. Chapter 4 describes the results of the analysis, and finally, Chapter 5 presents the discussion of findings, limitations of this study, and implications for theory and practice.

Chapter 2: Review of Previous Research

This chapter first describes previous research on the relationship between unsupervised time and delinquency. This includes an overview of unsupervised time and a discussion of research on the timing of juvenile delinquency. Second, this chapter describes routine activities theory and applications of this theory to juvenile delinquency. In addition, the role of peers in delinquency is discussed in the context of differential association, social learning, and social control theories. This study integrates opportunity theory and social learning theory. Finally, this chapter concludes with the hypotheses examined in this study.

Unsupervised Time and Delinquency

Overview of Unsupervised Time

Unsupervised time is a concern among juvenile crime prevention advocacy groups and researchers because it can potentially provide juveniles with an opportunity to engage in delinquent activities. Vandivere, Tout, Zaslow, Calkins and Capizzano (2003) estimated, based on data from the National Survey of America's Families (NSAF), that approximately 3.3 million school-age children regularly spend time in self-care. Notably, self-care is more common among older children, with seven percent of six to nine year olds spending time regularly in self-care, compared to approximately 26 percent of children ages nine to twelve.

Several studies indicate the amount of unsupervised time to which juveniles are exposed is increasing. In a retrospective study, Felson and Gottfredson (1984) examined the home life and parental supervision among a sample of Illinois adults.

The primary goal of this study was to determine whether home life and parental supervision experiences, and thus informal social control, varied by cohort. Felson and Gottfredson (1984) divided the sample into five cohorts, based on when individuals were seventeen years old, rather than by birth year: pre-1940, 1941-1950, 1951-1960, 1961-1970, and 1971-1979. The authors found the routine activities of youth changed over time. Specifically, younger cohorts spent more time in adolescent settings and less time in proximity to adults than older cohorts. Thus, Felson and Gottfredson (1984) concluded there has been a decline in the social control exerted by parents of youth during the twentieth century.

These findings are consistent with Warr's (2002) conclusion that peers play a greater role in the socialization of youth in recent decades. Warr (2002) argues a cultural shift has occurred in the United States in which "parental authority and control over socialization has been further ceded to peers" (20). This shift is a result of several contributing factors including the increasing availability of the automobile and tendency for adolescents to acquire jobs during their teenage years. Notably, Larson and Verma (1999) examined studies on time use by youth around the world and concluded, in comparison to East Asian post-industrial societies, "In North America, adolescents are granted much more free time, and a large amount of this is spent with peers in leisure activities" (725).

With the amount of unsupervised time juveniles experience increasing, after-school hours are particularly problematic. Recent research indicates youth spend a significant amount of time unsupervised, either alone or with peers, during the hours following the end of the school day. According to the U.S. Departments of Education

and Justice (2000), the gap between parents' work schedules and children's school schedules can amount to at least twenty hours per week. This is a result of the increasing number of homes in which both parents, or in some cases the only parent, work outside of the home (Newman et al., 2000). An estimated 4 million children between the ages of six and twelve spend time unsupervised during the after-school hours (Capizzano, Tout and Adams, 2000; U.S. Bureau of Labor Statistics, 2003). Further, Miller (unpublished) noted an additional 4 million youth between thirteen and fourteen years are home alone or spend time with peers unsupervised during the period between the end of the school day and when parents return home from work. In a Public Agenda study, Duffett and Johnson (2004) found 36 percent of children reported spending time home alone after school at least once a week, 16 percent four times a week, and 13 percent of children were home alone five days a week during the hours after school. The above research demonstrates that youth spend a significant amount of time unsupervised, particularly during the after-school hours.

Research on the Timing of Juvenile Delinquency

Researchers have examined the timing of juvenile delinquency to determine whether delinquent behavior is more likely to occur during the after-school hours than during other time periods (Gottfredson et al., 2001; Gottfredson and Soulé, 2005; Sickmund et al., 1997; Snyder and Sickmund, 1999; Snyder et al., 1996; Soulé et al., 2005). Findings that show delinquency is most prevalent during the after-school hours could provide some indication that the lack of supervision during this time period is conducive to delinquent behavior. Several researchers have found the after-school hours to be particularly problematic for juvenile delinquency (Sickmund et al.,

1997; Snyder and Sickmund, 1999; Snyder et al., 1996). For example, Snyder et al. (1996) examined the National Incident-Based Reporting System (NIBRS) data from South Carolina for 1991 and 1992 and found the incidence of violent juvenile crime was greatest between 2 p.m. and 4 p.m. on school days. Sickmund et al. (1997) expanded on their prior research and examined NIBRS data from multiple states over a three year period (1991-1993) and found one in five violent juvenile crimes occurred between 2 p.m. and 6 p.m. on school days. In addition, researchers at the University of California-Irvine examined the timing of juvenile gang crime using data from Orange County, CA for 1994 and 1995 and concluded approximately 60 percent of gang crimes occurred on school days and peaked during the hours following the close of school (Wiebe, 1997).

Snyder and Sickmund (1999) conducted a more recent analysis on NIBRS data from 1991 through 1996 and concluded juvenile violent crime peaked between 3 p.m. and 4 p.m. on school days. In order to confirm the importance of the after-school period in understanding juvenile delinquency, Snyder and Sickmund (1999) classified days into school and non-school days and found the 3 p.m. peak in juvenile violent crime was evident only for school days. This research indicates juveniles may be more likely to engage in violent crime during the after-school hours. Further, since research also demonstrates juveniles experience a lack of supervision during the hours after school (Capizzano et al., 2000; Duffett and Johnson, 2004; Miller, unpublished; Newman et al., 2000; U.S. Bureau of Labor Statistics, 2003; U.S. Departments of Education and Justice, 2000), these findings can potentially support the argument that juveniles are more likely to be delinquent during these hours

because they are left unsupervised while their parents are at work. However, since Snyder and Sickmund (1999) rely on official records in their analysis, the findings could indicate that juveniles are simply more likely to be arrested during the after-school hours.

Relying solely on official records of juvenile crimes can be misleading and limits the generalizability of the results. Official records underestimate the number of crimes that occur during the school day, since delinquent behavior is more likely to be reported to school officials than to authorities during this time (Finkelhor and Ormrod, 1999; Garofalo, Siegel and Laub, 1987; Whitaker and Bastian, 1991). According to the National Crime Victimization Survey (NVCS, Whitaker and Bastian, 1991), while 37 percent of violent crimes against teenagers occurring on the streets were reported to police, only 9 percent of those crimes occurring in school were reported to authorities. Further, analyses based solely on official records could reflect different police practices at different times of the day. For example, Gottfredson et al. (2001) found self-reports of crime during the after-school hours are lower than shown in official records. Police may just be more likely to arrest youth for criminal behavior during the after-school hours (Soulé et al., 2005). Thus, research examining the timing of juvenile delinquency that relies solely on official records may underestimate the amount of juvenile crime occurring during the school day or reflect police practices, hence exaggerating the peak in delinquency during the after-school hours.

Some researchers have conducted more recent evaluations on the timing of juvenile delinquency using alternative data sources (Gottfredson et al., 2001;

Gottfredson and Soulé, 2005; Soulé et al., 2005). Gottfredson et al. (2001) examined

data from two self-report surveys: The National Study of Delinquency Prevention in

Schools (NSDPS; Gottfredson, Gottfredson, Czeh, Cantor, Crosse and Hantman,

2000) and an evaluation of Maryland's After School Community Grant Program

(MASCGP). The research discussed above examined the timing of juvenile *violent*

crime using official records (Sickmund et al., 1997; Snyder and Sickmund, 1999;

Snyder et al., 1996). In contrast, Gottfredson et al. (2001) examined the timing of a

composite measure of juvenile delinquency using self-report data. The authors

examined the timing of delinquency and drug use in general, but unfortunately were

unable to examine the timing of subcategories of crime (e.g. violent, property) or

specific offense types (e.g. stealing, damaged something, fighting). While

Gottfredson et al. (2001) found a peak in delinquency during the after-school hours, it

was modest compared to the peak found in prior evaluations using NIBRS data.

Specifically, the authors concluded, "The increase in delinquency during the after-

school hours based on self-reports is slight compared with the increase shown in

official records" (Gottfredson et al., 2001: 78).

Gottfredson et al. (2001) also incorporated a measure of after-school

supervision in this research. In particular, youth were asked to report the number of

hours they spent in self-care after school. Gottfredson et al. (2001) sought to

determine whether youth left unsupervised during the after-school hours were more

likely to engage in delinquent behavior during the after-school hours, as well as

during other time periods. The authors found that while students who reported being

unsupervised during the after-school hours reported higher levels of delinquency and

drug use during this time period than supervised youth, unsupervised youth reported more delinquent activities during all time periods, not just during the after-school hours. These findings undermine the widely accepted argument that delinquency is most prevalent during the after-school hours primarily due to the lack of adult supervision. This research suggests other factors must also explain the high prevalence of juvenile delinquency during the after-school hours, in addition to unsupervised time. The authors concluded, "It does not appear that the problem is simply one of low levels of supervision during the after-school hours" (Gottfredson et al., 2001: 79). Gottfredson et al.'s (2001) conclusion that unsupervised youth were more delinquent at all times than supervised youth demonstrates the need to further explore the relationship between unsupervised time and delinquent behavior. For example, it remains unclear whether unsupervised time has the same impact on different types of delinquent behavior.

Evaluating the Relationship Between Unsupervised Time and Delinquency

Gottfredson et al.'s (2001) research on the timing of juvenile delinquency and unsupervised time suggests a lack of supervision may be conducive to delinquent behavior. However, Warr (2005) noted that evaluating the relationship between unsupervised time and delinquent behavior can be problematic for several reasons. First, unsupervised time may affect the prevalence of specific types of delinquent offenses differently. Second, youth can be left unsupervised in the presence of absence of peers. Third, adult supervision can be direct or indirect. Thus, examining the relationship between unsupervised time and delinquency is not as simple as it may first appear.

First, the effect of unsupervised time on the perpetration of specific offense types may vary. The juvenile delinquency timing literature suggests the effect of supervision is probably stronger for certain types of crimes (Gottfredson and Soulé, 2005; Jacob and Lefgren, 2003; Soulé et al., 2005). Thus, it may be necessary to examine the relationship between unsupervised time and juvenile delinquency for different offense types, rather than relying on a composite measure of delinquency.

Jacob and Lefgren (2003) examined the relationship between school and juvenile crime using individual school districts' school calendars and NIBRS data from the 29 largest participating cities from 1995 to 1999. They utilized the school calendars to determine when school was in session or not in session due to summer vacation, national holidays, or teacher-in-service training. NIBRS data was used to measure the level of criminal activity. Notably, NIBRS is an incident-based reporting system in which agencies report both offenses (or incidents) and arrests (Mosher, Miethe and Phillips, 2002). Since not all criminal incidents result in an arrest, this study relied on incident data to avoid underestimating the amount of criminal activity. Jacob and Lefgren (2003) separated juvenile crime into serious property crime (burglary, vehicle theft, shoplifting, vandalism, and robbery), serious violent crime (simple assault and aggravated assault), serious other (drug violations), and minor offenses (disorderly conduct and curfew or loitering violations). They found that school decreased juvenile property crime by 17 percent but increased juvenile violent crime by 28 percent. Jacob and Lefgren (2003) also concluded school decreased the level of property crime because of the monitoring and structured activities it provided. In contrast, school increased the level of violent crime since it brought

large numbers of youth in close proximity to one another, thus increasing the possibility of violent conflicts. Jacob and Lefgren (2003) failed to find a significant relationship between school and drug violations. These findings suggest supervision may have a stronger effect on juvenile property crime than juvenile violent crime, since property crime decreased during school and violent crime increased. Notably, it is unknown whether the level of supervision is higher during the school day than at other times of the day, or on days when school is not in session. Finally, it remains unclear whether supervision affects the prevalence of drug use.

Similar to the research of Jacob and Lefgren (2003), Gottfredson and Soulé (2005) examined the timing of property crime, violent crime, and substance use using data from Maryland's After-School Community Grant Program (MASCGP) evaluation. The sample consisted of 513 youth that were pre-tested prior to their participation in an after-school program funded by the Governor's Office of Crime Control and Prevention of Maryland during the 2000-2001 school year. Gottfredson and Soulé (2005) separated juvenile crime into substance use (smoked cigarettes; used smokeless tobacco; drunk beer, wine or "hard" liquor; or smoked marijuana during the last year), property crime (purposely damaging or destroying property belonging to a school; purposely damaging or destroying property that did not belong to the youth; stealing or attempting to steal something worth less than $50; stealing or attempting to steal something worth more than $50; taking a car for a ride without the owner's permission; or breaking in or trying to break into a building or car to steal something or just to look around during the last year), and violent crime (carrying a

weapon other than a pocketknife; being involved in gang fighting; hitting or threatening to hit other students; or using force to get money or things from a person).

Gottfredson and Soulé (2005) found substance use and property crime were most prevalent during the weekend, while violent crime was most prevalent during the school hours. Although it is unknown whether the level of supervision is higher during the school hours compared to the after-school and weekend hours, it is assumed true in this study. Based on this assumption, these findings indicate juveniles are more likely to engage in substance use and property crime during the weekend, when the level of supervision is assumed to be lower than the level during the school day. Further, violent crime among juveniles is most prevalent during the school hours, or during times when the level of supervision is assumed to be higher than during the after-school and weekend hours. Therefore, the relationship between unsupervised time and delinquency is expected to be stronger for property delinquency and substance use than for violent delinquency.

Soulé et al. (2005) extended the work of Jacob and Lefgren (2003) and Gottfredson and Soulé (2005) and examined the timing of juvenile delinquency, substance use, *and* juvenile victimization.[1] Juvenile victimization and delinquency offenses were separated into violent crime and property crime. Further, property crime, violent crime, and substance use were also examined by specific offense type. Soulé et al. (2005) used pre-test data from the Maryland After School Opportunity Fund Program (MASOFP) evaluation conducted during the 2002-2003 academic

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[1] The current study only examines the relationship between unsupervised time and delinquency offenses, and does not examine the relationship between unsupervised time and victimization offenses.

year. The sample consisted of 817 middle and high school students who participated in the evaluation.

The violent crime and property crime measures were comprised of multiple items from the MASOFP survey. The violent victimization offenses were being hit by someone else, threatened with a beating, attacked with a weapon, and robbery. The property victimization offenses included pocket picking, theft, and vandalism. The violent delinquency offenses were carrying a weapon, gang fighting, hitting or threatening to hit a fellow student, and using force or the threat of force to get property. The property delinquency offenses were vandalism, theft less than $50, theft more than $50, theft at school, joyriding, and breaking into a building or car. The measure of substance use included five items: using cigarettes; smokeless tobacco; beer, wine or "hard" liquor; marijuana; and hallucinogens.

Soulé et al. (2005) found "any" juvenile victimization and "any" juvenile delinquency were most prominent and most elevated during the school day.[2] In contrast, substance use was most prominent and elevated during the weekend, followed by the after-school hours. An examination of the subcategories (property and violent) of victimization and delinquency yielded slightly different results. The greatest proportion of violent victimization, property victimization, and violent delinquency occurred during the school hours. These three subcategories were also

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[2] Soulé et al. (2005) defined most *prominent* and most *elevated* as follows, "Most *prominent* refers to the greatest percentage of victimization, delinquency, and/or substance use experiences reported for a particular category, subcategory, and/or individual offense at a particular time period. Most *elevated* refers to the largest difference across the six time periods utilized in this study between the observed percentage and the expected percentage, assuming percentages were distributed proportionally to the number of hours contained within each time period," (36).

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most elevated during the school hours. However, the highest proportion of property delinquency occurred during the weekend, followed by the after-school hours.

Finally, the violent and property subcategories of victimization and delinquency were disaggregated, and the timing of specific offense types was examined. Soulé et al. (2005) noted there was little variation in the timing of the specific offense types within the property victimization and property delinquency categories. Two of the three property victimization offenses were most prominent during the school day (pocket picking and theft victimization) and vandalism was most prominent during the weekend. Notably, five of the six property delinquency offenses were most prominent during the weekend hours (Soulé, 2003). The only property offense most prominent during the school day was damaging school property (Soulé, 2003).

Soulé et al. (2005) found interesting results for the timing of specific offense types within the violent victimization and violent delinquency subcategories. Although violent victimization was most prominent during the school day, the four individual offenses within this category did not all follow this timing pattern. The largest percentage of robbery and simple assault (being hit by someone else) victimizations occurred during the school hours. However, aggravated assault (attacked with a weapon) and threatened with a beating victimizations were most likely to occur during the weekend. Thus, aggravated assault victimizations were less likely to occur during the school day compared to simple assault victimizations. Based on the assumption that the level of supervision is higher during the school day than during other time periods, simple assault victimizations are more likely to occur

in situations with higher supervision, and aggravated assault victimizations are more likely to occur in situations with lower supervision.

Similar to violent victimization, while the greatest proportion of violent delinquency occurred during school hours, the four offenses within this category did not all mimic this pattern. The greatest proportion of simple assaults (hitting or threatening to hit a fellow student) occurred during the school day. However, carrying a weapon and being involved in gang fights were most likely to occur during the weekend. Finally, the highest proportion of robbery offenses occurred during the school and weekend hours.

These findings suggest, as indicated by Jacob and Lefgren's (2003) research, supervision may have a greater effect on property delinquency than violent delinquency. More specifically, since property delinquency was most prominent during the weekend and after-school hours when the level of supervision is assumed to be lower than during school hours, the relationship between unsupervised time and property delinquency is expected to be stronger than the relationship between unsupervised time and violent delinquency. Similar to property delinquency, since substance use was found to be most prominent during the weekend and after-school hours, the relationship between unsupervised time and substance use is also expected to be strong. Once again, these conclusions are based on the assumption that the level of supervision is higher during the school day than during the after-school or weekend hours.

Based on the findings of Soulé (2003) and Soulé et al. (2005), it is not necessary to disaggregate the property delinquency category by specific offense type,

since five of the six offenses were most prominent during the weekend hours when supervision is assumed to be lower than during the school day. However, it seems necessary to disaggregate violent delinquency by offense type, since not all offenses within the category were most prominent during the school day, or during times in which the level of supervision is assumed to be higher. Since simple assaults were by far most prominent during the school day, the relationship between unsupervised time and simple assault is not expected to be as strong as the relationship between unsupervised time and the three remaining violent delinquency offenses, which were most prominent during the weekend and in the case of robbery, equally prominent during the weekend and school hours.

Evaluating the relationship between unsupervised time and delinquency is also problematic because adolescents can be left without adult supervision alone or in the company of peers. Warr (2005) argued that unsupervised time does not necessarily encourage delinquent behavior, especially when children spend time alone, which Csikszentmihalyi and Larson (1984) found to be approximately a quarter of adolescents' time. Agnew and Petersen (1989) found time spent in leisure activities alone was unrelated to delinquency. However, time spent in peer-oriented social activities without adult supervision was positively related to delinquency. Warr (2005) proposed the relationship between unsupervised time and delinquency depends on the presence of peers since juvenile delinquency is primarily social behavior. Thus, it is necessary to examine the effect of both unsupervised time alone and unsupervised time with peers on delinquent behavior.

Finally, evaluating the relationship between unsupervised time and

delinquency is also problematic because adult supervision can be either direct or

indirect (Warr, 2005). When youth are directly supervised, an adult is physically

present to monitor activities. In contrast, indirect supervision implies an adult is

physically not present, but rather monitoring activities from afar, for example through

telephone contacts. Thus, even though youth may not be directly supervised, they

may still be indirectly supervised when an adult is not actually physically present.

Some studies have differentiated between direct and indirect supervision (Richardson,

Radziszewska, Dent and Flay, 1993; Steinberg, 1986). Thus, to clarify, this study

specifically measures the impact of the presence or absence of direct supervision on

delinquency.

Bringing Criminological Theory to Bear: The Relationship between

Unsupervised Time and Delinquency

The argument that "unsupervised time creates opportunities for delinquent

conduct" is prevalent throughout the criminology literature (Warr, 2005: 79).

However, it remains unclear under what circumstances unsupervised time is

conducive to delinquency. Examinations of the relationship between unsupervised

time and juvenile delinquency are based fundamentally on Cohen and Felson's (1979)

routine activities theory. Routine activity and opportunity theorists have revised and

applied the key components of routine activities theory to juvenile delinquency

(Haynie and Osgood, in press; Osgood and Anderson, 2004; Osgood et al., 1996;

Riley, 1987). This research focuses on the circumstances in which youth participate

in delinquent activities rather than on individual characteristics. Since juvenile

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delinquency is primarily group behavior, the applications of routine activities theory to juvenile delinquency consider the impact of peers on the relationship between unsupervised time and delinquent behavior (Warr, 2002, 2005).

Routine Activities Theory

Cohen and Felson (1979) introduced the routine activity approach to explain the rising crime rates following World War II. The authors found support for their hypothesis that the movement of activities away from homes and families resulted in higher crime rates. Instead of focusing on the characteristics of offenders, they examined the circumstances in which offenders engaged in "direct-contact predatory violations," or intentionally took or damaged, through direct physical contact, another person or object (Cohen and Felson, 1979: 589). According to the routine activity approach, motivated offenders, the existence of which is certain, make rational decisions to commit criminal acts under certain circumstances. Cohen and Felson (1979) argued direct-contact predatory violations occurred when motivated offenders, suitable targets, and the absence of capable guardianship converged in time and space. The absence of any one of these components is considered sufficient to prevent the occurrence of a direct-contact predatory violation. Thus, according to the routine activity approach, crime is dependent on opportunity, or the convergence of these factors.

Applications of Routine Activities Theory

Several scholars have applied routine activities theory to juvenile delinquency (Haynie and Osgood, in press; Osgood and Anderson, 2004; Osgood et al., 1996;

Riley, 1987). Riley (1987) used lifestyle and routine activities theories to determine whether juvenile offenders and nonoffenders spent their leisure time similarly, and also whether the correlates of delinquency were associated with juveniles' use of leisure time. The study relied on data from a national survey conducted in 1983 in England and Wales which consisted of 751 pairs of in-home interviews with 14 and 15 year olds and one of their parents. Riley (1987) obtained information on juveniles' out-of-home activities and juveniles were also asked how they spent their previous Saturday. Further, the author examined the relationship between use of leisure time and delinquency separately for males and females.

For males, Riley (1987) found significant differences between the ways in which offenders and nonoffenders spent their leisure time. In particular, compared to male nonoffenders, male offenders were "more often out with their friends, were expected home later in the evenings, more often met friends away from home, [and] met friends in larger groups…" (Riley, 1987: 344). Riley (1987) also found peer-group delinquency, peer-group commitment, and parental supervision were associated with significant differences in the ways in which male juveniles spent their leisure time. Further, poor parent-teenager relations and positive attitudes to crime were not found to significantly influence the use of leisure time among male juveniles. The portion of the survey that asked juveniles about how they spent the previous Saturday further supported Riley's (1987) conclusion that offenders and nonoffenders differ in their use of leisure time and the influence of the peer group on male juvenile offending.

Similar to male juveniles, Riley (1987) found female juvenile offenders and nonoffenders differed in their use of leisure time. More specifically, female offenders "less often went straight home after school, were more often out in the evenings and were expected home later, [and] were more often members of mixed-sex groups" (Riley, 1987: 348). Further, peer-group delinquency and peer-group commitment were associated with significant differences in use of leisure time, however, supervision did not significantly influence the ways in which females used their leisure time. Parent-teenager relationships, attitudes to crime, and attitudes to school were also not significantlyp associated with differences in leisure time use. The analysis which examined time use on Saturday confirmed the differences in use of leisure time among female offenders and nonoffenders. Surprisingly, peer-group delinquency and peer-group commitment did not influence use of leisure time among females.

In summary, Riley (1987) concluded for both males and females, offenders and nonoffenders differed in their use of leisure time. However, different factors were primarily responsible for these differences. Riley (1987) concluded, "For males age 14 or 15, their relative independence from normative controls over how they spend their time emphasizes the importance of peer-group factors as immediate influences on opportunity and offending. For females, more restrictive norms, especially those enacted by parents, have a more central role as external controls on what teenagers do with their time" (353). Although Riley's (1987) findings indicate "the link between activity patterns and delinquency is different between males and females," this research supports the hypotheses examined in this study which argue

unsupervised time is conducive to delinquency. Gender differences in the relationship between unsupervised time and delinquency are not examined in the current study.

Osgood et al. (1996) extended Cohen and Felson's (1979) application of routine activities theory from aggregate crime rates to individual offending behavior. While Cohen and Felson (1979) explained the occurrence of direct-contact predatory violations, Osgood et al. (1996) applied the routine activity approach to a broader range of behaviors including criminal behavior, heavy alcohol use, marijuana use, use of other illicit drugs, and dangerous driving. Osgood et al. (1996) defined the elements of the routine activity approach (motivated offender, suitable target, and absence of authority figure) differently to explain individual offending behavior. Rather than a clear distinction between motivated offenders and non-offenders, Osgood et al. (1996) suggested individuals have varied "susceptibility to deviance" (638).

Osgood et al. (1996) also changed the second element, suitable target, to a more general measure of situations in which "a deviant act is possible and rewarding" (638). They based this substitution on the argument that individuals are more likely to engage in deviant behavior when the acts are easier and will provide greater rewards (Briar and Piliavin, 1965; Gottfredson and Hirschi, 1990). Osgood et al. (1996) identified time with peers as one circumstance in which deviant acts are easier and more rewarding and argued "spending more time with peers exposes an individual to more situational inducements to deviance, and this leads to higher rates of deviance" (640).

Osgood et al. (1996) redefined Cohen and Felson's (1979) third element, lack of capable guardianship, as the absence of an authority figure and argued deviant acts were more likely to occur in the absence of an authority figure. An authority figure is defined as "someone whose role in a situation carries a responsibility for attempting to exert social control in response to deviance" such as a parent, teacher, or supervisor (Osgood et al., 1996: 640). The exertion of social control is dependent on the characteristics of the role, rather than the social bonding between the authority figure and the individual engaging in the deviant act.

Finally, Osgood et al. (1996) distinguished between structured and unstructured activities and argued unstructured activities were more conducive to deviance than structured activities. First, structured activities usually place individuals in roles that exert social control, such as coaches and referees in sporting events. Second, structured activities usually consist of more rigid scheduling, thus a greater amount of time is spent in "designated ways" (Osgood et al., 1996: 641). It is important to note that structured activities do not necessarily reduce deviance, however, but are less conducive to deviance than unstructured activities.

Osgood et al. (1996) classified activities into one of three groups: unstructured activities with peers, structured activities with peers, and structured activities without peers. Notably, Osgood et al. (1996) did not measure structure, the presence or absence of an authority figure, or the presence or absence of peers, but rather assumed certain activities included a structured or unstructured agenda, took place in the presence or absence of an authority figure, and occurred in the presence or absence of peers. Osgood et al. (1996) assumed the 13 activities included in the study occurred

in the absence of an authority figure, and then classified each activity based on whether it was structured or unstructured and whether it occurred with or without peers. Unstructured activities with peers included riding around in a car for fun, getting together with friends informally, going to parties, and spending evenings out for fun and recreation. The activities of going on dates, going to movies, participation in community affairs or volunteer work, participating in active sports, and going shopping were classified as structured activities with peers. Structured activities without peers included working around the house, watching television, relaxing alone for an hour or more, and reading.

Osgood et al. (1996) tested this revised version of routine activities theory in a longitudinal study with a national sample of 18-26 year-olds from the Monitoring the Future study. The data used in this study was from the follow-up study on high school senior classes between 1977 and 1981 in which participants completed a questionnaire every other year for at least three of the five waves. The study included cohorts that completed at least four of the five waves. Osgood et al. (1996) used self-report data to measure five types of deviant behavior: criminal behavior (measured with a 10-item scale including both violent and property crimes), heavy alcohol use, marijuana use, use of other illicit drugs, and dangerous driving.

Osgood et al. (1996) examined the effect of routine activities on within-individual change in deviant behavior. They found consistent positive and significant relationships between the four unstructured activities with peers and the five types of deviant behavior. In contrast, most associations between structured activities with peers and deviant behavior were not significant. Surprisingly, there was a significant

positive relationship between relaxing alone and deviant behavior. Osgood et al. (1996) noted the need for future research regarding this relationship, since relaxing alone at home is a solitary, rather than a socializing, activity. These findings support Osgood et al.'s (1996) hypothesis that unstructured activities with peers in the absence of an authority figure are conducive to delinquency. It is important to note Osgood et al. (1996) accounted for the alternative explanation that deviance influenced the routine activities of subjects by selecting activities that did not "carry connotations of deviance" (652).

Since structure, presence of an authority figure, and the presence of peers were not measured, but rather assumed, in this study, these findings must be interpreted with caution. However, the findings of Osgood et al. (1996) suggest unstructured activities with peers in the absence of an authority figure are conducive to delinquency. Further, structured activities with peers and structured activities without peers were not significantly related to deviant behavior. Thus, according to Osgood et al. (1996), unsupervised time with peers involving unstructured activities is conducive to delinquency. However, unsupervised time with peers involving structured activities is not conducive to delinquency, nor is structured unsupervised time without peers. Osgood et al. (1996) did not examine the relationship between unstructured activities without peers in the absence of an authority figure.

Because this study did not differentiate between violent and property crime, it is not possible to infer whether the relationship between unsupervised time and delinquency is similar for both categories of crime. However, as indicted by the timing literature (Gottfredson and Soulé, 2005; Soulé et al., 2005), the relationship

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between unsupervised time and substance use appears to be strong. More specifically, Osgood et al. (1996) found all but one of the relationships between the four unstructured socializing activities and the three measures of substance use in this study (heavy alcohol use, marijuana use, and other drug use) were positive and significant.

Similar to the work of Osgood et al. (1996), Osgood and Anderson (2004) used routine activities theory to explore rates of delinquency, rather than individual offending behavior, among sets of eighth grade students from thirty-six schools in ten cities. They were particularly interested in one type of routine activity: unstructured socializing with peers in the absence of an authority figure. As stated above, Osgood et al. (1996) found significant positive relationships between unstructured activities with peers in the absence of an authority figure and individual deviant behavior. Osgood and Anderson (2004) operationalized unstructured socializing with peers in the absence of an authority figure with the item, "In an average week, how many hours do you spend hanging around with your current friends, not doing anything in particular, where no adults are present?" (530). Delinquency was measured with a seventeen-item scale, which included measures of a variety of behaviors such as property and violent delinquency, drug sales, and minor offending. Osgood and Anderson (2004) also included controls for demographic variables, participation in the gang prevention program, since the sample came from an evaluation of a gang prevention program, and other individual variables, such as dangerousness of the school environment, attachment to parents, and impulsivity.

Osgood and Anderson (2004) found a significant positive relationship between delinquency and both the individual scores and group means of unstructured socializing. Therefore, a given population's level of unstructured socializing is associated with the group's delinquency rate. Osgood and Anderson (2004) also sought to explain the levels of unstructured socializing with peers among the groups of eighth graders. They found the individual-level variables associated with lower rates of unstructured socializing with peers included commitment to school success, parental monitoring, and risk seeking. Further, the group-level variable of parental monitoring indicated an increase in parental monitoring was predictive of a decrease in unstructured socializing with peers. Osgood and Anderson (2004) noted, "When more parents are well informed about their adolescents' activities, all adolescents will spend less time hanging out, and thus encounter fewer opportunities for deviance" (542). They concluded these findings concerning the impact of parental monitoring on unstructured socializing with peers extended the application of routine activities theory to juvenile delinquency.

These findings provide further evidence that unstructured activities with peers in the absence of an authority figure are conducive to delinquency. Further, Osgood and Anderson (2004) noted the important role of parental monitoring (indirect supervision) in the amount of unstructured socializing with peers. Because a composite measure of delinquency, including property crime, violent crime, and drug offenses, was used, this study does not advance knowledge on the strength of the relationship between unsupervised time and delinquency for different offense types.

The final application of Cohen and Felson's (1979) routine activities theory to juvenile delinquency relevant to this study is the work by Haynie and Osgood (in press). Similar to Osgood et al. (1996), Haynie and Osgood (in press) examined the relationship between unstructured socializing with friends away from an authority figure and delinquency. The authors measured the structure of activities and the presence of peers, however, did not specifically measure the absence of an authority figure. The absence of supervision was instead assumed in this study. They extended prior research (Osgood and Anderson, 2004; Osgood et al., 1996) by controlling for peer delinquency. Haynie and Osgood (in press) found unstructured socializing to be significantly associated with delinquency. Further, this significant association remained when controlling for peer delinquency. Haynie and Osgood (in press) concluded, "Spending lots of time 'hanging out' with friends is conducive to delinquency, even if those friends are not especially delinquent themselves…the relationship of activities to delinquency is not a secondary byproduct of normative influence of peers" (21). Since Haynie and Osgood (in press) sought to determine the role of peers in delinquency, this study will be further described in the next section, which explores the relationship between peers and delinquency.

In sum, several researchers have applied aspects of Cohen and Felson's (1979) routine activities theory to juvenile delinquency. These applications demonstrate time expenditure is related to delinquency. More specifically, previous research suggests unstructured activities, particularly in the presence of peers and in the absence of an authority figure, are conducive to delinquency (Haynie and Osgood, in press; Osgood and Anderson, 2004; Osgood et al., 1996).

The Role of Peers in Delinquency

While the above discussion demonstrates why unsupervised time is conducive to delinquency, it remains unclear why this relationship would be conditioned by type of peers. Warr (2002) described the predominant role peers have in the lives of adolescents. Specifically, it is not uncommon for youth during their teen years to spend a greater proportion of their time with peers than their parents. Criminologists have argued that delinquency is primarily social behavior and that much crime is committed by more than one offender (e.g. Felson, 2003; Reiss, 1986; Warr, 2002). For example, Reiss (1986) concluded, "group offending is most characteristic of what we think of as juvenile delinquency, and characterizes juvenile careers" (145). While criminologists generally agree there is a relationship between delinquent peers and delinquency, there is dispute regarding the temporal ordering of this relationship.

According to differential association (Sutherland, 1947) and social learning theories (Akers, 1998; Burgess and Akers, 1966; Jeffrey, 1965), delinquent behavior is learned following one's acquisition of delinquent peers. Sutherland (1947) argued criminal behavior is learned through social interactions with others, primarily through intimate personal groups. The content of what is learned through these interactions consists of techniques of committing crimes and the direction of motivations favorable to law violation. According to differential association theory, an individual becomes delinquent when the definitions favorable exceed those unfavorable to law violation. Further, Sutherland (1947) argued criminal behavior is a type of human behavior that must be explained "within the same general framework" (4).

Sutherland and Cressey (1978) further argued associations with delinquent peers resulted in both the reinforcement of delinquent beliefs and delinquent behavior.

Evaluations of the theory consistently support the positive relationship between self-reported delinquent behavior and the number of delinquent friends (Matsueda and Heimer, 1987; Matsueda and Anderson, 1998; Thornberry, Lizotte, Krohn, Famworth and Sung Joon Jang, 1994; Tittle, Burke, and Jackson, 1986; Warr, 1993a, 1993b, 1998, 2002). Despite these supportive findings, differential association theory is difficult to evaluate due to vague phrases within Sutherland's (1947) nine principles, such as "definitions favorable to law violation" (Warr, 2002).

In 1965, Jeffrey introduced a revision to Sutherland's (1947) differential association theory. More specifically, Jeffrey (1965) applied modern social learning theory to differential association theory, not only to update the theory, but also to transform it into one that could be tested empirically. According to Jeffrey (1965), not only is criminal behavior learned behavior, but it is operant behavior. Operant behavior is defined as, "Behaviors emitted in the presence of given stimulus conditions and maintained by their consequences" (Jeffrey, 1965: 294). Jeffrey (1965) also addressed the role of reinforcement in criminal behavior and argued criminal behavior could be reinforced by both material and social sources. In addition, Jeffrey (1965) argued individuals in the same circumstances do not all engage in criminal behavior because each individual has a different conditioning history. This is known as differential reinforcement.

Burgess and Akers (1966) also applied learning theory to Sutherland's (1947) differential association theory. Specifically, the authors reformulated Sutherland's

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(1947) nine principles into seven propositions that incorporated behavior theory. Burgess and Akers (1966) also described the role of operant conditioning in the process of learning criminal behavior. Operant conditioning highlights the influence of both positive and negative reinforcement on behavior. According to the authors, criminal behavior is learned "both in nonsocial situations that are reinforcing or discriminative and through that social interaction in which the behavior of other persons is reinforcing or discriminative for criminal behavior" (Burgess and Akers, 1966: 146). Further, the "strength of criminal behavior is a direct function of the amount, frequency, and probability of its reinforcement" (146).

Akers extended the work of Burgess and Akers (1966) and devoted his career to the development of social learning theory. It is important to note that social learning theory is not at odds with differential association theory, but rather "is a broader theory that retains all of the differential association processes in Sutherland's theory and integrates it with differential reinforcement and other principles of behavioral acquisition, continuation, and cessation" (Akers, 1985: 41). According to social learning theory, "whether individuals will refrain from or initiate, continue committing, or desist from criminal and deviant acts depends on the relative frequency, amount, and probability of past, present, and anticipated rewards and punishments perceived to be attached to this behavior" (Akers, 1998: 66). Social learning theory emphasizes the role of imitation and reinforcement on the acquisition and continuation of delinquent behaviors. Notably, one can experience reinforcement vicariously by observing the consequences of criminal behavior for others, or directly, through one's own rewards and punishments for their behavior (Akers,

1998). Since social learning theory emphasizes the role of social sources of reinforcement, it is differentiated from other learning theories (Warr, 2002).

Warr (2002) concluded that the evidence for social learning theory is promising, however it focuses on substance use and minor deviance, and thus the theory needs to be evaluated for more serious forms of deviance. Similar to differential association theory, social learning theory is difficult to test due to its generality (Warr, 2002). In sum, according to differential association and social learning theories, association with delinquent peers precedes delinquent behavior. However, Akers (2003) also argued the process of learning delinquent behavior includes reciprocal and feedback effects.

In contrast to differential association theory (Sutherland, 1947) and social learning theory (Akers, 1998; Burgess and Akers, 1966; Jeffrey, 1965), according to social control theory, the relationship between delinquent peers and delinquent behavior is reversed. Some researchers have argued youth do not learn criminal behavior through interactions with delinquent peers, but rather acquire delinquent friends after becoming delinquent themselves (Glueck and Glueck, 1950; Gottfredson and Hirschi, 1990; Hirschi, 1969; Sampson and Laub, 1993). The Gluecks (1950) are among the researchers who support this argument that "birds of a feather flock together." From this perspective, associations with delinquent peers have no direct effect on the onset, acceleration, continuation, or cessation of delinquent behavior (Gottfredson and Hirschi, 1990; Hirschi, 1969; Sampson and Laub, 1993; as cited in Akers, 2003). Specifically, Gottfredson and Hirschi (1990) concluded:

Our theory is consistent with the Glueck's (1950) hypothesis that delinquency

causes association with other delinquents (i.e. 'birds of a feather flock

together'). This hypothesis reverses the causal order from that asserted by

differential association theory, according to which association with

delinquents is a major, or in some versions, the sole cause of delinquency

(234).

According to social control theory, delinquent behavior, which results from weakened

social controls, leads to associations with delinquent peers. In the words of

Gottfredson and Hirschi (1990), "Adolescents clearly use groups to facilitate acts that

would be too difficult or dangerous to do alone, but this does not mean that they learn

lack of self-control in such groups. On the contrary, participation in such groups is

itself indicative of a lack of self-control…" (158-159).

Several scholars have also suggested that the relationship between delinquent

peer associations and delinquency is reciprocal. Some have argued delinquent

associations precede delinquent behavior, which subsequently increases delinquent

associations (Thornberry et al., 1994). Thornberry et al. (1994) tested three models

on the relationship between associations with delinquent peers, adoption of

delinquent beliefs, and delinquent behavior. First, according to the socialization

model, associations with delinquent peers and adoption of delinquent beliefs precede

delinquent behavior. In the selection model, delinquent behavior leads to subsequent

associations with delinquent peers and delinquent beliefs. Finally, according to the

interactional model, the relationships between these three variables are bidirectional

over time.

Although Thornberry et al. (1994) found the socialization and selection model were inadequate for explaining the relationship between the three variables, they did find empirical support for the interactional model. Specifically, Thornberry et al. (1994) found associations with delinquent peers led to delinquent behavior, which in turn, resulted in an increase in associations with delinquent peers. Further, over time, this increase in associations with delinquent peers led to an increase in delinquent behavior. Thornberry et al. (1994) also found delinquent beliefs increased both associations with delinquent peers and delinquent behavior. Finally, the authors concluded associations with delinquent peers had a larger effect than delinquent behavior on the adoption of delinquent beliefs. Notably, Thornberry et al. (1994) failed to identify the initial catalyst in the dynamic relationship between associations with delinquent peers and delinquent behavior, "Although delinquency is influenced by peer associations and delinquent beliefs, it also influences those associations and beliefs" (75).

Matsueda and Anderson (1998) also found a reciprocal relationship between delinquent peer associations and delinquent behavior. They concluded the effect of delinquency on delinquent peer associations was larger than the effect of delinquent peer associations on delinquency. However, Matsueda and Anderson (1998) did not address whether delinquent peer associations were necessary for one to engage in delinquent behavior. They noted that further research is required to determine whether the relationship between delinquent peer associations and delinquent behavior differs for the onset and continuation of delinquency.

Notably, Akers (2003) argued a reciprocal relationship between delinquent peer associations and delinquent behavior does not contradict social learning theory. Further, Akers (1991) stated, "Social learning theory admits that birds of a feather do flock together, but it also admits that if the birds are humans, they also will influence one another's behavior, in both conforming and deviant directions" (210). Numerous studies favor the argument of social learning theory, rather than social control theory, that there are both direct and reciprocal effects (Akers, 2003). Similarly, Warr (2002) noted many criminologists agree that the relationship between delinquent peer associations and delinquent behavior is reciprocal over time.

Akers (2003) concluded that although some research shows delinquency has a stronger effect on delinquent peer associations, the majority of findings support the peer influence perspective, that associations with delinquent peers have a stronger effect on delinquent behavior. Warr (2002) noted that several longitudinal studies support peer influence (e.g. Elliott and Menard, 1996). Elliott and Menard (1996) examined the relationship between delinquent peer associations and delinquent behavior using data from the National Youth Survey. The research consistently showed associations with delinquent peers preceded delinquent behavior.

Finally, Haynie and Osgood (in press) conducted the most recent study on the role of peers in delinquency. Although the details of this study will be discussed later, Haynie and Osgood (in press) examined several hypotheses, one of which addressed the social selection versus social facilitation debate. More specifically, the primary hypothesis of their study was "Adolescents whose friends are more delinquent will engage in more delinquency themselves, even after controlling for

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selection processes" (Haynie and Osgood, in press: 10). Haynie and Osgood (in press) found peer socialization had a causal impact on delinquency, while controlling for the selection of peers. They concluded, "We are confident that peer socialization has a meaningful causal influence on delinquency, contrary to claims that this association is entirely attributable to respondents choosing friends who are similar to themselves" (Haynie and Osgood, in press: 20). However, the authors noted the influence of peer socialization on delinquency they found was smaller than reported in most studies, since the majority of studies rely on adolescents' reports of their friends' behaviors, rather than peers' reports of their own behavior, as used in their study. Therefore, Haynie and Osgood's (in press) study suggests normative influence and the selection of deviant peers both influence delinquent behavior.

Unfortunately, the question regarding the temporal ordering of delinquent peer associations and delinquent behavior remains (Warr, 2002). However, Warr (2002) argued criminologists should "abandon the either/or, or black/white conception of causal direction" and concluded that having delinquent peers is a strong predictor of delinquent behavior (43). Despite the conflicting arguments, it is clear that association with delinquent peers is associated with delinquency. It seems reasonable to anticipate that the effect of unsupervised time on delinquency would be accentuated in the presence of delinquent friends.

The Influence of Peers on Different Types of Delinquency

While delinquency is primarily group behavior, there are some offenses that are more likely to be committed in groups than others (Warr, 2002). More specifically, both alcohol and marijuana are generally enjoyed in group settings.

Further, vandalism, burglary, trespassing, and auto theft are also mainly group behavior. In contrast, shoplifting, assault, and threatening assault, are primarily committed by lone offenders. Erickson (1971) found destruction of property, arson, unlawful entry, drinking, theft, and using narcotics had high group violation rates. In contrast, defying parents, running away, buying beer, and fighting had low group violation rates. Erickson and Jensen (1977) examined self-report data of high school students in four Arizona high schools and determined the group violation rates for eighteen delinquent acts. They concluded drunkenness, drinking, use of marijuana, and use of other illicit drugs, had the highest group violation rates. In addition, burglary and vandalism had relatively high group violation rates. Erickson and Jensen (1977) also found defying parents, running away from home, assault, and fights, had low group violation rates. Warr (1996) examined data from the National Surveys of Youth and reported the group violation rate for twelve delinquency offenses. The author found alcohol use, burglary, and trespassing had the highest group violation rates. Only two offenses, truancy and theft, had group violation rates below 50 percent.

The above research suggests that some offenses are more likely to be committed with peers than others. Thus, the interaction between youth perceptions of peer deviance and unsupervised time may be stronger for some offense types than others. However, since juvenile delinquency is primarily group behavior (Warr, 2002) it is expected that the effect of unsupervised time on delinquency will be stronger for youth who perceive their peers as deviant for all offense types.

Haynie and Osgood (in press) recently examined the impact of peer

delinquency on the relationship between unstructured socializing and delinquency.

Specifically, the authors examined the following hypothesis, "Time spent in

unstructured socializing may be more strongly related to delinquency if one's friends

are more delinquent. Even for respondents whose friends are not at all delinquent,

however, unstructured socializing will produce higher rates of delinquency to at least

some degree" (Haynie and Osgood, in press: 11).

Haynie and Osgood (in press) utilized data from the National Longitudinal

Survey of Adolescent Health (Add Health) which consists of a nationally

representative sample of youth in grades 7 through 12 attending 132 schools in the

United States in 1995-1996. Specifically, the researchers relied on data from in-

school and in-home surveys conducted during 1995, as well as in-home surveys

conducted during 1996. The final sample consisted of 8,838 youth who completed all

three phases of the Add Health study.

Haynie and Osgood (in press) measured the dependent variable, delinquency,

with a scale constructed from 14 items included in the Add Health survey asking

youth about their delinquent activities (e.g. paint graffiti, damage property, shoplift).

Peer delinquency was measured using adolescents' friends' reports of their delinquent

behavior, rather than relying on adolescents' reports of their friends' behavior.

Specifically, adolescents were asked to nominate five of their closest male and female

friends (with a total of 10) who were then asked to complete the in-school

questionnaire. Peer delinquency was measured using a series of items on the

questionnaire which asked youth how many time during the last 12 months they

participated in delinquent activities (e.g. gotten drunk, been involved in serious physical fights). Haynie and Osgood (in press) measured unstructured socializing using three items. Adolescents answered two questions for each friend nominated, first whether they met the friend to hang out after school and second, whether they spent time with the friend during the weekend. In addition, adolescents were asked in general, how many times during the past week they spent time hanging out with friends. Notably, these items do not include a measure of supervision, or the presence/absence of an authority figure.

As mentioned above, Haynie and Osgood (in press) concluded unstructured socializing is significantly associated with delinquency, even when controlling for peer delinquency. They also examined whether peer delinquency impacted the relationship between unstructured socializing and delinquency. Haynie and Osgood (in press) concluded "tests for interaction effects revealed that the association between time use and delinquency was at least as strong for respondents with more conventional friends as for those with delinquent friends" (24). Thus, Haynie and Osgood (in press) found the strength of the relationship between unstructured socializing and delinquency did not vary for adolescents with conventional peers and adolescents with delinquent peers. Therefore, based on this research, the relationship between unstructured socializing and delinquency is not conditioned by the deviance of one's peers.

Although the findings of Haynie and Osgood (in press) suggest there may not be an interaction between unsupervised time with peers and delinquency, as hypothesized in this study, their research is the only study to date that has examined

this potential interactive effect. In addition, there are differences between Haynie and

Osgood's (in press) research and the current study. Most notably, Haynie and

Osgood (in press) specifically examine the relationship between *unstructured*

socializing, rather than *unsupervised* socializing. The authors do not specifically

measure supervision, but rather assume unstructured socializing includes the absence

of an authority figure. The current study does not measure the structure, or lack of

structure, of activities, but rather specifically measures whether youth are spending

their time supervised or unsupervised, as well as in the presence or absence of peers.

Integrating Theories to Explain Criminal Behavior

Efforts have been made throughout the criminology literature to integrate

theories in order to better explain criminal behavior. Hirschi (1986) argued that while

it makes little sense to integrate theories with opposing assumptions, there is

"considerable merit in efforts to combine compatible theories that have developed

independently of each other" (117). Hirschi (1986) identified examples of such

theories including rational choice, social control, routine activities, socialization, and

some aspects of social learning theory. Further, Hirschi (1986) proposed social

control theory could contribute to the "development of the rational choice

perspective" (117). Two examples of integrating theories to explain criminal

behavior are discussed below (Felson, 1986; Felson, 2003). Felson (1986) proposed

the integration of routine activities theory and social control theory. In contrast,

Felson (2003) described the integration of routine activities and social learning

theories.

Felson (1986) first integrated the three essential elements of routine activities theory and the four fundamentals of Hirschi's (1969) social control theory. According to Cohen and Felson's (1979) routines activities theory, the three essential elements for a direct-contact, predatory violation to occur are: a likely offender, a suitable target, and the absence of capable guardianship. Felson (1986) combined these three elements with the four fundamentals of social control theory: commitments, attachments, involvements, and beliefs. Felson (1986) summarized the four fundamentals into one word: handle. He argued, "Society gains a handle on individuals to prevent rulebreaking by forming a social bond" (Felson, 1986: 121). Thus, the social bond serves as the "handle" to prevent criminal behavior, which is "a necessary condition for informal social control to occur" (Felson, 1986: 121).

Drawing on routine activities theory and social control theory, Felson (1986) introduced the "web of informal control" of which there are four elements: a handled offender, an intimate handler ("someone close enough to grip the handle"), a suitable target of crime, and finally capable guardianship. Thus, a crime can occur when a handled offender is away from the intimate handler and reaches the suitable target in the absence of capable guardianship to prevent a violation from occurring. Felson (1986) integrates the "web of informal social control" with the rational choice perspective and argues, "Any set of decisions that assembles a handled offender and a suitable target, in the absence of a capable guardian and intimate handler, will tend to be criminogenic. Conversely, any decision that prevents this convergence will impair criminal acts" (127). This work is one example of the integration of theories to better explain criminal behavior.

In a second example, Felson (2003) integrated social learning and opportunity theories. Specifically, Felson (2003) noted that associations with delinquent accomplices commonly precede the commission of delinquent acts. Further, the author described the role of accomplices in generating criminal behavior:

> Likely co-offenders not only reinforce one another's criminal impulses, but also provide each other with information and direct assistance in carrying out illegal acts. The information they can provide includes what crime targets are located where, as well as how to attack these targets, avoid apprehension, escape with loot, dispose of stolen goods and/or win physical contests. These are simple lessons, but a little shared crime knowledge can go a long way (Felson, 2003: 151).

Thus, Felson (2003) recognized the role of co-offenders in delinquency. In addition, Felson (2003) introduced the role of routine activities in helping co-offenders find one another in order to share information and commit offenses. More specifically, the author introduced the offender convergence setting, defined as "a stable and predictable source of co-offenders," in which co-offenders can find one another (Felson, 2003: 158). The offender convergence setting provides offenders with a location to meet up with co-offenders, and may enhance crime if located close to suitable targets. Felson (2003) concluded, "offender convergence settings play a central role in sustainable criminal behavior" (159). Although Felson's (2003) work has not been empirically tested, it is one example of the integration of social learning theory and routine activities theory to explain criminal behavior.

The current study introduces the integration of routine activities theory and social learning theory. More specifically, it examines the effect of unsupervised time on delinquency in the context of type of peers. The effect of unsupervised time with peers on delinquency is expected to be stronger for those youth who perceive their peers to be deviant. Therefore, youth who spend time with deviant peers, in the absence of adult supervision, will be more likely to engage in delinquent behavior than youth who spend unsupervised time with nondeviant peers.

Hypotheses

The first hypotheses tested in this study concern the relationship between time expenditure and delinquency. Notably, the hypotheses below describe the relationship between direct supervision (supervised time) or lack of direct supervision (unsupervised time), which is the physical presence or absence of an adult, and delinquency. It is expected that supervised time (with or without peers) is not conducive to delinquency, while unsupervised time (with or without peers) is conducive to delinquency.

Hypothesis 1$_a$: Supervised time with peers is not conducive to delinquency (any

delinquency).

Hypothesis 1$_b$: Supervised time without peers is not conducive to delinquency (any

delinquency).

Hypothesis 1$_c$: Unsupervised time with peers is conducive to delinquency (any

delinquency).

Hypothesis 1$_d$: Unsupervised time without peers is conducive to delinquency (any

delinquency).

As Warr (2005) argued, it is expected that unsupervised time with peers is more conducive to delinquency than unsupervised time without peers. Thus, the next hypothesis states:

Hypothesis 2: Unsupervised time with peers is more conducive to delinquency (any delinquency) than unsupervised time spent without peers.

The impact of unsupervised time with peers on delinquency is expected to vary depending on the type of delinquency. The hypotheses below are based on the assumption that the level of supervision during the school day is higher than the level of supervision during the after-school and weekend hours. More specifically, since violent delinquency is most prominent during the school day, when the level of supervision is assumed to be high, the relationship between unsupervised time with peers and violent delinquency is not expected to be as strong as the relationship between unsupervised time and property delinquency or substance use, which are most prominent during the weekend hours. The violent delinquency category is subsequently disaggregated by offense type. Since simple assault is by far most prominent during the school day compared to the other three violent delinquency offenses (carrying a weapon, being involved in gang fights, or robbery), or during a time when supervision is assumed to be high, the relationship between unsupervised

time with peers and simple assault is not expected to be as strong as the relationship between unsupervised time with peers and the three remaining violent delinquency offenses, which are most prominent during the weekend or after-school hours, when the level of supervision is assumed to be lower.

Hypothesis 3$_a$: The relationship between unsupervised time with peers and delinquency will be stronger for property delinquency and substance use than for violent delinquency.

Hypothesis 3$_b$: The relationship between unsupervised time with peers and the violent delinquency offenses of carrying a weapon, being involved in a gang fight, and robbery will be stronger than the relationship between unsupervised time with peers and simple assault.

The final hypothesis concerns the impact of youth perceptions of peer deviance on the relationship between unsupervised time with peers and delinquency. Although some offenses are more likely to be committed in groups than others, it is expected that there will be an interaction between unsupervised time with peers and youth perceptions of peer deviance for all offense categories (any delinquency, property delinquency, violent delinquency, and substance use).

Hypothesis 4: There will be a significant interaction between unsupervised time with peers and youth perceptions of peer deviance for all offense types.

In sum, the current study extends the previous applications of routine activities theory (Haynie and Osgood, in press; Osgood and Anderson, 2004; Osgood et al., 1996) by examining the relationships between supervised time and unsupervised time, with and without peers, and delinquency. Further, the study compares the relationship between unsupervised time with peers and unsupervised time without peers and delinquency. In addition, it addresses the relationship between unsupervised time with peers and delinquency by type of delinquency (property delinquency, violent delinquency, and substance use) as well as the relationship between unsupervised time with peers and specific violent offenses. Finally, this study examines the impact of youth perceptions of peer deviance on the relationship between unsupervised time with peers and delinquency for different offense types.

Chapter 3: Research Methodology

The following chapter first provides a description of the data used in the study, which is from an evaluation of the Maryland After School Opportunity Fund Program (MASOFP). Second, the characteristics of the sample are described. Further, this chapter includes a description of the measures for delinquency, including any delinquency, property delinquency, violent delinquency, and substance use, supervised and unsupervised time, youth perceptions of peer deviance, and finally the control variables. A preliminary analysis establishes the reliability and validity of these measures. Finally, this chapter concludes with a description of the plan for analysis.

Data

The data used in this study are from an evaluation of the Maryland After School Opportunity Fund Program (MASOFP) created by the Maryland After School Opportunity Act (HB6) in 1999. The Maryland General Assembly created this act in response to an increasing concern over the amount of time youth spend unsupervised during the after-school hours. This act designated $10 million for after-school care and programs throughout Maryland (Maryland After School Opportunity Fund Advisory Board, 1999).

The University of Maryland was contracted to evaluate the programs funded by the MASOFP initiative in 2001. Seventy-three of the 258 after-school programs funded by the MASOFP grant participated in a formal evaluation. At least one program was selected from each county in the state of Maryland, and the number of

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programs selected from each county was proportional to the total allotment of statewide funding. Gottfredson, Soulé and Cross (2004) noted the 73 evaluation programs were selected using the following criteria: they were in operation during the 2002-2003 school year and served a core group of at least 25 participants in grades four through twelve. In addition, the programs were selected if they met at least some of the following criteria: targeted new after-school participants and had high attendance rates, low drop-out rates, and strong programming. In some cases, a program was selected because it was the only candidate to participate in the evaluation within a given county.

Forty of the 73 programs selected for the evaluation participated in an outcome evaluation which included pre and post-test surveys. Gottfredson et al. (2004) attempted to survey all youths who participated in the 40 programs, as well as a comparison group of youth who did not participate in an after-school program. The comparison group youth were recruited by 10 of the 40 programs willing to participate and were selected based on their similar demographics to youth who participated in the outcome evaluation programs. In addition, in most cases the comparison youth attended the same schools as the after-school participants, but they did not participate in the after-school programs. The youth participating in the outcome evaluation were in grades four through twelve during the 2002-2003 academic year. The University of Maryland evaluation staff administered two different surveys: The MASOFP Elementary School Level survey (135 questions) to youth in grades four and five and The MASOFP Secondary School Level survey (173 questions) to youth in grades six through twelve.

Sample

This study uses data from the pre-test surveys completed by secondary school level youth in grades six through twelve who either participated in one of the sample MASOFP programs or were a member of the comparison group. Thirty-three of the 40 programs that participated in the outcome evaluation served only secondary school-aged youth, and an additional four programs served at least some secondary school level youth. A total of 1584 youth were registered to participate in one of the 37 MASOFP programs serving secondary school aged youth, and 1179 of these youth received parental consent to participate in the outcome evaluation. Of the 1179 youth eligible to participate in the outcome evaluation, a total of 661 youth (56 percent) in grades six through twelve completed the pre-test survey. In addition, this study uses data from the pre-test surveys completed by youth in the comparison group. A total of 235 middle school level youth were identified as comparison youth, and of the 221 comparison youth who received parental consent, 156 (71 percent) completed the pre-test survey. Unfortunately, some youth who received parental consent were absent on the days the surveys were administered, and thus were unable to complete the pre-test questionnaires. The total sample for this study includes 817 youth who were in grades six through twelve during the 2002-2003 school year. Notably, this sample does not represent any well-defined population, but rather is a convenience sample of youth in grades six through twelve who participated in the MASOFP initiative (Soulé et al., 2005).

Table 1 shows the demographic characteristics of this sample. The average study participant was a 12-year old, black female in seventh grade. Forty percent of

the sample was male. Eighty-six percent of the sample was between the ages of 10

and 13 years old (see Table 2). As shown in Table 3, approximately ninety-three

percent of the sample participants were in middle school (grades 6-8) and the

remaining 7 percent were in high school (grades 9-12). Regarding the race of

participants, 49 percent were Black or African American, 42 percent were white, 2

percent were Latino, 1 percent were Asian American or Pacific Islander, and 4

percent were of another race. Forty-four percent of the sample received a reduced-

priced or free lunch in school. Notably, the measure of reduced-priced or free lunch

contains 50 missing cases. This is a result of the response "I don't know" to the item

"Do you get a free or reduced lunch at school?" being coded as missing data. The

two remaining responses to this question, "Yes" and "No", were coded as "1" and

"0", respectively. Only forty-two percent of sample participants lived with both

biological parents, 49 percent of sample participants lived with one biological parent,

and 8.6 percent of the sample did not live with either biological parent. Participants

had, on average, 2.79 siblings.

As Soulé (2003) noted, one concern with using this kind of sample is that

youth in after-school programs are less delinquent and victimized compared to a

nationally representative sample of youth. In order to address this concern, Soulé

(2003) compared the rates of victimization, delinquency, and substance use reported

by the current sample to rates reported by a national sample of youth. Based on the

pre-test measures, the author concluded that the rates reported by the MASOFP

sample are "comparable to those reported by national samples using similar

measures" (Soulé, 2003:45). More specifically, the level of delinquency and

victimization, aggregated by race, gender, and grade level, reported by the pre-tested MASOFP sample is similar to that reported by the nationally representative sample of youth in grades six through twelve in the National Study of Delinquency Prevention in Schools (NSDPS) (Gottfredson et al., 2000).

However, the current sample reported approximately half the level substance use reported by the NSDPS sample (Soulé, 2003). According to Soulé (2003), one might initially conclude youth under-reported their substance use behavior, however, since the sample youth reported similar levels of delinquency and victimization compared to the national sample, it is unclear why youth would fail to report their substance use behaviors accurately. Soulé (2003) examined the prevalence of substance use by age and concluded, "When one considers the prevalence of substance use by age, the rate of use by the two samples more closely mirrors each other" (48). Specifically, between the ages of 11 and 14, the level of substance use reported by the MASOFP sample at pre-test is almost identical to the level reported by the national sample. The level of substance use reported by the two samples begins to diverge after age 15. Soulé (2003) noted the rates of substance use may diverge at this age due to the small number of youth in the MASOFP sample over age 15. Therefore, although the MASOFP sample is not a nationally representative sample, the level of delinquency and substance use reported by the current sample is somewhat comparable to the level reported by the NSDPS sample.

Measures

Delinquency

The MAOSFP survey for secondary youth included 18 delinquency/substance use items (see Table 4). The survey asked youth to report the number of times they participated in each behavior during the last year. The possible responses were never, coded "0", once, coded "1" and twice or more, which was coded "2". Each scale (aggregate delinquency, property delinquency, violent delinquency, and substance use) was created by averaging the items within each scale to yield a composite scale of each youth's delinquent behavior. Each scale has a value between zero (no delinquent involvement) and two (high delinquent involvement).

Based on the literature reviewed above, the relationship between unsupervised time with peers and delinquency is expected to be stronger for property delinquency and substance use than for violent delinquency. Further, the relationship between unsupervised time with peers and the violent delinquency offenses of carrying a weapon, being involved in gang fights, and robbery is expected to be stronger than the relationship between unsupervised time with peers and simple assault.

Aggregate Delinquency

The aggregate delinquency scale includes 13 items from the MASOFP survey which are marked with an asterisk in Table 4. This scale is coded as missing if fewer than 10 of the 13 items were answered. This aggregate delinquency scale has a mean of 0.17, a standard deviation of 0.27, and a reliability of 0.83 (see Table 5). Since there is a severe positive skew to the aggregate delinquency scale, this variable was recoded into a dichotomous variable with "0" indicating youth reported no

delinquency during the last year and "1" indicating youth reported some delinquency during the last year. Fifty-five percent of the total sample reported participating in any delinquency during the last year (see Table 6).

Property Delinquency

The property delinquency scale includes seven items: damaging or destroying property belonging to a school, damaging or destroying other property, stealing something worth more than $50, taking a car for a ride (or drive) without the owner's permission, stealing things worth less than $50, stealing something at school, and breaking into a building or a car. This scale is coded as missing if fewer than five of the seven items were answered. This scale for last year variety property delinquency has a mean of 0.13, a standard deviation of 0.27, and reliability of 0.77 (see Table 5). Since there is a severe positive skew to the property delinquency scale, this dependent variable was recoded into a dichotomous variable (0=No property delinquency in the last year; 1=Some property delinquency in the last year). Thirty-three percent of the total sample participated in property delinquency during the last year (see Table 6). The number and percentage of the sample reporting each of the individual property delinquency offenses is also shown in Table 6.

Violent Delinquency

The violent delinquency scale is made up of five items: carrying a weapon, being involved in gang fights, hitting or threatening to hit a teacher or other adult at school, hitting or threatening to hit other students, and using force or strong-arm methods to get money or things from a person. This scale is coded as missing if fewer than four of the five items were answered. The mean of the violent

delinquency scale is 0.23, with a standard deviation of 0.34, and a reliability of 0.65 (see Table 5). Since the violent delinquency scale is highly skewed, the variable is recoded into a dichotomous variable (0=No violent delinquency during the last year; 0= Some violent delinquency during the last year). Forty-nine percent of the sample engaged in violent delinquency during the last year (see Table 7). The number and percentage of the sample participating in each of the individual violent delinquency offenses is also shown in Table 7.

Substance Use

Finally, the substance use scale includes five items: smoking cigarettes, using smokeless tobacco, drinking beer, wine or hard liquor, smoking marijuana, and taking hallucinogens. This scale was coded as missing if fewer than four of the five items were answered. The substance use scale has a mean of 0.15, a standard deviation of 0.29, and a reliability of 0.64 (see Table 5). Since there is a severe right skew to this dependent variable, it has been recoded into a dichotomous variable (0=No substance use in the last year; 1=Some substance use in the last year). Thirty percent of the sample participants engaged in substance use during the last year (see Table 8). The number and percentage of the sample participating in each of the individual substance use offenses is also shown in Table 8.

Time Expenditure

Since unsupervised time is expected to be conducive to delinquency and supervised time is not, it is necessary to differentiate between supervised and unsupervised time. Further, since the review of research above suggests unsupervised time with peers is particularly problematic, it is also necessary to differentiate

between supervised and unsupervised time with and without peers. To reiterate, the time expenditure variables measures direct supervision, that is the physical presence or absence of an adult. The survey first asked youth whether or not they spent time away from school in certain ways during the last year. When youth responded yes, they were then asked to report the average number of days per week they spent time away from school in that certain way (see Table 9).

Unsupervised Time with Peers

Unsupervised time with peers away from school was constructed from a combination of eight variables from the MASOFP survey. First, the survey asked youth whether or not they spent any time with friends without an adult present during the last school year (or spent time with peers without direct supervision). For example, this might include activities such as youth walking around the mall or playing sports in the neighborhood without an adult around to supervise. Further, if youth were at a party without an adult present, they would be spending "unsupervised time with peers". If youth responded "No" to this question, it was coded as "0", indicating the youth did not spend any time (or zero days per week) away from school with friends unsupervised. If youth responded "Yes", they selected one of seven dichotomous variables to report the average number of days per week they spent time with friends unsupervised during the last year. In a small number of cases, study participants selected more than one of the seven dichotomous variables. In such instances, the highest number of days per week the youth reported spending unsupervised time with friends per week is included, and the lesser number is dropped.

These eight variables were combined into one variable to measure

unsupervised time with peers, with a range of zero to seven days, with zero indicating

youth did not spend any time (or zero days per week) with friends without an adult

present, and seven indicating youth spent time seven days per week with friends

without an adult present. The representation of this variable in the MASOFP survey

is shown in Row 1, Table 9. On average, students spent 2.19 days per week with

peers unsupervised during the last year, with a standard deviation of 2.58 (see Table

10). The distribution of unsupervised time with peers is shown in Figure 1.

Unsupervised Time without Peers

Unsupervised time without peers away from school was measured using an

item that asked whether or not youth spent time away from school home alone (or

spent time alone without direct supervision). Thus, youth would respond "Yes" if

they were left home alone without peers or other siblings present.[3] This variable was

similarly constructed by combining eight dichotomous variables, and has a range

from zero to seven days per week (see Row 2, Table 9). Study participants spent, on

average, 1.94 days per week home alone unsupervised during the last year, with a

standard deviation of 2.27 (see Table 10). The distribution of unsupervised time

without peers is shown in Figure 2.

Supervised Time with Peers

Supervised time with peers away from school was measured with an item that

asked youth whether they went to a friend's house when an adult was present (or

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[3] Although youth could have responded "Yes" to this item if they were left home alone with siblings, other items on the survey asked youth whether they spent time at home with others present. One item asked youth whether or not they stayed at home with an adult or older sibling, which in this study is supervised time without peers. A second item asked youth whether they stayed at home watching younger children, which is not used in this study.

spent time with peers with direct supervision) (Row 3, Table 9). For example, this item might refer to a youth going to a friend's house after school to watch television or play games, when the friend's parent(s) and/or guardian(s) were present. This variable was constructed using the same methodology for unsupervised time with and without peers. Study participants spent, on average, 2.19 days per week during the last year supervised with peers, with a standard deviation of 2.23 (see Table 10). The distribution of supervised time with peers is shown in Figure 3.

Supervised Time without Peers

Finally, supervised time without peers away from school was measured with an item that asked youth whether they stayed home with an adult or older sibling (or spent time alone with direct supervision) (Row 4, Table 9). For example, a youth might come home after school and be supervised by an older sibling until a parent returned home from work. This variable was similarly constructed from eight dichotomous items from the survey with values between zero and seven days per week. During the last year, study participants spent, on average, 3.48 days per week supervised without peers, with a standard deviation of 3.03. The distribution of supervised time without peers is shown in Figure 4. Notably, the highest percentage of youth reported spending time zero days per week or seven days per week supervised without peers. A slightly higher percentage of youth (33.3 percent) reported spending time seven days per week supervised without peers than reported spending time zero days per week supervised without peers (32.6 percent). As a result of this unique distribution, the mean number of days youth spent time

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supervised without peers (3.48 days) is higher than the mean for the other three time expenditure variables.

Youth Perceptions of Peer Deviance

The standard approach to measuring peer delinquency, relying on adolescents' reports of their friends' behavior is systematically biased (Haynie and Osgood, in press). Haynie and Osgood (in press) described the problems with measuring peer delinquency in this manner:

> In almost all criminological studies, information about friends comes from adolescents' descriptions of the behavior of their friends rather than from those friends' reports of their own behavior. Such measures inflate the correspondence between respondents and their peers because people tend to project their own attitudes and behavior onto their friends, a phenomenon social psychologists refer to as assumed similarity of projection (6).

Thus, Haynie and Osgood (in press) argued, the use of adolescents' reports of their friends behavior has led to an overestimation of the influence of peer socialization on delinquency.

The present study relies on youths' reports of their friends' attitudes and behaviors, such as interest in school and use of marijuana. However, this is not particularly problematic for this study for two reasons. First, only one of the eight hypotheses examined in this study uses the measure of youth perceptions of peer deviance (*Hypothesis 4*). Thus, this study does not rely heavily on this measure, and the primary focus of this study is on the relationship between time expenditure and

delinquency, rather than the impact of socialization with deviant peers on delinquency.

In addition, the variable in the current study is labeled "youth perceptions of peer deviance" rather than "peer deviance" since the survey items are measuring what youth perceive to be their friends' attitudes and behaviors, rather than their friends' actual attitudes and behaviors. Thus, this research examines the impact of youth perceptions of their friends' deviance on the relationship between unsupervised time with peers and delinquency, rather than the impact of friends' actual behavior. It has been argued that adolescents' perceptions of what their friends are doing are actually more important than what their friends actually do (e.g. Mead, 1934). Although Haynie and Osgood (in press) argue this is not a sufficient measure of friends' delinquency, the goal of this study is not to measure the direct impact of socialization with delinquent peers on delinquent behavior, but rather to examine the interaction between unsupervised time with peers and type of peers.

The relationship between unsupervised time with peers and delinquency is expected to be stronger for youth who perceive their peers as deviant for all three categories of delinquency (property crime, violent crime, and substance use). A scale for youth perceptions of peer deviance was constructed from 12 items on the MASOFP survey that asked youth about their friends' attitudes and behaviors (see Table 12). The 12 items had two possible responses: mostly true or mostly false. Those responses indicating youth perceived their peers as deviant were coded "1", and responses indicating youth perceive their peers to nondeviant were coded "0" (see Table 12). For example, youth were asked to answer "true" or "false" to the

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statement "My best friend gets into trouble at school". If youth answered "true", the response was coded "1" for deviant peer perceptions. However, if youth answered "false", the response was coded "0" indicating nondeviant peer perceptions. The scale was constructed by averaging responses to the 12 items. Thus, the scale for youth perceptions of peer deviance is a continuous variable with values between zero and one, with one representing the most deviant perceptions of peers. This scale was coded as missing if fewer than nine of the 12 items were answered. The youth perceptions of peer deviance scale has a mean of 0.29 and a standard deviation of 0.21.

The scale consists of items that measure rebellious behavior as well as items indicating low levels of social bonding. For example, the item "My best friend gets into trouble at school" measures rebellious behavior while the item "Most of my friends think getting good grades is important" measures the level of social bonding. This scale has a high reliability of 0.733, indicating the scale is measuring one underlying construct. In this study, the scale is labeled youth perceptions of peer deviance, although it should be acknowledged that not every item measures deviant behavior.

Control Variables

Several control variables were considered in this analysis: gender, age, grade, race, whether youth received a free lunch, the number of biological parents with whom youth live, and number of siblings, including brothers, sisters, stepbrothers, and stepsisters. Gender was coded "1" for male and "0" for female. The possible responses for age were between 10 and 17. The study participants were in grades 6-

12. In the MASOFP survey, race was represented as a categorical variable with the following possible responses: Black or African American, White, Native American or Alaskan Native, Asian-American or Pacific Islander (Chinese, Japanese, Hawaiian, Laotian, etc.), and Latino (Mexican, Puerto Rican, Cuban, or other Latin-American). This variable was changed into a dichotomous variable with "1" denoting White and "0" denoting Nonwhite or Other. The item that asked whether or not youth received a free lunch served as a measure of socio-economic status (SES). The possible responses included Yes (coded "1"), No (coded "0"), and I don't know (coded "Missing"). This was the only item included in the MASOFP survey that could be used as a measure of SES. Whether youth lived with both biological parents, one biological parents, or no biological parents was also considered. Finally, the possible responses for the number of brothers and sisters, including stepbrothers and stepsisters, were None ("0") to six or more ("6"). The descriptive statistics for the variables considered as controls are shown in Table 1. As discussed in the results section, only three of these variables are included in the final models: age, race (white/nonwhite) and youth lives with one biological parent.

Establishing the Reliability and Validity of Measures

It is necessary to establish the reliability and validity of the measures used in this research. Several steps were taken by the University of Maryland evaluation staff to minimize measurement error. First, the administrators of the survey were formally trained and received an instruction manual describing the proper test administration procedures (Gottfredson et al., 2004). Second, instructions were provided to help keep youth on task, and in rare cases, it was necessary to remove disruptive students

from the survey site. In addition, the evaluation staff were instructed to read the survey aloud to elementary and middle school students to avoid reading and comprehension problems. Finally, the evaluation staff discarded surveys that were obviously completed incorrectly. Therefore, the evaluation staff made every effort to ensure the surveys were completed correctly and taken seriously.

Since this study relies on self-report data, it is necessary to discuss the validity of this type of data. One concern over the use of self-report data to study delinquency is whether or not youth are willing to accurately report their delinquent behavior. Espiritu, Huizinga, Crawford and Loeber (2001) noted research shows youth are, in fact, willing to report their delinquent behavior accurately, including both minor and serious offenses. However, Elliott, Huizinga, and Menard (1989) noted one potential problem with self-report data is the accuracy of recall, such as forgetting events or temporal location of events. Fortunately, the threat of this error can be reduced through measures such as using shorter reporting periods (Elliott et al., 1989).

Elliott et al. (1989) and Hindelang, Hirschi, and Weis (1981) compared the validity of self-report data to other sources of data, such as official records. Elliott et al. (1989) concluded, "The weight of the available evidence indicates that these measures have good to excellent levels of reliability and acceptable levels of validity as compared with other social science measures. This conclusion holds for self-reported measures of delinquency, alcohol and illicit drug use, and mental disorders" (6). Similarly, Hindelang et al. (1981) concluded the validity and reliability of self-report data is comparable to other data sources.

Farrington, Loeber, and Stouthamer-Loeber (1996) demonstrated the

concurrent and predictive validity of self-reported delinquency in relation to official

data (juvenile court petitions). Concurrent validity can be examined by "comparing

the number of acts admitted by officially recorded versus unrecorded juveniles, or by

measuring the probability that recorded juveniles admit the acts for which they were

arrested or convicted" (Farrington et al., 1996:496). In contrast, predictive validity

"depends on how far self-reported delinquency scores predict future arrests or

convictions…and on whether unrecorded youth who admit a particular act on a self-

report questionnaire are subsequently recorded for the same act" (Farrington et al.,

1996:496). Specifically, Farrington et al. (1996) evaluated the concurrent and

predictive validity of a self-reported delinquency seriousness scale and combined

delinquency seriousness scores (based on information from boy, mother, and teacher)

from the Pittsburgh Youth Study in relation to juvenile court petitions from the

Allegheny County Juvenile Court.

Farrington et al. (1996) concluded both sources of self-report data had

concurrent and predictive validity. In addition, these sources had concurrent and

predictive validity for both African-Americans and Caucasians. Further, Farrington

et al. (1996) found ethnic differences in concurrent validity, however not in predictive

validity. The authors concluded concurrent validity was generally higher for

Caucasians than for African Americans. For the self-reported delinquency

seriousness scale, concurrent validity for admitting offenses was higher for

Caucasians, however for admitting arrests, concurrent validity was higher for African

Americans. For the combined delinquency seriousness scale, concurrent validity was

higher for Caucasians. Finally, Farrington et al. (1996) noted more research is needed

to explain why ethnic differences exist in concurrent validity, but not in predictive

validity.

Notably, Hindelang et al. (1981) and Huizinga and Elliott (1986) concluded

self-report measures of delinquency are not equally valid for all subgroups of the

population. Hindelang et al. (1981) concluded, "Self-report method produces less

valid results among those very groups that tend to have high rates of official

delinquency…Black male delinquents are less likely to report offenses known to the

police" (213). However, Hindelang et al. (1981) noted, "It should not be concluded

that self-reports of delinquency among black males are invalid for all purposes. The

validity coefficients for black males…show that black males can be ranked among

themselves with marginal validity" (214). Notably, the underreporting by black

males was greater for serious offenses.

Similarly, Huizinga and Elliott (1986) compared the level of underreporting

and found differences by race:

> Most extreme is the underreporting by black males, and in one study, evidence
>
> of underreporting by black females as well…There is some indication that
>
> rates of underreporting are greater for the more serious offenses (321).

The findings of Hindelang et al. (1981) and Huizinga and Elliott (1986) are

particularly relevant to the current sample since 49 percent of the sample in this study

is African American. Further, almost 18 percent of the sample is African American

and male. However, because the current sample is young, and the youth are unlikely

to be serious offenders, problems of invalid observations for more serious offenders

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are less likely to affect this population. As a check, several analyses were conducted

to confirm the validity of the self-report data.

The validity of self-reported delinquency used in this study is established by

correlating the dichotomous variables of any delinquency, any violent delinquency,

any property delinquency, and any substance use with external criteria. Specifically,

the dichotomous dependent variables are correlated with students' grade point

average at time of pre-test and school attendance during the 2001-2002 school year.

The descriptive statistics for pre-test grade point average, percent of school days

attended, number of school days absent, and number of school days attended are

shown in Table 13.

Table 14 displays the correlations between the dependent variables and

external criteria. Any delinquency is significantly and negatively correlated with

students' grade point average (-0.161, $p<0.01$) and percentage of school days attended

during the 2001-2002 school year (-0.095, $p<0.05$). Thus, as any delinquency

increases, students' grade point average and percentage of school days attended

decreases. Any violent delinquency is significantly and negatively correlated with

pre-test grade point average (-0.164, $p<0.01$) and number of school days attended

(-0.083 $p<0.05$). Thus, violent delinquency is associated with a decrease in grade

point average and the number of school days attended. Any property delinquency is

significantly correlated with pre-test grade point average (-0.109 $p<0.01$), percentage

of school days attended (-0.113 $p<0.01$), and number of days absent from school

(0.098 $p<0.05$). Thus, any property delinquency is associated with a decrease in pre-

test grade point average and percentage of school days attended and an increase in the

number of days absent from school. Any substance use is significantly correlated with percentage of school days attended (-0.113, $p<0.01$), number of school days attended (-0.108, $p<0.01$), and number of days absent from school (0.114, $p<0.01$). Thus, substance use is associated with a decrease in percentage of school days attended and number of school days attended, and an increase in number of days absent from school.

The validity of the measure for unsupervised time with peers away from school can be established by correlating it with age. There should be a significant positive correlation between unsupervised time and age, since parents/guardians are more likely to leave children unattended as they grow older. The correlation between unsupervised time with peers and age is 0.194 ($p<0.01$). The correlation between unsupervised time without peers and age is 0.164 ($p<0.01$).

As mentioned in the measures section, the reliability of the youth perceptions of peer deviance scale used in this study is 0.73. To establish the validity of this scale, it is necessary to verify that it is highly correlated with other related survey measures. First, the youth perceptions of peer deviance scale is positively correlated with gender, with a correlation of 0.149 ($p<0.01$). Second, the peer deviance scale is also positively correlated with age, with a correlation of 0.176 ($p<0.01$). Thus, as a participant's age increases, a youth perceives his or her friends to be more deviant. The youth perceptions of peer deviance scale is also significantly correlated with several other items included in the survey. For example, youth were asked how wrong they thought it was for someone their age to engage in a variety of behaviors (such as cheating on tests, delinquent behaviors, and substance use) and reported

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whether they thought each behavior was "Not wrong at all" coded "0", "A little bit wrong", coded "1", "Wrong", coded "2", and "Very wrong", coded "3". There were 11 items included in this section of the survey, and each item was negatively and significantly correlated with the youth perceptions of peer deviance scale. For example, the correlation between the statement "Cheat on school tests" (with the above responses) and the youth perceptions of peer deviance scale is -0.367 ($p<0.01$). The above correlations, along with other examples, are shown in Table 15.

Plan for Analysis

Since the dependent variables used in this study are all dichotomous variables, it is necessary to use logistic regression to examine the relationship between time expenditure and delinquency. The plan for analysis for each hypothesis is outlined below.

Hypotheses 1_a-1_d

The first four hypotheses in this study explore the relationship between time expenditure and delinquency. First, the bivariate relationship between each independent variable (supervised time with peers, supervised time without peers, unsupervised time with peers, unsupervised time without peers) and the dependent variable (any delinquency) is examined using logistic regression. Second, control variables significantly correlated with both the independent and dependent variables are added to each of the four logistic regression equations, one for each independent variable, and again, the relationship between time expenditure and delinquency is examined.

Hypothesis 2

The next hypothesis examines whether unsupervised time with peers is more conducive to delinquency than unsupervised time without peers. This hypothesis is examined by including unsupervised time with peers and unsupervised time without peers in the same model. The odds ratios and significance levels of the two independent variables are compared, since both variables are measured on the same scale. An additional analysis is conducted which includes all four time expenditure variables in the same model.

Hypotheses 3_a-3_b

Two additional hypotheses are tested to examine the relationship between unsupervised time with peers and different types of delinquency. First, the relationship between unsupervised time with peers and three categories of delinquency is examined: property delinquency, violent delinquency, and substance use. The relationship between unsupervised time with peers and each category of delinquency is examined using a logistic regression equation, which includes the independent variable, unsupervised time with peers, and the control variables correlated with both the independent and dependent variables. Three equations are used to test *Hypothesis 3_a*, one equation for each category of delinquency. The three equations are identical with the exception of the dependent variable, which is either any property delinquency, any violent delinquency, or any substance use. The odds ratios for unsupervised time with peers are compared for the three categories of delinquency.

Second, *Hypothesis 3ᵦ* describes the relationship between unsupervised time with peers and the individual violent delinquency offenses (carrying a weapon, involved in gang fights, robbery, and simple assault). Again, this hypothesis is tested using logistic regression, since the individual offenses are also dichotomous variables. Four equations are used to test this hypothesis, one equation for each violent delinquency offense. The four equations are identical with the exception of the dependent variable, which is one of the four violent delinquency offenses listed above. The odds ratios for unsupervised time with peers are compared for each violent delinquency offense.

Hypothesis 4

The final hypothesis, *Hypothesis 4*, examines whether the relationship between unsupervised time with peers and delinquency is conditioned by youths' perceptions of their friends' deviance. An interaction term between unsupervised time with peers and youth perceptions of peer deviance is added to each logistic regression equation to determine whether this interaction is significant for any delinquency, property delinquency, violent delinquency, and substance use. If the interaction term is significant, this would indicate the impact of unsupervised time with peers on delinquency is conditioned by the deviance of one's peers.

Chapter 4: Results

This chapter presents the analysis which examines the hypotheses described in Chapter 2. The first section includes the results of the analysis examining the relationship between time expenditure and delinquency. The second section compares the impact of unsupervised time with peers and unsupervised time without peers on delinquency. The third section examines the impact of unsupervised time with peers on different types of delinquency and offenses. Finally, the fourth section presents the analysis on the interaction between unsupervised time with peers and youth perceptions of peer deviance. This chapter concludes with a description of an alternative analysis, which confirms the findings of the original analysis.

Hypotheses 1_a-1_d

The first step in the analysis is to examine the four hypotheses regarding the relationship between time expenditure and delinquency using logistic regression. The logistic regression equation for each hypothesis includes the same control variables. Notably, in order for the equations for the four hypotheses to be identical, with the exception of the main independent variable (supervised time with peers, supervised time without peers, unsupervised time with peers, and unsupervised time without peers), the control variables significantly correlated with the dependent variable (any delinquency) and at least one of the four main independent variables are included in

the models. These control variables are age of student, race (White=1, Nonwhite=0),

and whether youth lives with one biological parent.[4]

The results of the first logistic regression, which examines *Hypothesis 1*$_a$:

Supervised time with peers (STWP) is not conducive to delinquency (any

delinquency), are shown in Table 16. The logit for the main independent variable,

supervised time with peers, is 0.110, with a Wald statistic of 11.435 (*p*<0.001), and

an odds ratio of 1.117. Thus, a one day per week increase in the number of days

youth spend time supervised with peers produces a 1.117 change in the odds of any

delinquency. Notably, age of student and race (white/nonwhite) are significantly

related to any delinquency (see Table 16). There is a significant positive relationship

between age of student and any delinquency. However, being white produces a

decrease in the likelihood of any delinquency. This analysis suggests supervised time

with peers is conducive to delinquency, and thus does not support the original

hypothesis.

Based on the above analysis, one can calculate the predicted probability of

engaging in delinquency. In this instance, the predicted probability was calculated for

the 25th and 75th percentile of the main independent variable in this model: supervised

time with peers. The 25th percentile of supervised time with peers is 0 days per week,

while the 75th percentile is 3 days per week. While holding the other variables in the

model constant at their means (Age: 12.35 years, White: 0.42, SingPar: 0.49), the

probability of engaging in delinquency for youth in the 25th percentile is 0.49. In

comparison, the probability of engaging in delinquency for youth in the 75th

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[4] Hypotheses 1$_a$-1$_d$ were first examined with logistic regression excluding any control variables. This
initial analysis yielded similar results as the analysis including the control variables, and thus, is not
included here.

percentile is 0.57. Thus, the probability that a youth who spends time zero days per week supervised with peers will engage in delinquency is less than the probability that a youth who spends time three days per week supervised with peers will be delinquent.

The results of the second logistic regression, which examines *Hypothesis 1*$_b$: Supervised time without peers (STWOP) is not conducive to delinquency (any delinquency), are shown in Table 16. The logit for supervised time without peers is 0.026, with a Wald statistic of 1.139 ($p<0.286$), and an odds ratio of 1.026. This analysis suggests supervised time without peers is not conducive to delinquency, and thus confirms the original hypothesis. Again, age of student has a significant positive relationship with any delinquency, while being white is associated with a decrease in the odds of any delinquency.

The results of the third logistic regression, which examines *Hypothesis 1*$_c$: Unsupervised time with peers (UTWP) is conducive to delinquency (any delinquency), are shown in Table 16. The logit for unsupervised time with peers is 0.243, with a Wald statistic of 54.981 ($p<0.000$), and an odds ratio of 1.275. Thus, an increase of one day per week of unsupervised time with peers away from school yields a 1.275 change in the odds of any delinquency. The odds ratio indicates there is a positive relationship between unsupervised time with peers and any delinquency. Note in this model, being white is associated with a decrease in the odds of any delinquency.

As described in the results for *Hypothesis 1*$_a$, the predicted probability was calculated for the 25th percentile (0 days) and the 75th percentile (4 days) of

unsupervised time with peers. The probability that a youth in the 25th percentile will engage in delinquency is 0.42, compared to 0.66 for a youth in the 75th percentile. Thus, youth who spend more time unsupervised with peers have a higher probability of engaging in delinquency. This analysis suggests unsupervised time with peers is conducive to delinquency, and thus confirms the original hypothesis.

The results of the fourth logistic regression, which examines *Hypothesis 1_d*: Unsupervised time without peers (UTWOP) is conducive to delinquency (any delinquency), are shown in Table 16. The logit for unsupervised time without peers is 0.150, with a Wald statistic of 19.052 ($p<0.000$), and an odds ratio of 1.162. The odds ratio suggests a one day per week increase in unsupervised time without peers produces a 1.162 change in the odds of any delinquency. Thus, there is a positive relationship between unsupervised time without peers and delinquency, as stated in *Hypothesis 1_d*. Further, the probability that a youth in the 25th percentile of unsupervised time without peers (0 days) will engage in delinquency is 0.48, compared to 0.59 for a youth in the 75th percentile (3 days) of unsupervised time without peers. Thus, a youth who spends more time unsupervised without peers has a higher probability of engaging in any delinquency. Also, in this model age of student is associated with an increase in the odds of any delinquency, while being white decreases the odds of any delinquency.

In sum, the analysis suggests supervised time with peers, unsupervised time with peers, and unsupervised time without peers are conducive to delinquency. However, supervised time without peers is not conducive to delinquency. Thus, three of the four original hypotheses are supported by this analysis. Notably, the

Nagelkerke R Square for each of the four models is low, ranging from 0.061 for the model with supervised time without peers to 0.154 for the model with unsupervised time with peers. These statistics indicate only a small portion of the variance in any delinquency is explained by each model. This Nagelkerke R Square for each model is shown in Table 16.

Hypothesis 2

The next hypothesis examined in this study suggests unsupervised time with peers is more conducive to delinquency than unsupervised time spent without peers. The logistic regression used to test this hypothesis includes both main independent variables, unsupervised time with peers and unsupervised time without peers, as well as the three control variables: age, race (white/nonwhite), and youth lives with one biological parent. Again, the dependent variable is any delinquency. The inclusion of both unsupervised time with peers and unsupervised time without peers in the model could potentially be problematic if the variables are highly correlated. However, as shown in Table 11, the correlation between unsupervised time with peers and unsupervised time without peers is 0.475 ($p<0.01$), and thus there is not a threat of multicollinearity. The results of the logistic regression are shown in Table 17.

The logit for unsupervised time with peers is 0.223, with a Wald statistic of 38.358 ($p<0.000$), and an odds ratio of 1.250. Thus, an increase of one day per week youth spend time away from school unsupervised with peers yields a 1.250 increase in the odds of any delinquency. In comparison, unsupervised time without peers has a logit of 0.045, with a Wald statistic of 1.321 ($p<0.250$), and an odds ratio of 1.046. Thus, unsupervised time without peers is not significant in this model. Further, while

the odds ratio of unsupervised time with peers is 1.250, the odds ratio of unsupervised time without peers is 1.046, indicating unsupervised time with peers is more conducive to delinquency. This analysis confirms *Hypothesis 2,* that unsupervised time with peers is more conducive to delinquency than unsupervised time without peers.

Although the prior analyses suggest unsupervised time with peers and unsupervised time without peers are both conducive to delinquency, when both time expenditure variables are included in the same model, a different picture emerges. When controlling for the shared variation between the two variables, unsupervised time with peers remains significant, while unsupervised time without peers does not. Thus, when controlling for the overlap between the two variables, unsupervised time without peers is no longer conducive to delinquency. Based on this finding, it is necessary to include all four time expenditure variables in the same model, to examine how controlling for the shared variation between the four variables impacts the results.

The model includes the four time expenditure variables, as well as the three control variables: age, race (white/nonwhite), and whether youth lives with one biological parent. The results of this analysis are shown in Table 18. Note, the correlations between the four time expenditure variables are shown in Table 11. The highest correlation among the four time expenditure variables is between unsupervised time with peers and unsupervised time without peers (0.475, $p < 0.01$). Thus, multicollinearity is not a likely threat in this model. When the four time expenditure variables are included in the same model, only unsupervised time with

peers remains significant, with a logit of 0.230 and a Wald statistic of 35.024 ($p<0.000$). The odds ratio of unsupervised time with peers is 1.258, indicating a one day per week increase in unsupervised time with peers yields a 1.258 change in the odds of any delinquency. Thus, there is a positive relationship between unsupervised time with peers and any delinquency. The dichotomous variable for race (white/nonwhite) is the only other significant variable in this model, which indicates being white is associated with a decrease in the odds of any delinquency.

This analysis suggests, that although three of the four time expenditure variables have been found to be conducive to delinquency (supervised time with peers, unsupervised time with peers, and unsupervised time without peers), when controlling for the shared variation between these variables, only unsupervised time with peers remains conducive to delinquency. Thus, although supervised time with peers and unsupervised time without peers affect delinquency, unsupervised time with peers is clearly most problematic.

Hypotheses 3$_a$-3$_b$

The next set of hypotheses describes the relationship between unsupervised time with peers and different types of delinquency. More specifically, the relationship between unsupervised time with peers and any property delinquency, any violent delinquency, and any substance use are examined. As stated above, *Hypothesis 3$_a$* suggests the relationship between unsupervised time with peers and delinquency will be stronger for any property delinquency and any substance use than for any violent delinquency. Again, this hypothesis is examined using logistic regression and comparing the odds ratios and significance levels of the main

independent variable (unsupervised time with peers) for the three categories of delinquency. Notably, the three models contain the same sample size (N=791) because cases with missing data for at least one of the variables included in the three models were eliminated. In addition, the control variables contained in each model are identical and each control variable is significantly correlated with at least one dependent variable (property delinquency, violent delinquency, or substance use) and unsupervised time with peers. The results of this analysis are shown in Table 19.

In the any property delinquency model, the logit for unsupervised time with peers is 0.221, with a Wald statistic of 53.583 ($p<0.000$), and an odds ratio of 1.248. Thus, a one day per week increase in unsupervised time with peers away from school produces a 1.248 change in the odds of any property delinquency. The odds ratio indicates there is a positive relationship between unsupervised time with peers and any property delinquency. Further, the predicted probability that a youth in the 25th percentile of unsupervised time with peers (0 days) will engage in property delinquency is 0.22. In contrast, the probability that a youth in the 75th percentile of unsupervised time with peers (4 days) will engage in property delinquency is 0.41. Thus, the more time a youth spends unsupervised with peers, the higher the probability he or she will engage in property delinquency. Note, none of the control variables are significant in this model.

In the any violent delinquency model, the logit for unsupervised time with peers is 0.239, with a Wald statistic of 58.247 ($p<0.000$), and an odds ratio of 1.270. The odds ratio indicates a one day per week increase in unsupervised time with peers away from school yields a 1.270 change in the odds of any violent delinquency. This

is only *slightly* greater than the odds ratio of unsupervised time with peers in the property delinquency model. Further, the predicted probability that a youth in the 25th percentile of unsupervised time with peers (0 days) will engage in violent delinquency is 0.36, compared to 0.59 for a youth in the 75th percentile of unsupervised time with peers (4 days). Thus, the more time a youth spends unsupervised with peers, the higher the probability he or she will engage in violent delinquency. According to this model, being white decreases the odds of any violent delinquency.

Finally for the any substance use model, the logit for unsupervised time with peers is 0.223, with a Wald statistic of 52.683 ($p<0.000$), and an odds ratio of 1.250. Thus, a one day per week increase in unsupervised time with peers produces a 1.250 change in the odds of any substance use. Again, there is a positive relationship between unsupervised time with peers and substance use. Further, the predicted probability that a youth in the 25th percentile of unsupervised time with peers (0 days) will engage in substance use is 0.20. In contrast, the probability that a youth in the 75th percentile of unsupervised time with peers (4 days) will engage in substance use is 0.37. Thus, the more time a youth spends unsupervised with peers, the higher the probability he or she will engage in substance use. According to this model, there is a positive relationship between age of student and any substance use.

Based on this analysis, *Hypothesis 3_a* is not supported, and the findings suggest the relationship between unsupervised time with peers and delinquency is nearly identical for the three categories of delinquency (property, violent, and substance use). The odds ratios of unsupervised time with peers are nearly identical

in all three models, and the logits are all highly significant ($p<0.000$). Notably, the Negelkerke R Square for each of the three models is low, ranging from 0.106 for the any property delinquency model to 0.159 for the any violent delinquency model. Thus, the model for each type of delinquency explains only a small amount of the variance in the dependent variable.

The next step in the analysis is to disaggregate the violent delinquency category into the specific offense types. The violent delinquency offenses include carrying a weapon, being involved in gang fights, robbery, and hitting or threatening to hit a fellow student (simple assault). According to *Hypothesis 3$_b$*, the relationship between unsupervised time with peers and the violent delinquency offenses of carrying a weapon, being involved in gang fights, and robbery will be stronger than the relationship between unsupervised time with peers and simple assault. This hypothesis is examined using logistic regression, since the specific offense types are dichotomous variables. The model for each offense is identical, with the exception of the dependent variable, and each model consists of the same sample size (N=781). The control variables included in the model are again age of student, white/nonwhite, and youth lives with one biological parent. The results of this analysis are shown in Table 20.

For the dichotomous variable of carrying a weapon, the logit for unsupervised time with peers is 0.160, with a Wald statistic of 9.699 ($p<0.002$), and an odds ratio of 1.174. The odds ratio indicates a one day per week increase in unsupervised time with peers produces a 1.174 change in the odds of carrying a weapon. Further, the odds ratio indicates there is a positive relationship between unsupervised time with

peers and carrying a weapon. The predicted probability that a youth in the 25th percentile of unsupervised time with peers (0 days) will carry a weapon is 0.04, compared to 0.07 for a youth in the 75th percentile of unsupervised time with peers (4 days). Thus, the more time a youth spends unsupervised with peers, the higher the probability he or she will carry a weapon. Age of student is also positively related to carrying a weapon.

For being involved in gang fights, the logit for unsupervised time with peers is 0.220, with a Wald statistic of 29.799 ($p<0.000$), and an odds ratio of 1.247. Thus, a one day per week increase in unsupervised time with peers yields a 1.247 change in the odds of being involved in gang fights. The probability that a youth in the 25th percentile of unsupervised time with peers (0 days) will be involved in gang fights is 0.07, compared to 0.17 for a youth in the 75th percentile of unsupervised time with peers (4 days). Thus, the more time a youth spends unsupervised with peers, the higher the probability he or she will be involved in gang fights. Note none of the control variables are significant in this model.

For robbery, the logit for unsupervised time with peers is 0.198, with a Wald statistic of 12.098 ($p<0.001$), and an odds ratio of 1.219. The odds ratio indicates a one day per week increase in unsupervised time with peers produces a 1.219 change in the odds of robbery. Thus, there is a positive relationship between unsupervised time with peers and robbery. Further, the predicted probability that a youth in the 25th percentile of unsupervised time with peers (0 days) will engage in robbery is 0.03. In contrast, the probability that a youth in the 75th percentile of unsupervised time with peers (4 days) will engage in robbery is 0.06. Thus, the more time a youth spends

unsupervised with peers, the higher the probability he or she will engage in robbery. Again, none of the control variables are significant in this model.

Finally, for simple assault, the logit for unsupervised time with peers is 0.248, with a Wald statistic of 63.381, and an odds ratio of 1.282. Thus, a one day per week increase in unsupervised time with peers produces a 1.282 change in the odds of simple assault. Thus, there is a positive relationship between unsupervised time with peers and simple assault. Further, the predicted probability that a youth in the 25th percentile of unsupervised time with peers (0 days) will engage in simple assault is 0.31 compared to 0.55 for a youth in the 75th percentile of unsupervised time with peers (4 days). Thus, the more time a youth spends unsupervised with peers, the higher the probability he or she will engage in simple assault. Also, being white is associated with a decrease in the odds of simple assault.

Based on the above analysis, the relationships between unsupervised time with peers and each violent delinquency offense are similar. Therefore, *Hypothesis 3_b* is not supported, and the analysis suggests the relationships between unsupervised time with peers and the violent delinquency offenses of carrying a weapon, being involved in gang fights, and robbery are nearly identical to the relationship between unsupervised time with peers and simple assault. Again, the Negelkerke R Square for each model is low, ranging from 0.057 to 0.159 for the being involved in gang fights and simple assault models, respectively.

Hypothesis 4

The final hypothesis tested in this analysis is *Hypothesis 4:* There will be a significant interaction between unsupervised time with peers and youth perceptions of

peer deviance for all offense types. This hypothesis is examined using four logistic

regression equations, one for each dependent variable (any delinquency, property

delinquency, violent delinquency, and substance use). Each equation includes two

main independent variables, unsupervised time with peers and youth perceptions of

peer deviance, an interaction term between unsupervised time with peers and youth

perceptions of peer deviance, and three control variables: age, race (white/nonwhite),

and youth lives with one biological parent. Note the interaction term is included in

the model to test whether the impact of unsupervised time with peers on delinquency

is conditioned by the deviance of one's peers. In addition, unsupervised time with

peers and youth perceptions of peer deviance are included in the model as controls.

All four models contain the same sample size (N=785) and the results of this analysis

are shown in Table 21.

The interaction term between unsupervised time with peers and youth

perceptions of peer deviance is insignificant for all four dependent variables (any

delinquency, property delinquency, violent delinquency, and substance use). For any

delinquency, the logit for the interaction term is -0.150, with a Wald statistic of 0.719

($p<0.397$), and an odds ratio of 0.860. Notably, unsupervised time with peers and

youth perceptions of peer deviance are significant in the model and are associated

with an increase in the odds of any delinquency. For any property delinquency, the

logit for the interaction term is -0.225, with a Wald statistic of 2.050 ($p<0.152$), and

an odds ratio of 0.798. Again, the interaction term is insignificant, however,

unsupervised time with peers and youth perceptions of peer deviance are significant

in the model. For any violent delinquency, the logit for the interaction term is 0.001,

with a Wald statistic of 0.00 ($p<0.996$), and an odds ratio of 1.001. These statistics

indicate there is practically no relationship between the interaction term and any

violent delinquency. Not surprisingly, unsupervised time with peers and youth

perceptions of peer deviance are both significant in the model. Finally, for any

substance use, the logit for the interaction term is 0.077, with a Wald statistic of 0.207

($p<0.649$), and an odds ratio of 1.080. While the interaction term is insignificant,

both unsupervised time with peers and youth perceptions of peer deviance are

significant in the model.

This analysis suggests the impact of unsupervised time with peers on

delinquency is not conditioned by youth perceptions of peer deviance. In other

words, unsupervised time with peers is conducive to delinquency, whether youth

perceive their peers to be deviant or nondeviant. Thus, this analysis does not support

Hypothesis 4. Notably, including youth perceptions of peer deviance in the models

results in higher Negelkerke R Squares. In comparison to the Negelkerke R Squares

in previous models, the statistic ranges from 0.257 to 0.290 for the any property

delinquency and any delinquency models, respectively. Thus, by including peer

deviance in the models, a greater portion of variance in the dependent variables (e.g.

any delinquency) is explained.

Alternative Analysis

In the above analysis, the main independent variables (supervised time with

peers, supervised time without peers, unsupervised time with peers, and unsupervised

time without peers) are coded 0-7, or the average number of days per week youth

spend time in the designated way. Thus, if, during the last year, a student reports

spending an average of 3 days per week away from school unsupervised with peers, the independent variable, unsupervised time with peers, is coded as "3". The distributions of the main independent variables are shown in Figures 1-4. Notice for all four variables, the greatest number of youth reported spending "0" days per week in the designated way. However, a large number of youth also reported spending "7" days per week in the designated way. Since the frequency distributions of these variables are somewhat unusual, the variables were recoded to determine whether the variation would be better represented if they were collapsed into three categories: none or a little, coded "1", more than a little, coded "2", and a lot, coded "3". For each variable, an attempt was made to assure an approximately equal number of cases were included in each of the three categories.

The above analysis was redone to determine whether the results would change due to the recoding of the main independent variables. However, the results of the analysis with the recoded independent variables were similar to the results of the analysis with the independent variables coded 0-7 days per week. Three of the four independent variables (supervised time with peers, unsupervised time with peers, and unsupervised time without peers) are conducive to delinquency. In addition, unsupervised time with peers remained more conducive to delinquency than unsupervised time without peers. When all four time expenditure variables were included in the same model, only unsupervised time with peers remained significant. Further, the relationships between unsupervised time with peers and the three categories of delinquency (violent, property, and substance use) are virtually identical. The relationship between unsupervised time with peers and each violent

delinquency offense (simple assault, carrying a weapon, being involved in gang fights, and robbery) are nearly the same. Finally, the interaction term between unsupervised time with peers and youth perceptions of peer deviance remained insignificant for the four dependent variables of any delinquency, any property delinquency, any violent delinquency, and any substance use.

Chapter 5: Discussion

The following chapter provides a summary and discussion of the main findings of this study. In addition, it describes the limitations of this study, as well as implications for theory and practice. Finally, the take away points from this study are presented in the conclusion.

Summary and Discussion of Findings

Based on the preliminary analysis, in which the effect of each time expenditure variable on delinquency was examined individually, three of the four main independent variables were conducive to any delinquency. More specifically, supervised time with peers, unsupervised time with peers, and unsupervised time without peers are conducive to delinquency. However, supervised time without peers is not conducive to delinquency. Notably, the original hypotheses suggested both forms of supervised time, with and without peers, were not conducive to delinquency, while both forms of unsupervised time, with and without peers, were conducive to delinquency. Thus, finding that supervised time with peers was conducive to delinquency was unexpected.

The next part of the analysis examined whether unsupervised time with peers was more conducive to delinquency than unsupervised time without peers. When both time expenditure variables were included in the same model, unsupervised time with peers remained significant, however, unsupervised time without peers became nonsignificant. This suggests unsupervised time with peers is more conducive to delinquency than unsupervised time without peers. Notably, while the preliminary

analysis suggests both unsupervised time with peers and unsupervised time without peers are conducive to delinquency, the analysis including both time expenditure variables in the same model suggests only unsupervised time with peers is conducive to delinquency. Thus, the significant relationship between unsupervised time without peers and delinquency in the preliminary analysis is most likely a result of the shared variation between the two time expenditure variables. In sum, although unsupervised time without peers affects delinquency, unsupervised time with peers is clearly more problematic in terms of juvenile delinquency.

A further analysis was conducted to determine how including all four time expenditure variables in the same model would affect the results. When all four time expenditure variables were included in the same model to control for the shared variation between them, only unsupervised time with peers remained significant. Thus, both supervised time with peers and unsupervised time without peers, initially significant in the preliminary analysis, became nonsignificant. Similar to the above discussion of including unsupervised time with peers and unsupervised time without peers in the same model, while supervised time with peers affects delinquency, this is most likely a result of the shared variation between supervised time with peers and unsupervised time with peers. Again, the findings suggest unsupervised time with peers is conducive to delinquency. In sum, although supervised time with peers and unsupervised time without peers matter, unsupervised time with peers is most problematic.

Since unsupervised time with peers is most conducive to delinquency, its impact on different types of delinquency was examined. First, the relationship

between unsupervised time with peers and delinquency was examined for property delinquency, violent delinquency, and substance use. It was expected that the relationship between unsupervised time with peers and both property delinquency and substance use would be stronger than the relationship between unsupervised time with peers and violent delinquency. This hypothesis was fundamentally based on the assumption that the level of supervision during the school day was higher than the level of supervision during the after-school and weekend hours. Since violent delinquency, primarily driven by the simple assault measure, was found to be most prominent during the school day, or during hours when the level of supervision is expected be high, the relationship between unsupervised time with peers and violent delinquency was not expected to be as strong as the relationship between unsupervised time with peers and other types of delinquency. However, since property delinquency and substance use were found to be most prominent during the weekend hours, or during hours when the level of supervision is expected to be lower (compared to during the school hours), the relationship between unsupervised time with peers and property delinquency/substance use was expected to be stronger than the relationship between unsupervised time with peers and violent delinquency.

The analysis in this study demonstrates the relationship between unsupervised time with peers and each of the three categories of delinquency are nearly identical. Unsupervised time with peers is highly significant in each model, and the odds ratios are virtually the same. Thus, the original hypothesis stating the relationship between unsupervised time with peers and property delinquency/substance use is stronger than the relationship between unsupervised time with peers and violent delinquency is not

supported by this study. As mentioned above, this hypothesis was based on an assumption that the level of supervision during the school hours was higher compared to during the after-school and weekend hours. Unfortunately, research comparing the level of supervision during different time periods does not exist. Given violent delinquency is most prominent during the school day while property delinquency and substance use are most prominent during the weekend, it is not possible to conclude that since the relationship between unsupervised time with peers and each category of delinquency is the same, that the level of supervision during these time periods is also the same. It is unknown how the level of supervision during a particular time period impacts the relationship between unsupervised time with peers and delinquency.

Since the individual offenses within the violent delinquency category were not all most prominent during the school hours, or during periods of time when the level of supervision is assumed to be high, this category was disaggregated by offense type, and the relationship between unsupervised time with peers and each individual offense was examined. As noted previously, simple assault was found to be most prominent during the school day, while carrying a weapon and being involved in gang fights were most prominent during the weekend hours. Robbery was equally most prominent during the school and weekend hours. Based on these findings, the relationship between unsupervised time with peers and simple assault was not expected to be as strong as the relationship between unsupervised time with peers and the remaining three violent delinquency offenses.

Similar to the findings of the relationship between unsupervised time with peers and offense categories, the relationship between unsupervised time with peers

and each violent delinquency offense is the same. Again, the original hypothesis was based on the assumption that the level of supervision was higher during the school day than during other time periods, however, this may not be the case. Unfortunately, research to date has not examined the level of supervision during different time periods. Based on this study, the relationship between unsupervised time with peers and delinquency is similar for different categories of delinquency and specific violent delinquency offenses.

The final portion of the analysis examined whether the impact of unsupervised time with peers on delinquency is conditioned by the deviance of one's peers. Specifically, it was hypothesized that unsupervised time with peers would be more conducive to delinquency for youth who perceive their peers to be deviant. The impact of the deviance of one's peers on the relationship between unsupervised time with peers and delinquency was examined for any delinquency, any property delinquency, any violent delinquency, and any substance use. The interaction between unsupervised time with peers and youth perceptions of peer deviance was insignificant across all categories of delinquency. Thus, the impact of unsupervised time with peers on delinquency is not conditioned by whether one perceives his or her peers to be deviant or nondeviant. These findings coincide with Haynie and Osgood's (in press) finding that unstructured socializing is conducive to delinquency for youth with deviant and nondeviant peers. The current study suggests unsupervised time with peers is conducive to delinquency whether one's peers are deviant or nondeviant.

Limitations and Future Research

This study contributes to the current state of knowledge on the impact of time expenditure on delinquency. Unsupervised time with peers is the most conducive to delinquency, compared to the other three types of time expenditure examined in this study (supervised time with peers, supervised time without peers, and unsupervised time without peers). Further, the findings demonstrate the impact of unsupervised time with peers on delinquency is not conditioned by the deviance of one's peers. However, there are several limitations to this study that must be addressed.

First, the sample used in this study is not representative of any well-defined population, and therefore, the findings cannot be generalized. In addition, the sample consists primarily middle school-aged youth, thus a potential age-graded effect of the deviance of one's peers on the relationship between unsupervised time with peers and delinquency cannot be examined. Since the findings suggest the impact of unsupervised time with peers on delinquency is not conditioned by the deviance of one's peers, it is not particularly problematic in this study that the majority of the sample is in middle school. However, if, on the other hand, the results indicated the impact of unsupervised time with peers on delinquency was conditioned by the deviance of one's peers, it would be important for future research to examine a potential age-graded effect. Notably, any study on the direct impact of peers on delinquency should have an age-heterogeneous sample to examine the age-graded effect of peers on delinquency as shown in prior research (Laub and Sampson, 2003; Warr, 1993). However, since the purpose of this study is not to examine the direct

impact of peer socialization on delinquency, having an age-heterogeneous sample is not crucial in this research.

Another limitation of this study is the inability for one to draw causal conclusions due to the ambiguous temporal precedence. Since the independent variables and dependent variables were measured at the same time, it is not possible to conclude, for instance, that unsupervised time with peers *causes* delinquency. Therefore, future research should address this threat to internal validity by measuring the independent and dependent variables at different times. However, efforts must be made to control for other variables to eliminate the possibility of a spurious relationship between time use and delinquent behavior. Another option would be to implement a more rigorous design that experimentally manipulates unsupervised time. For example, youth could be randomly assigned to participate or not participate in after-school programs. This would allow the research to draw causal conclusions regarding the relationship between time expenditure and delinquency.

As noted throughout this study, the hypotheses comparing the relationship between unsupervised time with peers and different types of delinquency were based on the assumption that the level of supervision during the school day is higher than the level of supervision during the after-school and weekend hours. However, research has not yet been conducted to compare the levels of supervision during different time periods. Thus, future research concerned with the relationship between time expenditure and different types delinquency should examine the level of supervision at different time periods, since not all types of delinquency are most prominent at the same time. Notably, the relationships between unsupervised time

with peers and each category of delinquency, as well as the relationships between unsupervised time with peers and each violent delinquency offense, were similar. Thus, it might not be necessary to examine the relationship between time expenditure and delinquency by category of delinquency in the future.

Unfortunately, this study does not specifically measure structured or unstructured socializing, as it does the presence or absence of direct supervision and the presence or absence of peers. Osgood et al. (1996) assumed certain activities occurred in the presence or absence of authority figures and peers, and also failed to specifically measure the structure of activities. Haynie and Osgood (in press) measured the presence of peers as well as the structure of activities, but did not specifically measure the presence or absence of an authority figure. According to both studies, unstructured socializing is conducive to delinquency. The current study indicates unsupervised socializing is conducive to delinquency. Thus, it is desirable to measure not only supervision and the presence of peers, but also what youth are doing during this time. For example, if youth are left unsupervised with peers but are spending their time in a structured way, such as working on a school project, this time will potentially be less conducive to delinquency than if youth are left unsupervised with peers to participate in an unstructured activity, such as wandering around the mall. Future research examining time use and delinquency should not only measure supervision and the presence or absence of peers, but also whether youth are participating in structured or unstructured activities.

Finally, as Haynie and Osgood (in press) noted, research examining the impact of peers on juveniles' delinquent behavior should incorporate peers' reports of

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their own behavior, rather than juveniles' reports of their peers' behavior. This is particularly important if researchers are interested in examining the direct impact of peer socialization on delinquency. However, since this study focused on the relationship between time expenditure and delinquency, as well as the interaction of unsupervised time with peers and peer deviance, relying on youth's perceptions of their peers' attitudes and behaviors, rather than on peers' reports of their own behavior, is not particularly problematic for this study. Notably, the threat of relying on adolescents' reports of their friends' behavior arises because this measure inflates the influence of peer socialization on delinquency. Thus, while the measure of youth perceptions of peer deviance may inflate the interaction between unsupervised time with peers and youth perceptions of peer deviance, the interaction was nonsignificant in all models. This provides more evidence that the effect of unsupervised time with peers on delinquency is not conditioned by the deviance of one's peers.

Based on the above discussion, the two most critical limitations in this study are: (1) the inability to draw causal conclusions due to ambiguous temporal precedence and (2) the failure to measure the structure of time expenditure. Ideally, future research that examines the relationship between time expenditure and delinquency should incorporate an experimental research design, using random assignment of subjects to supervised and unsupervised time. Further, future research should measure supervision, the presence or absence of peers, and the structure of activities, since prior research and the current study demonstrate all three factors influence the relationship between time expenditure and delinquency.

Implications for Theory

While individual characteristics of offenders are important in studying delinquency, this research suggests the circumstances in which youth participate in delinquency are also important. As described above, several researchers have applied opportunity theory to juvenile delinquency, and research consistently demonstrates unstructured socializing in the absence of an authority figure is conducive to delinquency. Osgood et al. (1996) and Haynie and Osgood (in press) suggest *unstructured* socializing in the absence of an authority figure is conducive to delinquency. Further, Osgood et al. (1996) argued *structured* activities, with or without peers, in the absence of an authority figure are not conducive to delinquency. Thus, when examining the relationship between time expenditure and delinquency, it is necessary to consider the structure of activities as well as whether or not an authority figure and peers are present. Unfortunately, with the exception of Osgood and Anderson (2004), prior research that examined the relationship between time expenditure and delinquency failed to specifically measure supervision.

The current study specifically measures supervision and the presence or absence of peers, however, does not measure the structure of activities. Despite this limitation, the findings support the argument that opportunity, particularly the presence or absence of supervision and peers, matters when considering the likelihood of delinquency. Thus, applications of routine activities theory to juvenile delinquency should consider the structure of activities, the level of supervision, and the presence or absence of peers.

As stated above, the presence or absence of peers is also important when considering the relationship between time expenditure and delinquency. Research demonstrates time spent with peers is more conducive to delinquency than time spent alone. In particular, Warr (2002) argued unsupervised time with peers is particularly problematic in terms of juvenile delinquency. Further, Osgood et al. (1996), Osgood and Anderson (2004), and Haynie and Osgood (in press) all argued unstructured *socializing* was conducive to delinquency. The findings of these studies support those of prior research, which argue unsupervised time with peers is particularly conducive to delinquency.

This study extends the examination of the role of peers in delinquency by introducing one example of the integration of social learning theory and routine activities theory. More specifically, this study examines whether the relationship between unsupervised time with peers and delinquency is conditioned by the deviance of one's peers. However, based on the above analysis, there is not a conditional relationship between unsupervised time with peers and the deviance of one's peers. This conclusion is supported by the findings of Haynie and Osgood (in press), who found unstructured socializing has a causal relationship with delinquency, whether or not peers are deviant.

As noted in the results section, although the interaction term between unsupervised time with peers and youth perceptions of peer deviance was nonsignificant in all models, unsupervised time with peers and youth perceptions of peer deviance were highly significant in all models. Thus, while integrating opportunity and social learning theories does not suggest there is a conditional

relationship between unsupervised time with peers and peer deviance, since both variables remained significant in all models, integrating these two prominent theories contributes to our understanding of juvenile delinquency. Clearly, both unsupervised time with peers and the deviance of one's peers matter in explaining delinquency.

Notably, the current study does not attempt to disentangle the social selection versus social facilitation debate. It is debatable whether the youth perceptions of peer deviance variable is measuring social control theory or social learning theory. While an argument can be made either way, it is more likely that this variable is measuring social learning theory, and that the results support the integration of opportunity theory and social learning theory, rather than the integration of opportunity and social control theory.

The youth perceptions of peer deviance measure includes items that ask youth about their friends' deviance. Further, the main independent variable, unsupervised time with peers, asks youth how often they spend time with friends without an adult present. While the integration does not support a conditional relationship between these two variables, the fact that both variables remain significant in all models suggests both are important when examining delinquency. Thus, spending unsupervised time with peers, and having deviant peers, are both conducive to delinquency. The youth perceptions of peer deviance measure does not appear to be tapping into whether youth who are already deviant are choosing deviant peers. However, it is difficult to adjudicate whether the results support social learning or social control theory.

Implications for Practice

Notably, parents, teachers, and juvenile researchers and advocacy groups should be concerned with not only the presence or absence of peers, but also the presence or absence of direct supervision. Although this research suggests unsupervised time with peers is most conducive to delinquency, the preliminary analysis suggests supervised time with peers and unsupervised time without peers also affect delinquency. For example, it is not sufficient to assume direct supervision will prevent youth from engaging in delinquent behavior. As this study suggests, supervised time spent in the presence of peers can increase the odds of delinquency. Further, although unsupervised time with peers is, by far, most conducive to delinquency, unsupervised time without peers is also potentially problematic. Thus, youth could still engage in delinquent behaviors when left unsupervised, even though they are not in the company of peers.

It is also essential to recognize how youth are spending their time when left supervised or unsupervised, with or without peers. For example, research suggests unsupervised time with peers, in conjunction with unstructured activities, is more conducive to delinquency than unsupervised time with peers with structured activities. Thus, if youth must be left unsupervised in the company of peers, it might be helpful for parents to encourage structured activities, such as a project, rather than dropping children off at the park with no designated way to spend their time. Finally, this study suggests unsupervised time with peers is conducive to delinquency, and is not conditioned by one's perceptions of peer deviance. Thus, parents should be

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concerned about their children's behavior when left unsupervised in the company of peers, regardless of whether their children's friends are deviant or nondeviant.

Conclusion

The preliminary analysis demonstrates supervised time with peers, unsupervised time with peers, and unsupervised time without peers are conducive to delinquency. When the time expenditure variables were included in the same model, only unsupervised time with peers remained significant. Thus, unsupervised time with peers, is by far, most conducive to delinquency. However, as the preliminary analysis suggests, supervised time with peers and unsupervised time without peers also affect delinquency. Further, this study demonstrates the influence of unsupervised time with peers on delinquency is the same across categories of delinquency and specific violent delinquency offenses. Finally, the impact of unsupervised time with peers on delinquency is not conditioned by the deviance of one's peers. Thus, although the integration of opportunity theory and social learning theory does not suggest the relationship between unsupervised time with peers and delinquency is conditioned by the deviance of one's peers, the fact that both variables, unsupervised time with peers and youth perceptions of peer deviance, remained significant in all models demonstrates the integration of these two prominent theories enhances our understanding of juvenile delinquency.

Table 1. Descriptive Statistics for Total Sample (N=817)*

Variable	Mean	SD	Range	N
Gender (0=F, 1=M)	0.40	0.49	0-1	815
Age	12.35	1.25	10-17	816
Grade	7.08	1.17	6-12	811
Black (0=N, 1=Y)	0.49	0.50	0-1	807
White (0=N, 1=Y)	0.42	0.49	0-1	807
Native American (0=N, 1=Y)	0.01	0.12	0-1	807
Asian (0=N, 1=Y)	0.01	0.12	0-1	807
Latino (0=N, 1=Y)	0.02	0.13	0-1	807
Other (0=N, 1=Y)	0.04	0.20	0-1	807
Nonwhite (0=N, 1=Y)	0.58	0.49	0-1	807
Receives Free Lunch (0=N, 1=Y)	0.47	0.50	0-1	767
Number of Siblings	2.79	1.83	0-6	812
Live with both biological parents (0=N, 1=Y)	0.42	0.49	0-1	817
Live with one biological parents (0=N, 1=Y)	0.49	0.50	0-1	817
Live with neither biological parent (0=N, 1=Y)	0.08	0.28	0-1	817

*The descriptive statistics describe the demographic characteristics of the entire sample, which includes 661 youth in grades 6-12 who completed the MASOFP pre-test survey for the outcome evaluation and the 156 youth in the comparison group (grades 6-12) who also completed the MASOFP pre-test survey.

Table 2. Frequency Distribution for Age of Student*

Age (in years)	Frequency	Valid Percent	Cumulative Percent
10	6	0.7	0.7
11	225	27.6	28.3
12	250	30.6	58.9
13	220	27.0	85.9
14	67	8.2	94.1
15	27	3.3	97.4
16	15	1.8	99.3
17	6	0.7	100.0
Total	816	100.0	

*The frequency distribution for age of student is based on the MASOFP pre-test data. The valid percentage is based on the 816 youth in the sample, or the total sample of 817 minus one missing case.

Table 3. Frequency Distribution for Grade of Student*

Grade	Frequency	Valid Percent	Cumulative Percent
6th	310	38.2	38.2
7th	246	30.3	68.6
8th	195	24.0	92.6
9th	20	2.5	95.1
10th	22	2.7	97.8
11th	14	1.7	99.5
12th	4	0.5	100.0
Total	811	100.0	

*The frequency distribution for age of student is based on the MASOFP pre-test data. The valid percentage is based on the 811 youth in the sample, or the total sample of 817 minus six missing case.

Table 4. Classification of Delinquency/Substance Use Items

Survey Item	Classification (Property Delinquency, Violent Delinquency, or Substance Use)
…smoked cigarettes?	Substance use
…used smokeless tobacco (snuff, chewing tobacco, dip, Skoal)?	Substance use
…drunk beer, wine, or "hard" liquor?	Substance use
…smoked marijuana (weed, grass, pot, ganja)?	Substance use
…taken hallucinogens (LSD, Ecstasy, mescaline, PCP, peyote, acid)?	Substance use
…purposely damaged or destroyed property belonging to a school?*	Property delinquency
…purposely damaged or destroyed other property that did not belong to you, not counting family or school property?*	Property delinquency
…stolen or tried to steal something worth more than $50?*	Property delinquency
…carried a hidden weapon other than a pocket knife?*	Violent delinquency
…been involved in gang fights?*	Violent delinquency
…belonged to a gang that has a name and engages in fighting, stealing, or selling drugs?*	
…hit or threatened to hit a teacher or other adult at school?*	Violent delinquency
…hit or threatened to hit other students? (simple assault)*	Violent delinquency
…taken a car for a ride (or drive) without the owner's permission?*	Property delinquency
…used force or strong-arm methods to get money or things from a person? (robbery)*	Violent delinquency
…stolen or tried to steal things worth less than $50?*	Property delinquency
…stolen or tried to steal something at school, such as someone's coat from a classroom, locker, or cafeteria, or a book from the library?*	Property delinquency
…broken into or tried to break into a building or car to steal something or just to look around?*	Property delinquency

Table 5. Descriptive Statistics for Aggregate Delinquency, Property Delinquency, Violent Delinquency, and Substance Use Scales*

Measure	Number of Items	Mean	SD	Alpha Reliability	Range
Aggregate Delinquency	13	0.17	0.27	0.83 (788)	0-2
Property Delinquency	7	0.13	0.27	0.77 (802)	0-2
Substance Use	5	0.15	0.29	0.64 (812)	0-2
Violent Delinquency	5	0.23	0.34	0.65 (800)	0-2

*The descriptive statistics for the scales are based on the MASOFP pre-test data.

Table 6. Number and Percentage of Juveniles Reporting Any Delinquency and Property Delinquency*

Type of Delinquency	N	Valid Percentage
Any Delinquency	453	55.4 (817)
Any Property Crime	272	33.3 (817)
Damaged Other Property	143	17.5 (813)
Theft Less than $50	129	15.8 (812)
Damaged Property at School	107	13.1 (812)
Theft More than $50	62	7.6 (813)
Theft at School	62	7.6 (810)
Joyriding	51	6.2 (809)
Break into Car or Building	41	5.0 (811)

*The descriptive statistics for the scales are based on the MASOFP pre-test data. The valid percentage is based on the number of valid cases (excluding missing data) shown in parentheses.

Table 7. Number and Percentage of Juveniles Reporting Violent Delinquency*

Type of Delinquency	N	Valid Percentage
Any Violent Delinquency	400	49.0 (817)
Simple Assault (Hit another student)	360	44.1 (807)
Involved in Gang Fights	103	12.6 (813)
Carried a Weapon	63	7.7 (810)
Hit a Teacher	59	7.2 (811)
Robbery	44	5.4 (811)

*The descriptive statistics for the scales are based on the MASOFP pre-test data. The valid percentage is based on the number of valid cases (excluding missing data) shown in parentheses.

Table 8. Number and Percentage of Juveniles Reporting Substance Use*

Type of Delinquency	N	Valid Percentage
Any Substance Use	247	30.2 (817)
Alcohol	197	24.1 (810)
Cigarettes	105	12.9 (812)
Marijuana	59	7.2 (813)
Smokeless Tobacco	20	2.4 (812)
Hallucinogens	9	1.1 (811)

*The descriptive statistics for the scales are based on the MASOFP pre-test data. The valid percentage is based on the number of valid cases (excluding missing data) shown in parentheses.

Table 9. Survey Items for Unsupervised Time and Supervised Time With Peers and Alone									
During the last school year, how did you spend your time when you were **NOT** at school?	Fill in the correct circle under either "No" or "Yes"		If you answered **"Yes,"** fill in the correct circle under how many days per week you usually did each activity.						
	NO	**YES**	7 days per week	6 days per week	5 days per week	4 days per week	3 days per week	2 days per week	1 day per week
I spent time with friends without an adult present. *(Unsupervised Time with Peers)*	O 0 days	O	O	O	O	O	O	O	O
I stayed at home alone. *(Unsupervised Time Alone)*	O 0 days	O	O	O	O	O	O	O	O
I went to a friend's house when an adult was present. *(Supervised Time with Peers)*	O 0 days	O	O	O	O	O	O	O	O
I stayed at home with an adult or older sibling. *(Supervised Time Alone)*	O 0 days	O	O	O	O	O	O	O	O

Table 10. Descriptive Statistics for Unsupervised and Supervised Time*

Variable	N	Mean	SD	Range
Unsupervised Time with Peers	801	2.19	2.58	0-7
Unsupervised Time without Peers	805	1.94	2.27	0-7
Supervised Time with Peers	802	2.19	2.23	0-7
Supervised Time without Peers	798	3.48	3.03	0-7

*The descriptive statistics for unsupervised time are based on the MASOFP pre-test data.

Table 11. Correlations Between Time Expenditure Variables

Variable	Unsupervised Time with Peers	Unsupervised Time without Peers	Supervised Time with Peers	Supervised Time without Peers
Unsupervised Time with Peers	1			
Unsupervised Time without Peers	0.475**	1		
Supervised Time with Peers	0.434**	0.303**	1	
Supervised Time without Peers	0.259**	0.231**	0.371**	1

*The descriptive statistics for unsupervised time are based on the MASOFP pre-test data.

**$p<0.01$

Table 12. Construction of Youth Perceptions of Peer Deviance Scale

Friends' Behavior	Nondeviant Perceptions of Peers	Deviant Perceptions of Peers
Most of my friends think school is a pain.	False=0	True=1
My friends often try to get me to do things the teacher doesn't like.	False=0	True=1
Most of my friends think getting good grades is important.	True=0	False=1
My best friend is interested in school.	True=0	False=1
My best friend always attends classes.	True=0	False=1
My best friend plans to go to college.	True=0	False=1
My best friend gets into trouble at school.	False=0	True=1
If your friend got into trouble with the police, would you lie to protect them?	No=0	Yes=1
If one of your friends was smoking marijuana and offered you some, would you smoke it?	No=0	Yes=1
If a friend asked to copy your homework, would you let the friend copy it even though it might get you in trouble with a teacher?	No=0	Yes=1
If you found that your group of friends was leading you into trouble, would you still spend time with them?	No=0	Yes=1
If your friends wanted to go out and your parents wanted you to stay home for the evening, would you stay home?[5]	No=1	Yes=0

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[5] Although this item may not be indicative of deviant behavior or low levels of social bonding, it is included in the youth perceptions of peer deviance scale because it increases the reliability of this scale. Specifically, the reliability of the scale including this item is 0.733, while the reliability without this item is 0.726.

Table 13. Descriptive Statistics of External Criteria

Variable	*Mean*	*SD*	*Range*	*N*
Pre-test Grade Point Average	2.54	0.92	0-4	475
Percentage of School Days Attended (2001-2002)	0.96	0.04	0.67-1.0	589
Number of School Days Attended (2001-2002)	160.06	32.24	0-185	590
Number of School Days Absent (2001-2002)	7.28	6.63	0-59	591

Table 14. Correlations Between Any Violent Delinquency, Any Property Crime, Any Substance Use and External Criteria

Any Delinquency

External Criteria	Correlation
Pre-test Grade Point Average	-0.161**
Percentage of School Days Attended (2001-2002)	-0.095*
Number of School Days Attended (2001-2002)	-0.081
Number of School Days Absent (2001-2002)	0.077

Any Violent Delinquency

External Criteria	Correlation
Pre-test Grade Point Average	-0.164**
Percentage of School Days Attended (2001-2002)	-0.065
Number of School Days Attended (2001-2002)	-0.083*
Number of School Days Absent (2001-2002)	0.055

Any Property Delinquency

External Criteria	Correlation
Pre-test Grade Point Average	-0.109**
Percentage of School Days Attended (2001-2002)	-0.113**
Number of School Days Attended (2001-2002)	-0.057
Number of School Days Absent (2001-2002)	0.098*

Any Substance Use

External Criteria	Correlation
Pre-test Grade Point Average	-0.050
Percentage of School Days Attended (2001-2002)	-0.113**
Number of School Days Attended (2001-2002)	-0.108**
Number of School Days Absent (2001-2002)	0.114**

**$p<0.01$
 *$p<0.05$

The above correlations are based on the MASOFP pre-test data.

Table 15. Correlations between Youth Perceptions of Peer Deviance
Scale and Other Variables in the MASOFP Survey*

Variable	Correlation
Gender (1=Male, 0=Female)	0.149**
Age	0.176**

Items with the response categories:
Not wrong at all "0"
A little bit wrong "1"
Wrong "2"
Very wrong "3"

Cheat on school tests.	-0.367**
Use marijuana.	-0.375**
Use alcohol.	-0.427**
Get drunk once in awhile.	-0.417**

**p<0.01
*The above correlations are based on the MASOFP pre-test data.

Table 16. Logistic Regressions for Any Delinquency and Time Expenditure with Control Variables

Supervised Time with Peers (STWP) (N=793)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.998*	0.801	6.219	0.013	0.136
STWP	0.110***	0.033	11.435	0.001	1.117
Age	0.171**	0.064	7.255	0.007	1.187
White	-0.615***	0.154	16.042	0.000	0.541
SingPar	0.206	0.149	1.894	0.169	1.223
Negelkerke R Square	0.077				
Supervised Time without Peers (STWOP) (N=789)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.795*	0.804	4.978	0.026	0.166
STWOP	0.026	0.024	1.139	0.286	1.026
Age	0.165**	0.063	6.795	0.009	1.179
White	-0.594***	0.153	15.137	0.000	0.552
SingPar	0.249	0.149	2.813	0.093	1.283
Negelkerke R Square	0.061				
Unsupervised Time with Peers (UTWP) (N=791)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.211	0.825	2.153	0.142	0.298
UTWP	0.243***	0.033	54.981	0.000	1.275
Age	0.087	0.066	1.729	0.189	1.091
White	-0.589***	0.159	13.780	0.000	0.555
SingPar	0.198	0.154	1.636	0.201	1.218
Negelkerke R Square	0.154				
Unsupervised Time without Peers (UTWOP) (N=795)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.497	0.802	3.484	0.062	0.224
UTWOP	0.150***	0.034	19.052	0.000	1.162
Age	0.127*	0.064	3.902	0.048	1.135
White	-0.591***	0.154	14.753	0.000	0.554
SingPar	0.214	0.150	2.035	0.154	1.238
Negelkerke R Square	0.089				

*p<0.05
**p<0.01
***p<0.001

Table 17. Logistic Regression Including Unsupervised Time with Peers and Unsupervised Time without Peers

Independent Variable	B	SE	Wald	p<	Odds Ratio
Constant	-1.139	0.826	1.902	0.168	0.320
UTWP	0.223***	0.036	38.358	0.000	1.250
Age	0.078	0.066	1.389	0.239	1.081
White	-0.583***	0.159	13.444	0.000	0.558
SingPar	0.190	0.155	1.506	0.220	1.209
UTWOP	0.045	0.039	1.321	0.250	1.046
Negelkerke R Square	0.152				

***$p<0.001$

Table 18. Logistic Regression Including All Four Time Expenditure Variables

Independent Variable	B	SE	Wald	p<	Odds Ratio
Constant	-1.005	0.847	1.406	0.236	0.366
UTWP	0.230***	0.039	35.024	0.000	1.258
UTWOP	0.046	0.040	1.362	0.243	1.047
STWP	0.008	0.040	0.035	0.851	1.008
STWOP	-0.035	0.028	1.575	0.209	0.965
Age	0.075	0.067	1.246	0.264	1.078
White	-0.601***	0.162	13.741	0.000	0.548
SingPar	0.186	0.157	1.406	0.236	1.204
Negelkerke R Square	0.153				

***p<0.001

UTWP: Unsupervised Time with Peers

UTWOP: Unsupervised Time without Peers

STWP: Supervised Time with Peers

STWOP: Supervised Time without Peers

Table 19. Logistic Regressions for Property Delinquency, Violent Delinquency, and Substance Use and Unsupervised Time with Peers

Any Property Delinquency(N=791)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.390	0.831	2.797	0.094	0.249
UTWP	0.221***	0.030	53.583	0.000	1.248
Age	0.015	0.066	0.049	0.824	1.015
White	-0.196	0.168	1.370	0.242	0.822
SingPar	0.066	0.161	0.166	0.684	1.068
Negelkerke R Square	0.106				

Any Violent Delinquency (N=791)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.671	0.815	4.205	0.040	0.188
UTWP	0.239***	0.031	58.247	0.000	1.270
Age	0.099	0.065	2.311	0.128	1.104
White	-0.578***	0.159	13.182	0.000	0.561
SingPar	0.229	0.154	2.211	0.137	1.258
Negelkerke R Square	0.159				

Any Substance Use (N=791)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-4.348	0.869	25.053	0.000	0.013
UTWP	0.223***	0.031	52.683	0.000	1.250
Age	0.220***	0.068	10.500	0.001	1.246
White	0.249	0.173	2.063	0.151	1.283
SingPar	0.233	0.167	1.944	0.163	1.262
Negelkerke R Square	0.132				

*p<0.05
**p<0.01
***p<0.001

Table 20. Logistic Regressions for Specific Violent Delinquency Offenses and Unsupervised Time with Peers

Carrying a Weapon (N=781)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-10.831	1.457	55.249	0.000	0.000
UTWP	0.160**	0.051	9.699	0.002	1.174
Age	0.609***	0.107	32.122	0.000	1.839
White	0.382	0.313	1.487	0.223	1.465
SingPar	-0.158	0.294	0.287	0.592	0.854
Negelkerke R Square	0.151				

Involved in Gang Fights (N=781)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-3.569	1.127	10.030	0.002	0.028
UTWP	0.220***	0.040	29.799	0.000	1.247
Age	0.085	0.089	0.916	0.339	1.088
White	-0.470*	0.251	3.513	0.061	0.625
SingPar	0.176	0.231	0.580	0.446	1.193
Negelkerke R Square	0.100				

Robbery (N=781)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-0.592	1.760	0.113	0.737	0.553
UTWP	0.198***	0.057	12.098	0.001	1.219
Age	-0.230	0.144	2.562	0.109	0.795
White	-0.367	0.348	1.108	0.293	0.693
SingPar	0.259	0.330	0.617	0.432	1.296
Negelkerke R Square	0.057				

Simple Assault (N=781)					
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.258	0.817	2.368	0.124	0.284
UTWP	0.248***	0.031	63.381	0.000	1.282
Age	0.048	0.065	0.550	0.458	1.049
White	-0.558***	0.162	11.843	0.001	0.572
SingPar	0.232	0.156	2.208	0.137	1.261
Negelkerke R Square	0.159				

*p<0.05
**p<0.01
***p<0.001

Table 21. Logistic Regressions for Violent Delinquency Offenses and Unsupervised Time with Peers

	Any Delinquency (N=785)				
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-0.820	0.865	0.900	0.343	0.440
UTWP	0.223***	0.060	13.771	0.000	1.250
PeerDeviance	4.397***	0.601	53.588	0.000	81.194
Age	-0.026	0.070	0.137	0.711	0.974
White	-0.765***	0.172	19.756	0.000	0.465
SingPar	0.190	0.166	1.307	0.253	1.209
Interaction	-0.150	0.177	0.719	0.397	0.860
Negelkerke R Square	0.290				

	Any Property Delinquency (N=785)				
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.360	0.902	2.275	0.132	0.257
UTWP	0.236***	0.062	14.326	0.000	1.266
PeerDeviance	4.585***	0.615	55.611	0.000	97.965
Age	-0.085	0.072	1.369	0.242	0.919
White	-0.379*	0.183	4.288	0.038	0.684
SingPar	0.008	0.175	0.002	0.965	1.008
Interaction	-0.225	0.157	2.050	0.152	0.798
Negelkerke R Square	0.257				

	Any Violent Delinquency (N=785)				
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-1.486	0.853	3.033	0.082	0.226
UTWP	0.184**	0.059	9.649	0.002	1.202
PeerDeviance	3.682***	0.569	41.888	0.000	39.732
Age	0.014	0.069	0.040	0.841	1.014
White	-0.717***	0.172	17.422	0.000	0.488
SingPar	0.207	0.164	1.588	0.208	1.230
Interaction	0.001	0.169	0.000	0.996	1.001
Negelkerke R Square	0.277				

	Any Substance Use (N=785)				
Independent Variable	*B*	*SE*	*Wald*	*p<*	*Odds Ratio*
Constant	-4.717	0.941	25.146	0.000	0.009
UTWP	0.132*	0.068	3.795	0.050	1.141
PeerDeviance	3.871***	0.613	39.828	0.000	47.974
Age	0.169**	0.073	5.309	0.021	1.184
White	0.132	0.189	0.489	0.484	1.141
SingPar	0.158	0.181	0.769	0.380	1.172
Interaction	0.077	0.170	0.207	0.649	1.080
Negelkerke R Square	0.278				

*p<0.05
**p<0.01
***p<0.001

Figure 1. Percent of Youth who Spent Unsupervised Time with Peers

Number of Days per Week Youth Spent Unsupervised Time with Peers

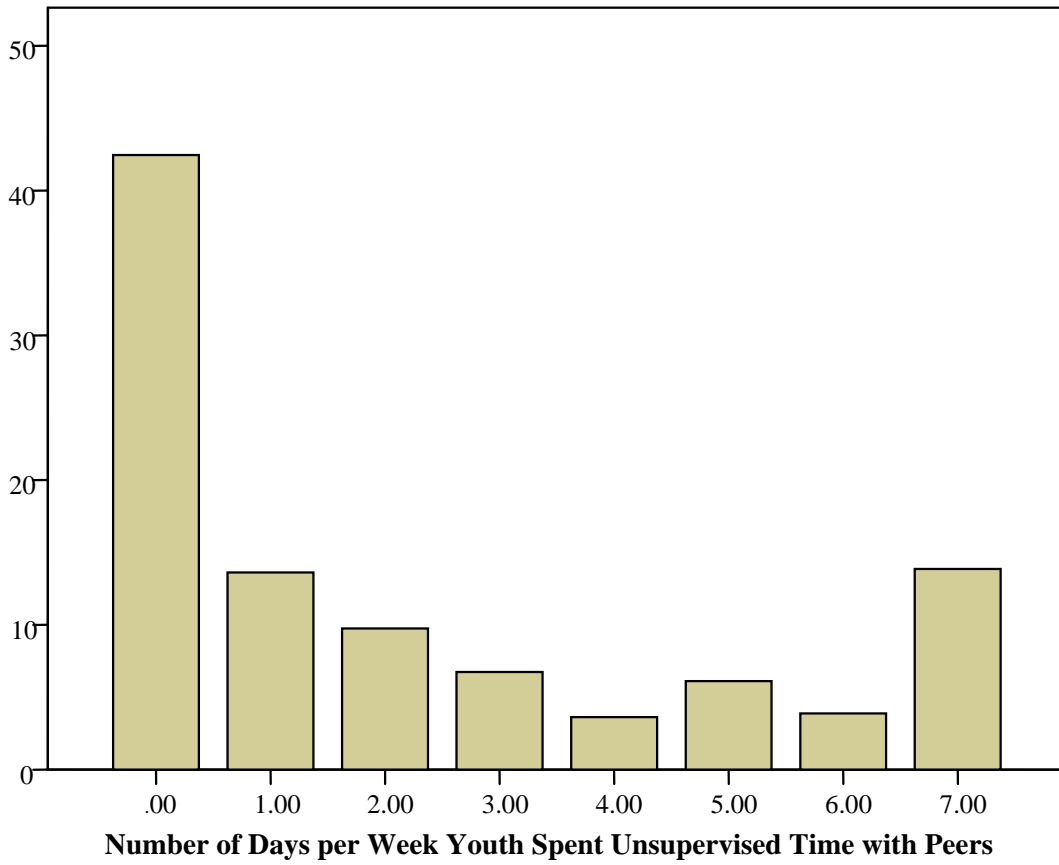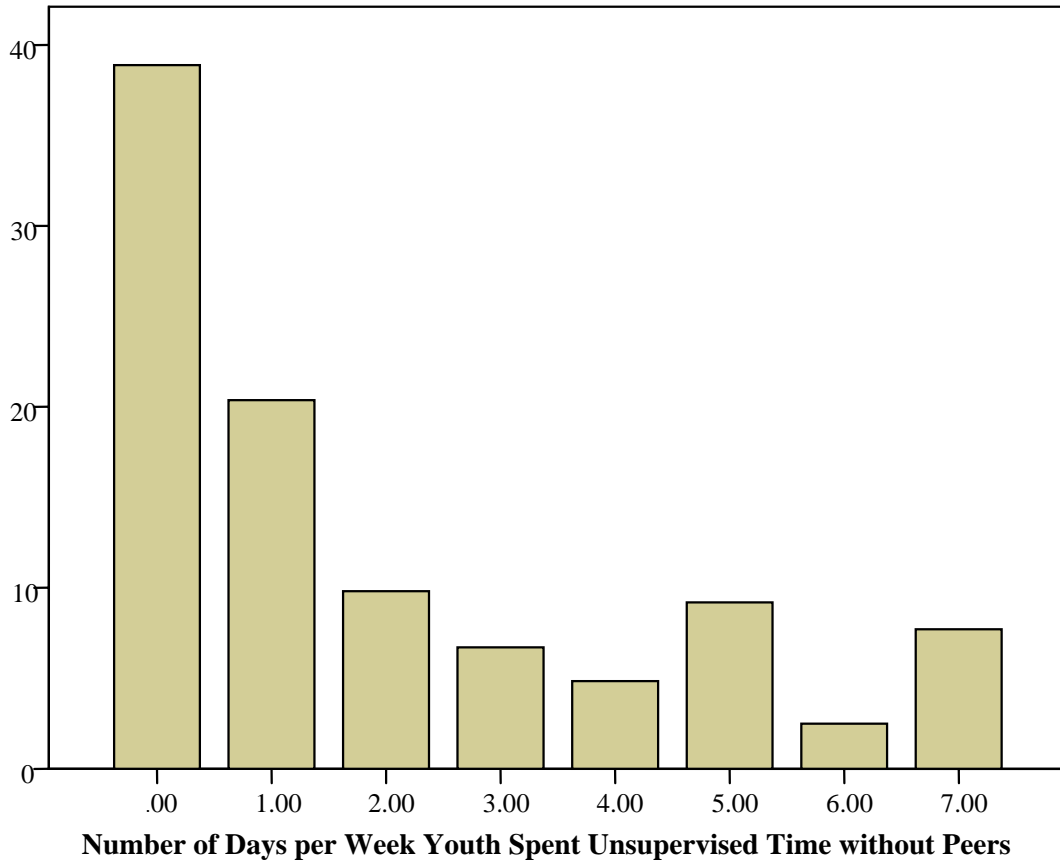**Figure 2. Percent of Youth who Spent Unsupervised Time without Peers**

Number of Days per Week Youth Spent Unsupervised Time without Peers

Figure 3. Percent of Youth who Spent Supervised Time with Peers

Number of Days per Week Youth Spent Supervised Time with Peers

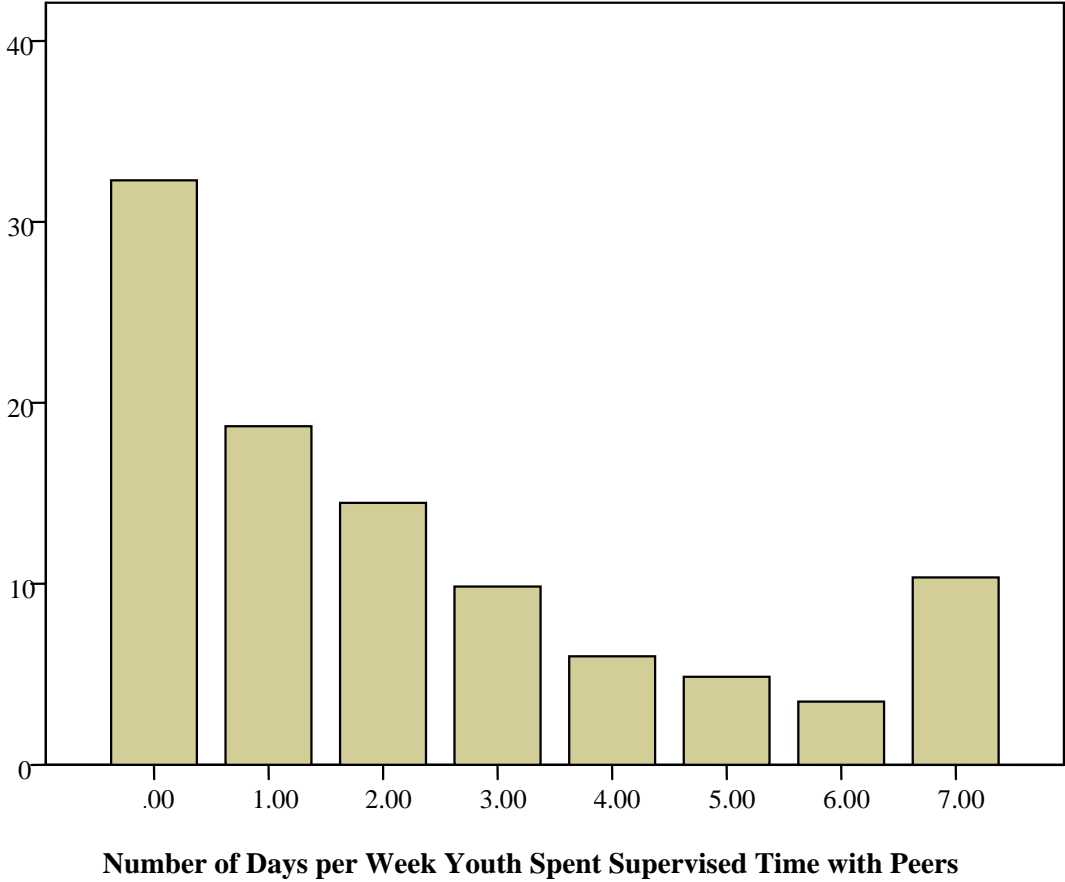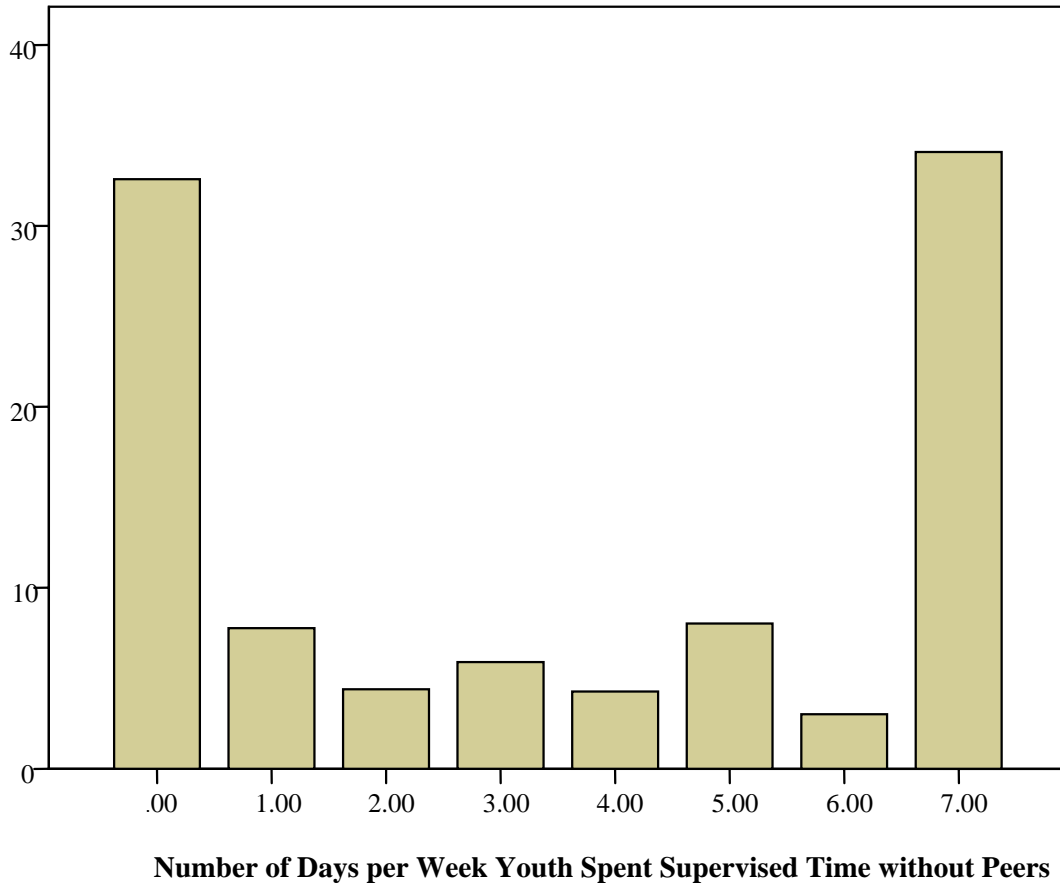**Figure 4. Percent of Youth who Spent Supervised Time without Peers**

Number of Days per Week Youth Spent Supervised Time without Peers

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